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Cases on Experiential Learning in Higher Education for Cultivating Leadership, Connection, and Community

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International business case competitions (IBCCs) have grown from small student-run events into influential platforms for experiential learning and engagement. They provide high-impact environments where students tackle complex, time-pressured business problems, work across disciplines, and present strategic recommendations to industry professionals. IBCCs drive educational innovation and professional growth, building competencies vital for modern practice—critical thinking, leadership, intercultural communication—while reflecting real organisational pressures. This chapter examines IBCCs as transformative learning ecosystems benefiting students, coaches, and universities. Drawing on experiential and situated learning theories, it shows how competitions generate socially co-constructed, context-rich learning and advance priorities such as employability, internationalisation, and accreditation. It also addresses challenges including accessibility, workload, and sustaining institutional support, offering strategies like inclusive recruitment and curricular integration.

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Developing Radical and Inclusive Innovation Leaders: Demystifying the Learning Journey 35
Mark Neild, University of Bristol, UK

Teaching people to do things never done before needs an unconventional approach. This chapter charts the path through 6 projects and reflections of 100 HE students revealing their lived experience of developing the necessary habits of mind. Supported by interdisciplinary theory, it argues that radical innovation is neither designed nor managed, but emerges through co-created dialogue among biased research participants motivated towards a better way of being. Radical innovation exhibits semiotic failure; no words describe things yet to exist. To overcome this, collective intelligence reframes meanings around both desired outcome and the emerging product making it the obvious choice for customers to adopt. The processes needed

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to marshal collective intelligence are described with reference to Rogers' human centric practice and Knowles' andragogy. Transformational experiential learning draws on education scholars to propose an Andragogy for Radical Innovation, contributing a student's view of the mindset shifts and strategies that achieve impact with radical innovation.

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From Bias to Belonging: Designing Interculturally Inclusive Experiential Learning Environments 63
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Andrew Baird, Manchester Metropolitan Univeresity, UK

Entrepreneurship education in UK higher education increasingly employs experiential learning focused on action, collaboration, and venture creation. While effective in developing entrepreneurial skills, these approaches can disadvantage international students by embedding culturally specific assumptions about learning. This chapter examines international undergraduates' experiences in experiential entrepreneurship modules, drawing on longitudinal interviews with four students from diverse backgrounds. Findings show that language barriers, cultural expectations, group dynamics, and demands for independent learning can lead to uncertainty and marginalisation. The chapter argues for an interculturally responsive experiential pedagogy that values cultural diversity and supports inclusive entrepreneurial learning.

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This chapter explores gender disparities in classroom participation and how these dynamics shape women's confidence, voice, and leadership trajectories in professional environments. Using a qualitative multi-method approach—including ethnographic classroom observations, an informal focus group with female postgraduate students, and semi-structured interviews with 19 senior female leaders—the study investigates how participation patterns emerge in higher education and persist in the workplace. Findings highlight the influence of classroom design, cultural background, peer dynamics, and self-confidence on women's engagement. Drawing on the experiential learning theories of John Dewey and David A. Kolb, the chapter proposes practical pedagogical interventions to amplify female voices. By fostering experiential, inclusive learning environments, universities can help reduce participation inequalities, support women's leadership development, and contribute to global goals such as quality education and gender equality.

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This chapter foregrounds the experiences of Alex (pseudonym), an MBA student from India, and the enterprise activity she undertook during her year-long postgraduate programme. Her story offers insights into the strengths and potential challenges posed by the integration of experiential pedagogy into a "pre-experience" MBA course designed for international learners with limited prior executive management experience. It also contributes constructively and ethically to a re-imagined approach to research with, rather than about, international students in HE, challenging pervasive narratives of deficiency and drawing attention instead towards the complexities of individual student lives. A narrative account of Alex's experiences forms the centre of this chapter, and it is hoped that her story will resonate with the reader, prompting personal and/or professional reflections. Presenting storied data in this holistic way also serves to illustrate the value of Narrative Inquiry as an appropriate methodology for future research into experiential learning and student experience.

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Nigel Adams, University of Buckingham, UK
Ryan Kerstein, Buckinghamshire Health Research and Innovation Centre, UK
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The chapter details the development, implementation & evolution of a Student Selected Component (SSC) in Clinical Innovation & Enterprise for the University of Buckingham third-year medical students. Amid healthcare shifts, including AI, robotics, demographics, the Topol Review (2019) & NHS Long-Term Workforce Plan (2023), traditional education lacks innovation, enterprise, systems thinking & interdisciplinary skills. Launched in 2023 as a two-week experiential module using adapted Design Sprint methodology, the SSC immerses small teams in real NHS challenges at Stoke Mandeville Hospital. Pitching to Buckingham Angels. Assessment emphasises process, reflection and feasibility; multidisciplinary mentors provide guidance. Refinements over three years scaled cohorts, integrated school pupils, resolved conflicts and improved guidance. Outcomes: £1000 funding for student apps, RSMedicine prize, NHS workshops & BHT collaborations. Students gained resilience, creative confidence & agency, bridging education to system growth. A replicable model enables scalable clinician innovation training.

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Jamey Darnell, Smeal College of Business, The Pennsylvania State University, USA
Beatrice Sirakaya, Eberly College of Science, The Pennsylvania State University, USA

The Biotech Boardroom Program (BBP) exemplifies a pedagogical innovation in entrepreneurship education, uniquely designed to bridge scientific expertise with business acumen through immersive coaching, mentoring, and experiential learning. It immerses students in a simulated boardroom environment where they confront real-world sustainability challenges aligned with the United Nations' 17 Sustainable Development Goals. Unlike traditional coursework that only emphasizes theory or static business plan development, the BBP prioritizes iterative pitching, authentic stakeholder engagement, and structured mentorship from alumni, industry experts, and government partners. The culmination is a comprehensive, investor-ready biotech venture proposal. This chapter contextualizes BBP within the landscape of experiential and responsible entrepreneurship education.

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The social immersion project engaged 170 undergraduate students from Woxsen and Zuyd University in an experiential learning initiative in Kamkole, India. The project aimed to explore how real-world immersion fosters empathy, adaptability, and entrepreneurial mindsets while also generating outcomes of value for local communities. Students documented everyday village systems via activity maps and data physicalizations using a mixed-method approach combined observation, interviews, participation, and reflection. The study highlights how students developed resilience in the face of cultural and linguistic barriers, exercised adaptive decision-making under field constraints, and transformed ethnographic fragments into meaningful visual narratives. The case demonstrates that immersive, community-based projects extend the boundaries of education, cultivating socially responsive, innovation-oriented students. It illustrates how education can act as a catalyst within broader ecosystems, linking pedagogy with reality and contributing to inclusive economic resilience and sustainable growth.

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This chapter examines the development, implementation and impact of the Public Health Nutrition (PHN) experiential learning module at Manchester Metropolitan University, delivered through a service-learning approach. Service-learning integrates academic study with structured community engagement, generating reciprocal benefits for students, universities, and local populations. The chapter outlines the pedagogical principles and value of service-learning within public health nutrition, emphasizing its alignment with social accountability and potential to enhance graduate employability. Set against the backdrop of a public health emergency marked by rising diet-related diseases and reduced public health funding, the chapter demonstrates how universities can address local needs through knowledge exchange and partnership, thereby achieving social and community impact. The module connects students with community organisations, enabling them to design and deliver tailored interventions. Case studies illustrate practical outcomes, and the chapter concludes with recommendations for practice.

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D. Annette Beatrice, Women's Christian College, Chennai, India
R. Durga Priyadarshini, Women's Christian College, Chennai, India

Service-Learning connects theoretical learning with real world experiences; meeting community needs and fostering civic responsibility. The project aimed to enhance entrepreneurial skills of 39 tribal women from Yercaud Hills, India through millet-based recipes and also impart service-learning for 26 students pursuing their post-graduation in Food service Management and Dietetics in the Department of Home Science, Women's Christian College, Chennai. An exploratory mixed methods design was used to examine the impact of SL project. Data was collected using questionnaires, interview method and were analysed using statistical tests. Pre-test revealed 61.5% students equated community projects with classroom learning and 92.3% anticipated employment benefits. Post-test showed 73% found tasks meaningful, with 100% reporting enhanced societal understanding and team coordination. While, the tribal women gained hands-on knowledge, felt economically empowered and expressed entrepreneurial motivation. Findings demonstrate SL's reciprocal efficacy for both students and the community.

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Avivah Rahmaningtyas, Universitas Diponegoro, Indonesia

Cooperatives, non-profit organizations (NPOs), and social enterprises are models that contribute to socio-economic development. Cooperatives rely on member contributions, while NPOs and social enterprises depend on donations. Although they serve different purposes, the models face similar challenges, such as limited funding and declining participation or staff turnover. They must adapt to market changes and improve members' skills to stay sustainable. Furthermore, they need strong financial management and effective leadership to maintain trust and ensure program continuity. Transformative learning helps learners understand these challenges by connecting theory with real cases, encouraging critical thinking and better decision-making.

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Charlotte G. Bryce, Hertfordshire Business School, UK

This chapter presents a case study of Compassion-Focused Pedagogy (CfP) in a Business School and examines its relevance for wider higher education and professional practice. CfP conceptualises compassion as a cognitive, trainable capability enacted through micro-skills of inclusive communication, including inviting, validating, and attentive listening. Drawing on compassion science, experiential learning, and Communities of Practice, the chapter outlines a four-pillar model spanning curriculum design, staff development, student engagement, and evaluation. The model is illustrated through the redesign of a postgraduate research project module, where peer-to-peer, discussion-led supervision complemented traditional dissertation support. Mixed-method evaluation using student and staff data indicates gains in psychological safeness, shared leadership, conflict management, and transfer of micro-skills to workplace contexts. The chapter concludes by positioning CfP as a scalable framework for developing measurable, human-centred, and sustainable educational practice.

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Richard Bostock, Changing Odds Ltd., UK

We have almost unlimited access to all forms of information. Why does this access kill curiosity – or at least diminishes it? Experiential Learning is a journey for

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everyone at all stages of learning, career and even life itself. Once it starts it never stops – or it shouldn't. The structure is built around case studies that have happened in real life, the workplace and the classroom/formal learning environment. There are no boundaries to experiential learning, only opportunities to keep stretching our knowledge and curiosity. The chapter also considers the way AI is impacting (even dominating) conversations on education, business and society as well as the way we assess and value individual and organisational learning. There are opportunities and threats from this rapidly evolving and, at times contentious, technology. To look into the future it is necessary to learn from the past. The chapter will consider where the ideas of experiential learning come from, why they are still relevant and how might they be adapted and developed to meet both current and future challenges.

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Skills for the Future Economy: Rethinking Pedagogy and Learning Pathways 423

Idowu Johnson Mosaku, University of Hertfordshire, UK
Vonette Baird-George, University of Hertfordshire, UK
Opeyemi Ajewole, Faculty of Technology, University of Portsmouth, UK

Technological advancement, globalisation, and increasing competition are profoundly reshaping the global economy. Consequently, it has become evident that traditional approaches to work must be re-evaluated, as new skill sets are required to meet the demands of an emerging economy characterised by green industries and AI-driven automation. This chapter critically examines contemporary pedagogical theories and learning pathways, with the aim of rethinking them to better equip learners with the skills necessary for the future economy. Through a review of interdisciplinary literature and analysis of emerging trends, the chapter identifies the skills gaining relevance across various sectors. It evaluates the conventional education system and proposes learner-centred approaches that foster experiential and lifelong learning. Furthermore, the chapter offers recommendations for educators, educational institutions, and policymakers to ensure that learners are adequately prepared for the evolving economic landscape.

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Can Embedding Peer-Mentoring in the Curriculum Positively Impact Employability Skills Amongst Postgraduate Students? 453

Priyanka Roy, University of Hertfordshire, UK
Sara Downton, University of Hertfordshire, UK

Peer mentoring is widely recognised for enhancing the transition outcomes of students at university. However, there is a gap in knowledge about the impact of being a student mentor upon the mentors' outcomes. This research investigated a one-year employability mentoring programme, embedded in a postgraduate module at a UK Business School, to explore whether being a peer-mentor develops the

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mentors' employability skills. One hundred and fifty student mentors completed surveys regarding their mentoring sessions identifying themes within their mentoring practice impacting employability skills development. Graduate employability skills were found to have been developed in the mentors through peer mentoring. This research centres mentors' experiences of a peer mentoring programme, providing a transferable method of developing employability skills amongst postgraduate students. Limitations are discussed regarding the success of a mentoring group, and a framework is offered to mitigate challenges in any future replication of the programme.

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AI as the New Mentor: AI-Human Collaboration in Experiential Learning 483
Scott Ford, University of Colorado, Boulder, USA

This chapter examines artificial intelligence as a transformative mechanism for scaling experiential learning in entrepreneurship education and practice. Drawing on case studies from higher education institutions, regional economic development organizations, venture capital firms, and social impact programs, the analysis demonstrates how AI-human collaboration addresses systemic barriers in innovation ecosystems. Examples range from incarcerated individuals developing post-release businesses to entrepreneurs in emerging markets accessing structured guidance. The chapter presents frameworks for responsible AI integration, examines cultural bias in large language models, explores implications for sustainable business practices, and provides actionable guidance for educators and business leaders navigating this technological transition.

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Foreword

The central message of this second book; Cases on Experiential Learning in Higher Education for Cultivating Leadership, Connections, and Community is that meaningful learning grows through experience, reflection, and connection. Hence, the cases in this volume highlight how higher education can foster leadership, belonging, and collaborative communities. Experiential learning is increasingly adopted by university entrepreneurship education programmes in developed (Motta & Galina, 2023; Pittaway, Henry, Kirby, & Thompson, 2025) and developing countries (Crosina, Frey, Corbett, & Greenberg, 2024; Rao, Sekhar, Yadav, Kumar, & Haran, 2024). Although there have been many contributions to experiential learning theory over the last 40 years, David Kolb's seminal book (Kolb, 1984) remains foundational for understanding how theory and practice are interlinked in a process of mutual reinforcement (Chalmers & Shaw, 2017).

Experiential learning is complementary to the social learning processes which takes place within communities of practice (Lave & Wenger, 1991; Mercieca, 2017; Smith, Kempster, & Wenger-Trayner, 2019). Belonging to a community of practice means that the focus in on interaction between groups of actors involved in a joint enterprise (Brown & Duguid, 2001; Gherardi, 2000) rather than individuals learning in isolation. As learners interact within the group, they build mutual trust that is the basis for knowledge and information sharing (Brown & Duguid, 1991, 2001). Rennemo and Åsvoll (2019) confirm that communities of practice encourage shared-meanings which are created by regular social interactions as relationships within the group develop over time. In their extension of experiential learning theory, Baker, Jensen, and Kolb (2005) confirm that learning occurs as a result of conversations between group members who create new knowledge by extending their previous experiences.

Leitch and Volery (2017) argue that entrepreneurial leadership shares a number of features with the general leadership domain including concepts such as authentic, charismatic and transformational styles (Jensen & Luthans, 2006). However, recent graduates are unlikely to have extensive work experience or opportunities to devel-

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op their leadership skills. In addition, because leadership involves a diverse set of behavioural, cognitive and social skills, this complexity demands a wide range of instructional approaches including didactic classroom learning, case studies, group discussions, action-based learning, problem-based learning and experiential learning (Delbert & Jacobs, 2021, p. 168). In a study of 500 young Indian entrepreneurs, Bhavikatti et al. (2025) found that the main factors associated with successfully starting and operating a new firm were the entrepreneurs' technical and social skills. Social skills included social adaptability, social intelligence and negotiation skills. Perhaps surprisingly, interpersonal, entrepreneurial and conceptual skills were not related to business success in the short term. In contrast, Ahmed and Harrison (2023), based on a systematic literature review, found that proactiveness, innovativeness, risk-taking, vison, communication and teamworking were important for building entrepreneurial leadership competencies and creating successful new ventures.

In summary, effective leadership training for graduates and young entrepreneurs requires broad-based curricula (Delbert & Jacobs, 2021) which incorporate experiential learning and opportunities to participate in communities of practice (Anderson & Macpherson, 2025).

This book is aimed at a broad audience seeking to understand the connections between experiential learning and development of leadership, connections and community. Drawing on global case studies, it provides the insights needed to enhance economic and social stability while promoting sustainable growth. It also has a strong ethical dimension, encouraging students and practitioners to make positive contributions to society throughout their educational and entrepreneurial journeys.

The various chapters bring together an international community of scholars and educators with contributions from the United Kingdom, Greece, the United States, India, the Netherlands, and Indonesia. Across diverse disciplinary and cultural contexts, a consistent theme emerges: the centrality of experiential learning as a transformative paradigm. Seven of the sixteen chapters explore this approach in settings ranging from international business case competitions across global contexts to biotech simulations in the USA, social immersion projects in India, and enterprise education in the UK.

The collection demonstrates a clear commitment to inclusion, equity, and belonging. Chapters interrogate how conventional pedagogies can marginalise international students and women, while advancing culturally responsive approaches that elevate diverse perspectives and foster more equitable learning environments. Mentoring, highlighted in studies from the UK and USA, further reinforces experiential learning as a means of strengthening employability and group cohesion.

There is also emphasis on the importance of communities of practice in enhancing learning. Contributions from the UK, India, and Indonesia show how collaboration, through teamwork, public health initiatives, entrepreneurial engagement, and

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community-based economic models, can extend learning beyond the classroom into meaningful societal impact.

Five of the sixteen chapters examine leadership across a range of settings. Two UK chapters focus on leadership development in medical and MBA education, while another explores leadership in promoting radical and inclusive innovation. A joint Greece/UK study considers the relationship between leadership, learning, and legacy, and a USA chapter examines leadership in biotech boardroom contexts.

Set against a wider societal and technological backdrop, the chapters engage with themes of sustainability, social impact, and artificial intelligence, underscoring the need to prepare learners for an evolving global economy.

Taken together, this second collection presents a coherent and globally informed narrative: the future of higher education lies in designing experiential, inclusive, and purpose-driven learning ecosystems, empowering learners not only to navigate change, but also to shape the future landscape of learning. This volume builds on book one 'Cases on Experiential Learning in Higher Education for Economic Innovation and Growth' (Owens et al., 2027).

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Preface

FIVE JOURNEYS IN ENTREPRENEURIAL LEARNING

This book is shaped by the converging academic and professional journeys of five editors who's distinct, yet complementary paths are shared commitment to advancing human creativity, enterprise education, and entrepreneurial learning within Higher Education. Collectively, their work reflects a sustained scholarly commitment to enhancing student development beyond technical business competencies, encompassing the cultivation of confidence, critical thinking, and socially responsible practice. It foregrounds the development of leadership capacity, relational connectivity, and community engagement, situated within the context of an increasingly complex and interconnected global environment.

David W Taylor has been a leading advocate for enterprise education for over a quarter of a century, dedicating his academic career to fostering entrepreneurial thinking alongside sustainability mindsets. His work is particularly noted for developing frameworks that support understanding of green entrepreneurship and environmentally conscious innovation. Through his research on green start-ups and his typology of green entrepreneurs, he provides valuable conceptual tools for examining how entrepreneurship can respond to pressing environmental challenges while remaining economically viable and socially responsible.

Where Caroline Hands contributes a rich interdisciplinary perspective grounded in psychology, with a particular focus on student transitions, learning experiences, and well-being in Higher Education. Her work emphasises the importance of understanding the student journey holistically, recognising that academic success is closely linked to emotional, social, and psychological factors. Within this book, her contribution is reflected in a sustained focus on inclusive, student-centred pedagogy and the need to design learning environments that actively support student engagement, resilience, and positive outcomes.

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Gabi Round brings a practice-informed and socially engaged perspective to enterprise education, supporting students in the development and launch of their own businesses through close collaboration with internal investors, regional growth hubs, and third-sector organisations. Her work is strongly rooted in applied entrepreneurship and inclusive practice. Alongside this, her research adopts a feminist lens on business and enterprise, with a particular emphasis on gender equity and the ways in which entrepreneurial ecosystems can be made more accessible, representative, and just.

Neil Greenley brings a pioneering and internationally recognised approach to entrepreneurial learning, underpinned by a strong record of developing impactful academic-industry partnerships. His work has been central to the design and delivery of experiential learning initiatives that connect students directly with live business contexts. In collaboration with organisations such as Young Enterprise, he has enabled students to engage in authentic, practice-based learning experiences that challenge them to apply theory in dynamic, real-world environments. Initiatives such as these not only enhance employability but also cultivate innovation, adaptability, and entrepreneurial confidence in diverse international cohorts. Something that was recognised across the editorial team and evident in the chapters.

Finally, Jonathan D. Owens has played a significant role in enabling students to move beyond traditional classroom learning by supporting them to establish and manage their own enterprises. His work is grounded in experiential education, where students learn through doing and developing practical entrepreneurial competencies such as teamwork, leadership, decision-making, and strategic thinking. Through these initiatives, he has helped bridge the gap between academic knowledge and real-world application, ensuring that students are better prepared for both employment and self-employment pathways.

Taken together, these five perspectives form the intellectual foundation of this book. Their collective focus reflects a commitment not only to entrepreneurial learning and enterprise education as a discipline, but also to its broader purpose: empowering learners to become innovative, responsible, and reflective practitioners capable of shaping both leadership capacity, community engagement economic and social futures.

INTRODUCTION

Higher Education is currently undergoing a significant period of transformation, driven by accelerating social, economic, technological, and environmental change. Higher Education Institutes (HEIs) are increasingly expected to do more than transmit disciplinary knowledge; they are tasked with cultivating graduates who can think critically, collaborate across diverse contexts, and respond effectively to uncertainty

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and complex global challenges (Barnett, 2004; UNESCO, 2021). This shift reflects a broader reconceptualisation of the purpose of higher education, from knowledge reproduction toward the development of adaptable, reflective, and socially engaged people capable of contributing meaningfully to both local and global communities.

Within this evolving landscape, Experiential Learning has emerged as a particularly influential pedagogical approach. Experiential Learning emphasises education as a process grounded in active engagement, reflection, and the application of knowledge within real-world contexts, rather than passive reception of information. Contemporary research highlights that meaningful learning is strengthened when students are able to connect theoretical ideas with lived or simulated professional experiences, thereby deepening both understanding and capability (Kolb, 1984; Kolb and Kolb, 2005). This approach has become especially significant in higher education systems that are increasingly prioritising applied learning, graduate employability, and civic engagement.

Experiential learning is widely recognised for its capacity to bridge the gap between academic theory and professional practice. Through placements, service learning, simulations, and project-based learning, students are provided with structured opportunities to apply disciplinary knowledge in authentic or near-authentic contexts. This process enhances cognitive development while simultaneously strengthening transferable skills such as communication, teamwork, problem-solving, and reflective thinking (Kolb and Kolb, 2005). In addition, experiential pedagogies are strongly associated with increased student engagement, as learning becomes more relevant, participatory, and contextually grounded (Moon, 2004).

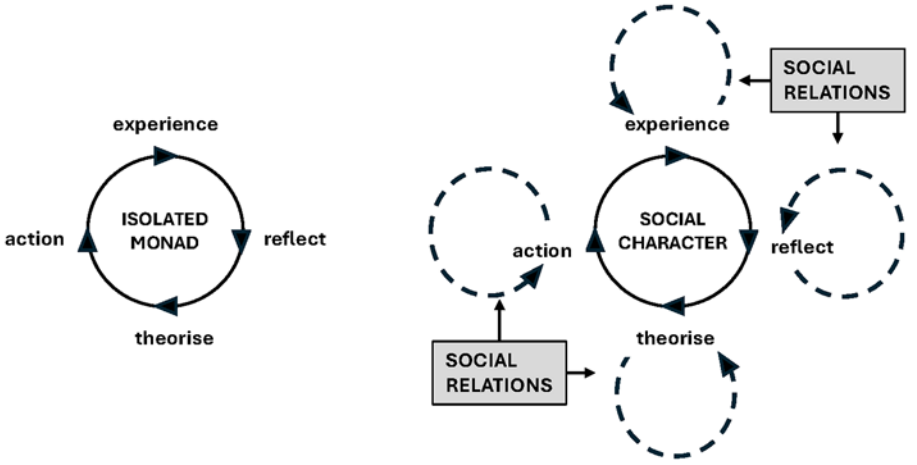
Recent research suggests the role of experiential learning in supporting graduate attributes aligned with both employability and social responsibility. As HEI's respond to increasing expectations from policymakers, employers, and communities, experiential approaches are positioned as essential for ensuring that graduates are not only knowledgeable but also capable of applying their learning in complex, dynamic environments (Healey and Jenkins, 2000; Advance HE, 2023). In this sense, experiential learning is increasingly viewed not simply as a teaching strategy, but as a central component of contemporary curriculum design that supports the integration of theory, practice, and reflection within higher education.

Experiential Learning has remained increasingly important in modern HE systems due to the changing demands of the global labour market (Neck and Greene, 2011; Tiberius and Weyland, 2024). Employers are increasingly seeking graduates who possess not only academic knowledge but also transferable skills such as problem solving, collaboration, creativity, and adaptability (World Economic Forum, 2025). Traditional lecture-based teaching methods are often insufficient for developing these competencies, prompting HEIs to adopt more interactive and practice-oriented pedagogical approaches (Maphalala and Mmakola, 2025).

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Kolb's established experiential learning theory remains one of the most widely used frameworks for understanding EE. The model conceptualises learning as a cyclical process consisting of four stages: concrete experience, reflective observation, abstract conceptualisation, and active experimentation (Kolb, 1984). In HE settings, this learning cycle is implemented through activities that encourage students to engage with real-world problems, reflect on their experiences, develop theoretical insights, and apply new knowledge in practical contexts.

Figure 1. KOLB Experiential Learning Theory



Adapted by Taylor and Pandza (2003)

Critiques of established models suggest that their depiction of learners as autonomous and isolated agents fails to account for the inherently social nature of knowledge construction. A more integrative perspective recognises learning as an ongoing, interconnected process in which reflecting, theorising, experiencing, and acting are not discrete stages but mutually constitutive elements. Even processes of individual cognition are shaped and mediated by social interaction and cultural context.

Moreover, the transfer of knowledge is often informal and embedded within routine social exchanges, further reinforcing the view of learning as a collective, dynamic phenomenon situated within relationships and practices. This framing underpins the discussion that follows, emphasising the importance of social context in understanding how learning occurs in practice.

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Entrepreneurial Learning for Cultivating leadership, Connection and Community in HEI's and Economic Innovation

The evolving landscape of Higher Education has increasingly highlighted the importance of entrepreneurial learning as a catalyst for leadership development, social connection, community engagement, and economic innovation. In contemporary Higher Education Institutions (HEIs), entrepreneurial education is no longer confined to business creation alone; rather, it represents a broader educational philosophy that equips students with critical thinking abilities, creativity, adaptability, and collaborative leadership skills necessary for addressing global and local challenges. This book explores the transformative role of entrepreneurial learning in fostering inclusive academic communities and supporting sustainable leadership.

The significance of entrepreneurial learning has grown substantially in response to rapid technological advancement, global economic uncertainty, and changing employment patterns. HEIs are increasingly expected to prepare graduates not only for employment but also for innovation, community engagement, and leadership within diverse social and professional contexts. Entrepreneurial education therefore encourages students to become proactive problem-solvers who can identify opportunities, build networks, and contribute meaningfully to society. According to UNESCO (2021), HEIs play a vital role in developing sustainable societies through innovation, partnerships, and inclusive learning environments.

This book was inspired by the growing recognition that entrepreneurial learning contributes significantly to both personal and institutional development. Entrepreneurial approaches within HEIs promote experiential learning, interdisciplinary collaboration, and community-based engagement, enabling students to apply theoretical knowledge to practical and societal challenges. Such learning environments cultivate leadership qualities including resilience, communication, ethical responsibility, and teamwork. Recent studies have demonstrated that entrepreneurial education positively influences students' self-efficacy, leadership confidence, and capacity for innovation in both social and economic contexts (Bagheri et al., 2023).

In addition, the concept of community within Entrepreneurial Learning is central to this study. HEIs increasingly function as collaborative ecosystems where students, educators, industries, and communities interact to generate knowledge and innovation. Entrepreneurial Learning strengthens these relationships by encouraging participation, inclusivity, and shared problem-solving. Through partnerships with local communities and industries, HEIs can support regional development and contribute to economic resilience. In this context, entrepreneurial learning becomes not only an educational strategy but also a mechanism for social transformation and economic sustainability.

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HOW THIS BOOK CONTRIBUTES CULTIVATING LEADERSHIP, CONNECTION AND COMMUNITY

The purpose of this book is to contribute to current academic discussions surrounding entrepreneurship education, leadership cultivation, and innovation in higher education. It seeks to provide insight into how HEIs can develop entrepreneurial cultures that support student empowerment, strengthen community connections, and encourage sustainable economic innovation. It is hoped that this work will be beneficial to educators, researchers, policymakers, and institutional leaders seeking to advance entrepreneurial practices within higher education settings.

Cases on Experiential Learning in Higher Education for Cultivating Leadership, Connection, and Community presents a collection of case studies and critical discussions that examine how experiential learning can transform higher education by cultivating leadership, connection, inclusion, employability, and community engagement. Organised across five interconnected themes, the collection demonstrates the value of learning approaches that place students at the centre of authentic, reflective, and socially engaged educational experiences.

The first theme explores global, intercultural, and inclusive experiential learning. These chapters highlight how international learning environments, culturally responsive pedagogies, and inclusive leadership initiatives support confidence, belonging, collaboration, and intercultural understanding among diverse student groups. Together, they show how experiential learning can empower learners and foster equitable participation in higher education.

The second theme focuses on transformational learning, entrepreneurship, and innovation. Through interdisciplinary and practice-based examples, the chapters demonstrate how experiential education develops creativity, resilience, adaptability, and entrepreneurial thinking across disciplines, including business, sustainability, and medical education.

A third theme examines community engagement and service-learning as vehicles for social impact. These contributions illustrate how partnerships between universities and communities create reciprocal benefits, enabling students to develop empathy, social responsibility, and practical problem-solving skills while contributing to meaningful community outcomes.

The collection also emphasises the relational dimensions of learning through chapters on compassion-focused pedagogy and peer mentoring. These examples demonstrate the importance of supportive learning cultures, teamwork, psychological safety, and collaborative leadership development.

Finally, the book explores future-focused pedagogies, curiosity, and artificial intelligence in education. These chapters critically examine how higher education

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must adapt to evolving technological and economic landscapes while maintaining human-centred learning, inquiry, creativity, and ethical engagement.

Collectively, the volume positions experiential learning as a transformative framework for preparing graduates to navigate complex global, social, and technological challenges while strengthening leadership, connection, and community in higher education.

OUR FINAL THOUGHTS BEFORE YOU START YOUR ENTREPRENEURIAL JOURNEY

HEIs are increasingly acknowledged as significant contributors to global innovation ecosystems. By embedding experiential and entrepreneurial learning into their educational models, HEIs can empower not only students, but also professionals, community stakeholders, and lifelong learners with the skills, capabilities, and mindsets needed to navigate complex economic landscapes and support innovation-led growth.

While the integration of experiential learning within conventional academic systems continues to present challenges, the international examples highlighted in this book demonstrate that creative and effective approaches are being adopted across a range of educational settings. These initiatives show how universities can reshape their teaching methods and engagement strategies, both within and outside formal curricula, to enhance entrepreneurial learning and support the development of innovators, leaders, and change-makers across society and industry.

Ultimately, cultivating entrepreneurial mindsets among students, professionals, and community participants is an investment in the long-term prosperity of societies and economies. By enabling individuals to recognise opportunities, generate value, and respond to complex societal challenges, higher education institutions can play a pivotal role in advancing sustainable and inclusive economic development worldwide.

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Chapter 1
Learning, Leadership, and Legacy:
The Benefits of International Business Case Competitions for Students, Coaches, and Universities

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EXECUTIVE SUMMARY

International business case competitions (IBCCs) have grown from small student-run events into influential platforms for experiential learning and engagement. They provide high-impact environments where students tackle complex, time-pressured business problems, work across disciplines, and present strategic recommendations to industry professionals. IBCCs drive educational innovation and professional growth, building competencies vital for modern practice—critical thinking, leadership, intercultural communication—while reflecting real organisational pressures. This chapter examines IBCCs as transformative learning ecosystems benefiting students, coaches, and universities. Drawing on experiential and situated learning theories, it shows how competitions generate socially co-constructed, context-rich learning and advance priorities such as employability, internationalisation, and

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accreditation. It also addresses challenges including accessibility, workload, and sustaining institutional support, offering strategies like inclusive recruitment and curricular integration.

INTRODUCTION

International business case competitions (IBCCs) have become defining features of contemporary business education. Once viewed as extracurricular or elite experiences, they now represent a core mechanism through which universities cultivate global competence, leadership, and employability (Johnson, Ritchie & van Oudheusden, 2019). Through simulations of complex real-world scenarios, competitions such as the NIBS Worldwide Case Competition, ROCA, the BabeşBolyai University International Case Competition (BBU-ICC), RICCB, and CBS Global bring together teams of students who must devise and defend strategic recommendations under tight deadlines before panels of academic and corporate judges.

These competitions merge theoretical learning with practice in high-pressure contexts, creating opportunities for the rapid application of analytical frameworks and creative problem-solving. As Carter, Burke and Hughey (2019) argue, participation in such events stimulates not only technical proficiency but also a broad set of "soft" competencies—communication, negotiation, and teamwork—that underpin effective professional behaviour.

The increasing institutionalisation of IBCCs also reflects the globalisation of higher education. Universities have integrated case competitions into their experiential learning portfolios, recognising their potential to accelerate the development of intercultural agility and global awareness (Damnjanović & Mijatović, 2017). Yet, beyond the students' experiences, competitions produce ripple effects for coaches and institutions, strengthening networks, stimulating pedagogical innovation, and enhancing reputational capital. For universities pursuing or maintaining formal accreditation, these activities also provide tangible evidence of commitment to experiential learning, employability, and international engagement—three core accreditation pillars (AACSB, 2016; EQUIS, 2023; AMBA, 2024).

This chapter explores these interlocking benefits through three perspectives—student, coach, and institution—using University A and University B as illustrative cases. University A, a relative newcomer to IBCCs, is collaborating with University B, an established, triple-accredited institution, to identify and train student competitors. Their partnership, implemented through COIL initiatives, exemplifies how competitions can catalyse internationalisation from the classroom to the global arena.

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LITERATURE REVIEW

International business case competitions

International business case competitions (IBCCs) are increasingly recognised as powerful platforms for experiential learning in higher education (Gamble and Jelley, 2014). IBCCs allow students to apply theoretical knowledge to real-world problems, engage in collaborative problem-solving, but unlike classroom case analysis, competitions provide immediate feedback from industry professionals, often including CEOs and senior managers, thereby simulating authentic business decision-making (Menna, 2010). Rooted in Kolb's (1984) experiential learning theory, ICCs provide a cycle of concrete experience, reflective observation, conceptualisation, and active experimentation. Moreover, as temporary "communities of practice" (Lave & Wenger, 1991), ICC teams enable participants to negotiate meaning, share expertise, and develop professional identities under authentic conditions. Typically, students are given an opportunity to work together in teams to solve real-world business problems. These events put students in pressure situations, expose them to a complex and multi-faceted situation, and ask them to provide a solution within a short timeframe (typically ranging from 3-24 hours).

The landscape of student case competitions covers a broad spectrum, with many such events listed globally (Simmons, 2016). These competitions vary in focus, format, and participant profiles. For instance, some competitions maintain a regional focus in their case scenarios while attracting participants from diverse international backgrounds (for instance HKU Business School, 2025; MBC, 2025), whereas others seek to attract competitors from around the world and address issues that have a global reach (see for instance NIBS, 2025). Similarly, many competitions centre on specific disciplines or management areas. For instance, the European Students of Industrial Engineering and Management (ESTIEM) organize the TIMES (Tournament in Management and Engineering Skills) case study competition across Europe, involving hundreds of teams (TIMES, 2025). Meanwhile, the Creative Shock competition in Lithuania focuses on finding marketing and communication solutions for social enterprises (Creative Shock, 2025), whereas many competitions favour a broader approach to business (e.g. NIBS, 2025; ROCA, 2025). Finally, international case competitions cater to varying levels of education. For example, many (indeed, the vast majority) target undergraduates, providing them with valuable case-solving experience (e.g. GAMABCC, 2025; ICC@M, 2025) whilst others engage postgraduate students in complex business challenges (e.g. John Molson, 2025).

Much of the literature focuses on the benefits for students who engage in IBCCs. Participation in international case competitions offers students a wide range of developmental benefits that extend beyond traditional classroom learning. Exposure to

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diverse cultures and perspectives enhances learning experiences and fosters intercultural competence (Damnjanović, Proud & Ruangwanit, 2018). Students consistently report improvements in core skills, including problem-solving, analytical reasoning, and managerial capabilities, alongside gains in practical knowledge applicable to real-world contexts (Damnjanović & Mijatović, 2017; Orlitzky & Benjamin, 2003), although it should be noted that Plakhotnik, Krylova and Maslikova (2020) found no clear link between competition participation and improved decision-making.

The concept of 'deeper learning' is also relevant to IBCC participation. Deeper learning emphasises the development of transferable competencies such as critical thinking, problem-solving, and metacognition (Pellegrino and Hilton, 2012). Case competitions, by requiring students to synthesise complex information under time pressure, align closely with these principles. Recent work by Fauziati (2025) further argues that deeper learning environments promote identity formation and agency; outcomes frequently reflected in students' descriptions of IBCC experiences.

Case competitions also strengthen teamwork and communication skills, which are critical for effective collaboration in professional environments (Umble, Umble & Artz, 2008; Sánchez-Franco & Roldán, 2018). Importantly, these events provide opportunities for networking and building professional contacts, competencies that are highly valued by multinational employers (Damnjanović & Mijatović, 2017; Sánchez-Franco & Roldán, 2018). Beyond skill development, participation has been linked to enhanced employability and improved career prospects, positioning students more competitively in the job market (Burke, Carter & Hughey, 2013). Collectively, the literature underscores that case competitions serve as powerful experiential learning platforms, equipping students with both technical and interpersonal skills essential for professional success.

Smith and Lee (2020) examine how IBCCs balance rigour with accessibility, ensuring both equitable participation and meaningful learning experiences. However, Simmons (2016) goes further and suggests that IBCCs can be seen as a bridge between academia and practice, and therefore there is an argument that they are more than a learning experience and are also a career-launching platform. Burke, Carter, and Hughey (2013b) also advocate that strong competition performance can lead to increased employability prospects. This, as we will see, was found to be the case in the present study.

Together, IBCCs exemplify how competitions mirror the evolving priorities of international business: digitalisation, sustainability, inclusion, and cultural competence. They offer authentic, practice-based learning environments that extend far beyond the classroom. However, despite the research into student benefits, there is little research into benefits for those who teach and coach them, or for the institutions where they study. This article begins the process of addressing this issue.

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Despite their popularity, international business case competitions (IBCCs) are not without limitations and criticisms. Some scholars argue that the competitive nature of these events may privilege performance over deeper learning, encouraging students to focus on winning rather than engaging in reflective or inclusive collaboration (Smith & Lee, 2020). Concerns have also been raised regarding equitable access: institutions with greater resources are better positioned to support travel, coaching, and preparation, which can exacerbate disparities in student opportunities (Johnson et al., 2019). Furthermore, while student participants often self-report skill development, empirical evidence on learning gains remains mixed, with some studies showing no significant link between participation and improved decision-making or critical thinking (Plakhotnik et al., 2020).

A growing body of research highlights the psychological and emotional challenges associated with competitive learning environments. Studies have documented heightened stress, performance anxiety, and feelings of impostorism among participants in high-stakes academic competitions (Jacobsen, 2025). These pressures can undermine intrinsic motivation and, in some cases, lead to burnout or disengagement. This has been observed by the authors, but interestingly, although burnout in athletic competitions has been extensively studied (see for Nurajab et al, 2025; Yaumunnishar, Sultoni, and Nuryanti, 2026), it has not been comprehensively studied in the context of IBCCs. This will be the focus of a future study by the authors, but it is flagged here to highlight the issue explicitly. Integrating these perspectives provides a more balanced understanding of IBCC participation and aligns with the mixed experiences reported by students in the present study.

In contrast to the robust literature on student outcomes (e.g. Burke et al., 2013a; Carayannopoulos & Damnjanović, 2025; Carter et al., 2019; Damnjanović et al., 2018; Umble et al., 2008), there is relatively little research into the institutional benefits of IBCCs. However, emerging studies suggest that participation can offer strategic value to universities. Carayannopoulos and Damnjanović (2025) highlight that IBCCs can serve as catalysts for enhancing teaching quality, fostering pedagogical innovation, and promoting faculty-student collaboration. Simmons (2016) similarly notes that competitions provide a bridge between academic content and real-world practice, strengthening links with industry and improving graduate employability. As such, IBCCs contribute not only to learning outcomes but also to broader institutional goals, including reputational enhancement, international visibility, and engagement with external stakeholders. Despite existing criticisms, the growing integration of IBCCs into business education reflects their increasing appeal as high-impact learning experiences aligned with globalised, practice-oriented curricula. (Johnson, Ritchie and van Oudheusden, 2019).

Despite the central role of coaches in preparing teams, the literature on coaching within IBCC contexts remains limited. However, research on academic coaching

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and mentoring in experiential learning provides useful parallels. Garvey and Stokes (2021) highlight how coaching relationships support reflective practice and identity development, while Hagen & Park (2016) emphasise the role of coaching in fostering self-regulated learning and performance under pressure. These frameworks offer valuable lenses for understanding the experiences of IBCC coaches discussed later in this chapter.

COIL

Collaborative Online International Learning (COIL) has emerged as a pedagogical model enabling structured, cross-border learning without physical mobility. Built on inter-institutional partnerships, COIL requires a co-created and balanced design in which collaborators contribute equitably to curriculum and instruction (Gray et al., 2021). As Zhu et al. (2023) note, COIL represents a recent educational innovation integrating online intercultural exchange and collaborative project work into higher-education curricula. Collaboration is central: Talan (2021) emphasises that collaborative structures allow students to draw on diverse team strengths, enhancing group learning.

Rising institutional interest reflects broader trends in the internationalisation of higher education. Universities increasingly incorporate COIL into their portfolio of international activities (Zilberberg Oviedo & Krimphove, 2022), in part because it can be embedded within existing curricula and combined with other internationalisation approaches (Rubin, 2017). COIL practices continue to evolve; for instance, recent initiatives incorporate artificial intelligence into course structures (Sun, 2025). Although further research is needed to understand the pedagogical implications of integrating AI into COIL and its intersection with intercultural aims, Sun (2025) has begun to explore these questions.

A key premise of COIL is its capacity to extend learning beyond the classroom, fostering international dialogue and exposing students to culturally diverse perspectives. Evidence consistently demonstrates that COIL strengthens intercultural competencies—including cultural awareness, sensitivity, and the ability to navigate difference (de Hei et al., 2020; Hackett et al., 2023). Helm (2016) argues that COIL's structured, facilitated format enables students to encounter perspectives of the "other" while developing multi-layered understandings of global social issues and inequities.

The literature identifies multiple benefits for students. Online global learning increases access to diverse cultures and supports development in communication, language, and disciplinary knowledge (Pearl, Tzoumis & Lockie, 2023). Rebek et al. (2022) similarly find that COIL offers authentic opportunities for intercultural competence building through direct interaction with international peers. Additional advantages include enhanced cultural skills (Marsee & Pineda Hoyos, 2025), enriched

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learning opportunities, and greater engagement with internationalised pedagogy (Kučerová, 2023). Students often report that COIL enables them to establish common ground with peers from different contexts (Custer & Tuominen, 2016). However, little research explores the long-term impact of COIL on academic trajectories, employability, or global citizenship, an area requiring further investigation.

COIL also benefits instructors. Faculty can engage in intercultural collaboration with colleagues at partner institutions, strengthening their intercultural competencies and professional networks (Pearl, Tzoumis & Lockie, 2023). Such engagement may lead to teaching innovations or research partnerships. Existing studies suggest that well-designed COIL projects offer opportunities for instructors to refine practices that facilitate meaningful intercultural communication (Marsee & Pineda Hoyos, 2025). More research is needed on issues such as workload, institutional recognition, and the long-term sustainability of COIL partnerships.

At the institutional level, COIL supports internationalisation at home and promotes inclusion by providing cross-cultural opportunities to students who may lack access to physical mobility programmes (Marsee & Pineda Hoyos, 2025). Institutions frequently frame COIL as an innovative pedagogical tool that advances global competencies and professional development (Grover, Phutela & Yadav, 2025). Yet the literature would benefit from comparative analyses of different institutional models—such as centralised versus decentralised structures—and their influence on participation and sustainability.

Despite its advantages, COIL presents notable challenges. Common obstacles include time-zone coordination, technological limitations, and cultural differences influencing communication (Pearl, Tzoumis & Lockie, 2023). Learner engagement is essential; as Altowairiki (2021) notes, active participation underpins success in online collaborative environments. Other constraints include limited time, variations in motivation, and differing levels of teacher engagement (Kučerová, 2023). Scholars emphasise the necessity of adequate preparation for both instructors and students to prevent misunderstandings and support productive intercultural exchange (Marsee & Pineda Hoyos, 2025). Additional empirical work is required to assess how different preparation models, such as orientation sessions, intercultural training, or digital literacy development, shape COIL outcomes.

Although COIL and IBCCs are often discussed separately in the literature, recent studies suggest important synergies between the two. COIL projects can serve as preparatory environments for IBCC participation by developing intercultural communication, virtual teamwork, and cross-border problem-solving skills (Grover, Phutela and Yadav, 2025; Vega Chica, 2025). These competencies mirror those required in international competitions, suggesting that COIL may function as an early-stage developmental pipeline for IBCC readiness. Indeed, this is a model that the authors have increasingly adopted within their own institutions, with promising results.

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In summary, the literature presents COIL as an innovative pedagogical approach that expands access to global learning and fosters intercultural competence among students, educators, and institutions. Nevertheless, its success depends on thoughtful co-design, sustained engagement, and comprehensive preparation. Future research should attend to emerging technologies, long-term student outcomes, faculty workload and support, and comparative institutional models to strengthen COIL's contribution to equitable, transformative international education.

METHODOLOGY

Given the exploratory nature of our inquiry, we employed a qualitative methodology that foregrounds lived experiences and interpretations rather than quantifiable outcomes (Creswell & Poth, 2018; Patton, 2015). International case competitions provide rich environments in which students engage in intensive problem-solving, teamwork, and presentation under pressure. Capturing these experiences required methods that enabled participants to narrate their journeys, reflect on learning processes, and discuss institutional support mechanisms. A comparative lens further contextualised findings across two stages of institutional engagement, before and after competitions, thereby offering a broader understanding of the phenomenon (Bryman, 2016).

This study examined perceived benefits, learning processes, and institutional strategies associated with international business case competitions (IBCCs). Two universities participated: University A, relatively new to IBCCs, and University B, with extensive experience and a long record of success. This dual-case design supported the identification of developmental and strategic trajectories in how universities use competitions within experiential learning and internationalisation agendas (Creswell & Poth, 2018; Yin, 2018).

Participants were selected through purposive sampling selected to ensure representation across key stakeholder groups, namely current competitors, recent alumni, coaches, and staff involved in internationalisation or external engagement. The aim was not numerical representativeness but the generation of a rich dataset illuminating experiences across contrasting contexts (Patton, 2015). This strategy is appropriate for exploratory qualitative research where the goal is to capture diverse perspectives rather than achieve statistical representativeness (Bryman, 2016). The final sample size reflects the bounded nature of IBCC teams and coaching structures within the two institutions.

To generate a multifaceted dataset, we employed several interrelated methods: a short survey, participant observation, focus groups, and semi-structured interviews. We also conducted content analysis of institutional strategy documents and compe-

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tition materials from events such as ROCA, NIBS Worldwide, BBU-ICC, RICCB, and CBS Global. Triangulating these sources strengthened our understanding of how IBCCs align with institutional aims for internationalisation and accreditation (Krippendorff, 2018).

The combination of surveys, observations, focus groups, and interviews reflects a triangulated design appropriate for capturing the multifaceted nature of IBCC participation. Surveys provided structured insight into perceived skill development, while observations enabled real-time examination of teamwork and coaching dynamics. Focus groups facilitated collective reflection, and interviews allowed for deeper exploration of individual experiences. This mixed-method approach aligns with recommendations for studying experiential learning environments where cognitive, emotional, and social processes intersect (Creswell and Creswell, 2023).

The survey comprised two questionnaires: one for students with competition experience and another for newcomers. Including both newcomers and experienced competitors enabled comparison of developmental trajectories, confidence levels, and learning processes at different stages of IBCC engagement. This comparative design allowed the study to capture anticipatory expectations, early anxieties, and the more advanced reflections of seasoned participants, offering a fuller picture of the IBCC learning journey. Questions were informed by IBCC judging criteria (e.g., ROCA, 2025) such as analysis, presentation, application of theory, and teamwork, ensuring alignment between student experiences and competition expectations. Twenty-three students participated, including one involved in two competitions simultaneously; six were experienced competitors and thirteen were newcomers. Biographical information appears in Figures 1 and 2, with full questionnaires in Figures 3 and 4.

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Figure 1.

Pseudonym	Gender	Degree area	Year of study	No of competitions entered at time of research	University	Focus Group	Interview
Maria	F	Hospitality	3	1	A		Y
Kelly	F	Hospitality	3	1	A		Y
Gerald	M	MIS	3	0	A		Y
Alex	M	Marketing & PR	3	0	A		Y
Heinrich	M	Management	2	0	B		Y
John	M	Management	3	4	B	Y	Y
Jenny	F	International Business	2	0	B		Y
Kristina	F	Finance	2	3	B		Y
Mary	F	Management	1	0	B		
Emily	F	Marketing	1	0	B	Y	
Rebecca	F	Finance	1	0	B		
Patience	F	Law	2	0	B	Y	Y
Neil	M	HRM	1	0	B	Y	
James	M	Management	2	0	B		
Salma	F	Hospitality	1	0	B		Y
Mark	M	Hospitality	1	0	B		
Tony	M	Hospitality	1	0	B	Y	Y
Susan	F	Events Management	1	0	B		Y
Gemma	F	Events Management	1	0	B		
Andrew	M	Finance	2	4	B		Y
Lucy	F	Finance	2	2	B	Y	Y
Holly	F	Marketing	2	3	B	Y	
Tom	M	Management	2	4	B		Y

Note: all students were undergraduate students aged between 20 and 22, and all were directly observed during this study

Figure 2.

Pseudonym	Gender	Role	University	No of competitions entered at time of research
Nelson	M	Graduate in employment	B	5
Jake	M	Graduate in employment	B	5
Sarah	F	Coach	B	0
Ned	M	Coach	B	16
Ling	F	Coach	B	0
Kumar	M	Coach	B	9

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Figure 3.

Appendix 1: Questionnaire given to experienced competitors

Purpose: This questionnaire explores the extent to which students who have participated in multiple international business case competitions have realised expected learning and development benefits. Your responses will help us improve our teaching and training.

Participation is entirely voluntary. The form will be discarded immediately after its information is transcribed.

Number of competitions you have participated in: _____

Please rate the following statements on a scale of 1–5 (1 = Strongly Disagree, 5 = Strongly Agree):

Statement	Rating (1–5)
Participating in multiple competitions has significantly improved my analytical and strategic thinking skills.	
I have developed strong teamwork and collaboration abilities through my competition experiences.	
Working on cases has increased my confidence in presenting and communicating complex ideas.	
Case competitions have expanded my understanding of real-world business issues.	
My participation has meaningfully broadened my professional network.	
Competing has helped me grow personally, including my ability to manage stress and make decisions under pressure.	

Thank you for your time

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Figure 4.

Appendix 2: Questionnaire given to new competitors

Purpose: This questionnaire explores what students who are new to international business case competitions expect to gain from their participation. Your responses will help us improve our teaching and training.

Participation is entirely voluntary. The form will be discarded immediately after its information is transcribed.

Please tick the box that reflects the extent to which you hope to gain each benefit:

Benefit	Not at all	A little	Quite a lot	Very much
Improved analytical and strategic thinking skills	☐	☐	☐	☐
Greater teamwork experience and ability to collaborate effectively	☐	☐	☐	☐
Increased confidence in communication and presentation	☐	☐	☐	☐
Exposure to real-world business challenges	☐	☐	☐	☐
Opportunities for networking with students, faculty, and industry professionals	☐	☐	☐	☐
Improved time-management and ability to work under pressure	☐	☐	☐	☐
A clearer sense of career interests or goals	☐	☐	☐	☐
A more global perspective and improved cultural awareness	☐	☐	☐	☐

Thank you for your time

Participant observation involved the same 23 students, all of whom provided informed consent. During the study, three competitions (EM Cup, CBS Global, and NIBS Worldwide) were in progress, enabling observation of training sessions, preparation workshops, and live events. This approach offered insight into teamwork, communication, and coaching dynamics in situ (Spradley, 1980).

Two cohorts were observed. The first included six experienced students participating in two consecutive competitions. Observations were conducted during training and, to a more limited extent, during competitions, where access was restricted to formal presentations and post-event debriefings. The second cohort comprised thirteen newly selected students in a developmental training programme. Observations documented how novice competitors interacted, navigated emerging

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norms, and formed early social bonds. Fieldnotes captured interactional patterns, communication styles, and the atmosphere of preparation. These data helped triangulate insights from interviews and focus groups (Patton, 2015).

Two focus groups were held with seven students (Table 1). Focus groups are well suited to eliciting collective reflections and identifying shared and divergent understandings (Kitzinger, 1995). Separate groups at each institution supported open discussion (Bryman, 2016).

Semi-structured interviews were conducted with fifteen students from both universities between October and November 2025 (Figure 1). The sample included both first-time and experienced competitors, enabling comparison of learning progression. Interviews explored skill development, teamwork, cultural learning, and perceived employability outcomes, with the format allowing both consistency and elaboration (Kvale & Brinkmann, 2015). Two graduates now employed in roles linked to their competition experience were also interviewed, alongside four coaches (three from University B and one from University A) with varying levels of coaching experience (Figure 2).

Coaches were included because they play a central role in shaping students' preparation, emotional resilience, and strategic thinking. Their perspectives provide insight into pedagogical practices, institutional support structures, and the emotional labour involved in guiding teams through high-pressure environments. Including coaches therefore strengthened the study's ability to examine IBCCs as multi-stakeholder learning ecosystems. The coach sample was intentionally small, reflecting the limited number of staff directly involved in IBCC preparation at each institution. While this restricts generalisability, it aligns with qualitative research conventions in exploratory studies of specialised professional roles (Creswell & Creswell, 2023). The aim was depth rather than breadth, enabling detailed insight into coaching practices, emotional labour, and pedagogical innovation within IBCC contexts.

All notes were coded using reflexive thematic analysis (Braun & Clarke, 2021), involving familiarisation, coding, theme development, and refinement into overarching categories. This approach captured nuanced patterns related to learning, collaboration, and professional development across both institutions.

FINDINGS AND DISCUSSION

Observations

The experienced students demonstrated a well-established sense of camaraderie, having previously worked together across multiple competitions. Their familiarity

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fostered an atmosphere of confidence, collegial humour, and informal support. Although a friendly rivalry emerged around selection decisions for each competition, this rivalry was good-natured and appeared to enhance motivation rather than generate tension. All six students were comfortable presenting, adept at structuring analyses under time pressure, and confident in articulating their viewpoints. Notably, the two students who participated in both competitions chose to shift their functional responsibilities between events. One moved from a finance role to strategy, while the other transitioned in the opposite direction. They described this decision as an opportunity to broaden their skill sets and challenge themselves with unfamiliar content. This role-swapping was executed collaboratively and with enthusiasm, and repeatedly during practice sessions they sought advice from teammates with more expertise in their newly acquired domains. Their willingness to stretch themselves appeared to reinforce a team culture that valued continuous learning and versatility. Across training sessions, the experienced cohort exhibited efficient coordination, rapid consensus-building, and strong mutual trust. They readily offered constructive critique, frequently using shared shorthand and inside jokes to maintain momentum. Post-competition debriefs demonstrated a mature reflective capacity, with students candidly evaluating team dynamics and identifying strategies for improvement.

The inexperienced cohort entered the observations having undergone minimal prior training, though they had already been selected into a developmental pool, which is a source of clear pride and excitement. Initially, many students interacted cautiously, showing hesitancy in contributing ideas and limited familiarity with case competition conventions. Early sessions were characterised by polite but reserved exchanges, with several students deferring to peers or coaches rather than initiating discussion. As training progressed, notable shifts occurred. Students became more vocal during group tasks, increasingly volunteering analyses or tentative solutions. Small-group activities appeared particularly influential in encouraging participation, enabling students to test ideas in lower-pressure settings. Over time, interpersonal bonds began to form. Students lingered after sessions to continue conversations, laughed more freely with peers, and engaged with coaches more confidently. Their questions became increasingly sophisticated, signalling a growing grasp of case structures and expectations. By the final observations, many students displayed visible enthusiasm when tackling practice problems and demonstrated emerging confidence in presenting preliminary analyses to the group.

The contrast between cohorts highlights the developmental trajectory required to progress from novice to experienced competitor. The seasoned team's cohesion, confidence, and ability to self-organise were grounded in prior shared experiences including repeated exposure to competition settings, established trust, and familiarity with individual strengths. Their readiness to experiment with role changes further illustrated the importance of psychological safety and a growth-oriented

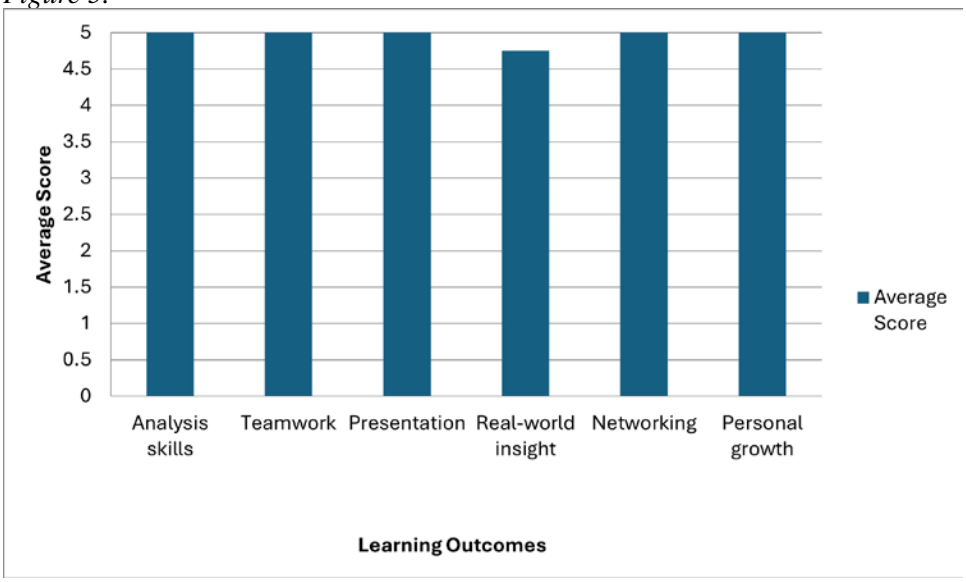
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team culture. For the inexperienced cohort, early hesitancy suggests that structured opportunities for low-risk interaction are vital in the initial stages of development. As demonstrated during observations, confidence grew when students had regular opportunities to collaborate, receive supportive coaching, and develop emergent group identities. Intentional scaffolding, such as guided practice, explicit modelling of teamwork strategies, and opportunities to reflect, appears essential for accelerating this progression.

Responses to the surveys

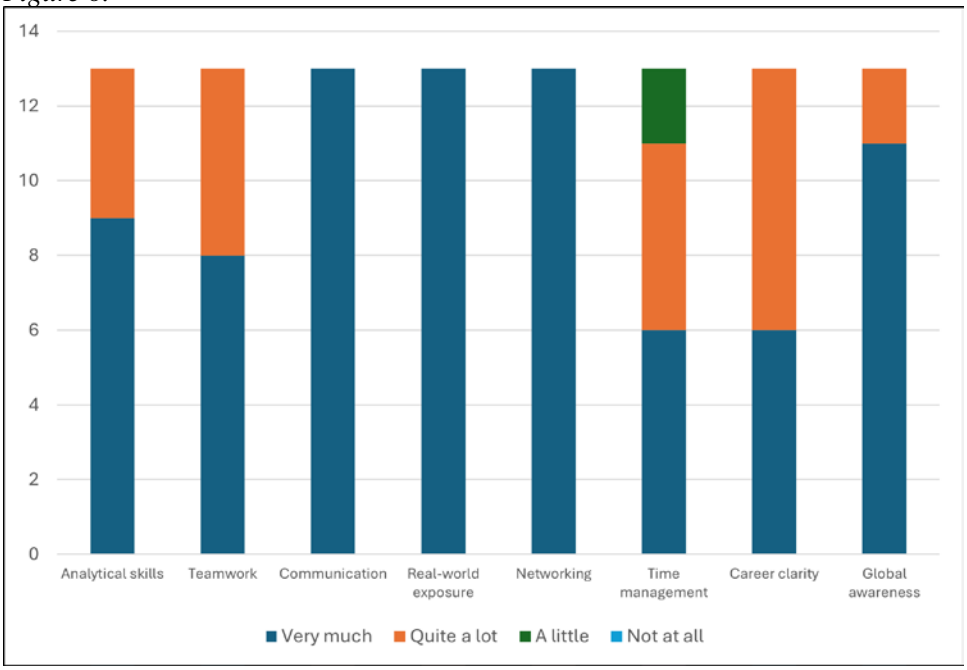
Questionnaire 1 explored the extent to which students who have participated in multiple international business case competitions have realised expected learning and development benefits. There were six eligible students (i.e. who had competed in competitions) and two former students who were now in employment. The full questionnaire can be found at Figure 5. All eight students responded to the questionnaire, and the results are shown in Figure 6.

Figure 5.



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Figure 6.



All students scored every statement a 5, except for John and Andrew, who scored Statement 4 (understanding of real business issues) as 4 instead of 5. The consistently perfect scores (5/5) indicate that students overwhelmingly believe they have gained the intended benefits from participating in multiple case competitions. Skills such as analytical thinking, teamwork, presentation ability, networking, and resilience under pressure are viewed as highly developed. However, statement 4 shows a small deviation: the average score drops slightly because two students rated it 4. This pattern suggests that while students feel highly confident overall, some perceive a modest gap between competition cases and real-world business complexity.

The implication for coaches is that training may benefit from additional real-world exposure, such as live company projects, guest speakers discussing current business challenges, or more data-rich or ambiguous case scenarios. These measures could help to bridge the perceived gap in real-world understanding. However, the results indicate that case competitions are achieving their intended developmental goals at a very high level. The only marginally lower rating, which relates to real-world business issues, highlights an opportunity to enhance authenticity and industry engagement within training programmes.

Students with significant competition experience provided vivid accounts supporting the survey findings. The following quotes were typical:

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"After four competitions, the pressure doesn't scare me anymore—it motivates me. I've become sharper and faster in my analysis." (John)

"The cases feel real because the judges keep challenging us like clients. It pushes me to think beyond textbook answers." (Andrew)

These comments reinforce the strong scores shown in Figure 1 and demonstrate that the high ratings align with deeply felt developmental experiences.

Questionnaire 2 explored the expectations of students who are new to competitions. There were 13 eligible students (i.e. those who had not yet taken part in a competition). The full questionnaire can be found at Appendix 2. All 13 students responded to the questionnaire, and the results are shown in Figure 2.

While the uniformly high scores suggest strong perceived benefits, they should be interpreted cautiously. Self-selection bias is likely, as students who volunteer for IBCCs tend to be highly motivated and academically confident. Small sample size also limits generalisability. These caveats mirror findings from other studies where competition participants report overwhelmingly positive outcomes that may not reflect broader student populations (see for instance Damnjanović and Mijatović, 2017.)

The data reveals that new students enter international case competitions with very high expectations. They anticipate major gains in communication, exposure to real-world challenges, and networking, areas where every respondent selected "Very much." They also expect strong improvements in analytical skills, teamwork, and global awareness, though with slightly less unanimity. More varied responses appear around time management and career clarity, suggesting that students are less certain these benefits will materialise.

Overall, the survey data reveal a consistent pattern: newcomers anticipate significant personal and professional growth, while experienced competitors confirm that these expectations are largely met. However, the contrast between initial anxiety and later confidence underscores the need for structured support during early stages of preparation. These findings reinforce the importance of coaching, peer mentoring, and gradual exposure to competition norms.

These results are supported by the comments that students made during the interviews and focus groups. For instance, for James, the motivation to compete stemmed from a desire to overcome his fear of presenting. As he put it:

"I've always avoided speaking in front of people, but this feels like the chance to finally get past it."

He hoped that the intensity of preparation and feedback from coaches would help him develop professionally in ways regular coursework never had. Although excited by the idea of meeting international students and industry judges, he confessed that,

"I'm terrified of freezing on stage. Even so, I think competitions can act as a doorway into the professional world. This feels like something that could change me."

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Students at University A expressed anxiety about the pace and volume of work expected during competitions. Unlike traditional coursework with extended deadlines, the high-pressure, fast-paced nature of IBCCs introduced a new layer of cognitive and emotional challenge. Gerald shared, *"I'm excited to start, but I genuinely don't know how we're supposed to fit everything in."* Kelly admitted, *"Time management has never been my strongest skill, so I'm nervous about falling behind."* These reflections reveal that before the learning curve kicks in, time pressure can initially inhibit confidence and create psychological friction.

Notably, experienced students highlighted how their expectations before competing were not only met but exceeded. For instance:

> *"I thought I'd learn some skills, but I didn't expect the experience to change how I think under pressure—yet it did." (Lucy)*
>
> *"What I hoped for was practical learning; what I got was a complete shift in confidence and career direction." (Holly)*

These testimonies demonstrate the substantial and often transformative gap between pre-competition expectations and post-competition realities.

It was clear that expectations of novice students differ sharply from the outcomes reported by experienced competitors (Figure 1), who consistently confirm that they do achieve substantial benefits across all categories. For them, benefits are not tentative but tangible, reflecting the cumulative impact of repeated participation. In other words, while newcomers hope for transformation, experienced students demonstrate that competitions reliably deliver it.

Experiential and Situated Learning

IBCCs epitomise the principles of experiential learning (Kolb, 1984). They require students to engage in a continuous cycle of experience, reflection, conceptualisation, and experimentation. A competition brief becomes the "concrete experience," followed by reflection in team discussions, abstraction through strategic frameworks, and active experimentation in presentations. This iterative cycle deepens conceptual understanding and transforms tacit knowledge into explicit skills (Burke, Deal & Hess, 2013a).

From the perspective of situated learning (Lave & Wenger, 1991; Wenger, 1998), case competitions also create temporary but intense "communities of practice." Within these micro-communities, students negotiate meaning, share expertise, and co-construct professional identities. The process of preparing and competing reproduces the dynamics of consulting teams, mentoring, leadership rotation, and shared accountability, under authentic conditions.

Holly, an experienced student, described this vividly:

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"In those 24 hours, we stopped being students and started behaving like consultants. Every decision mattered; every slide had to earn its place. It was the first time I truly understood what strategic thinking feels like in real time."

Such comments align with Sánchez-Franco and Roldán (2018), who found that case competitions foster employability by developing precisely those competencies most valued by global employers—critical analysis, adaptability, and persuasive communication.

Competitions as Communities of Professional Formation

Beyond skills acquisition, competitions cultivate professional identity. As participants interact with judges, sponsors, and peers from diverse cultural backgrounds, they begin to see themselves as members of an international management community. These interactions serve as powerful motivational and identity-building mechanisms (Carayannopoulos & Damnjanović, 2025).

This identity shift is often profound, as experienced competitors describe a noticeable transition from feeling like students to feeling like emerging professionals:

"Before my first international competition, I saw myself as 'just a student,' but by the end I felt part of a global business network—we were treated as peers, not learners." (Tom)

"We had to defend our ideas like consultants. When a judge told me, 'Convince me,' it felt exactly like a real client meeting. That moment changed how seriously I took my own capabilities." (Andrew)

Interestingly, as Kristina noted,

"After three competitions, I realised these events shape you into someone who thinks and behaves like a consultant, not a student completing an assignment. You start to adopt the mindset, language, and pace of the industry."

These richer reflections from experienced competitors illustrate the depth of professional formation occurring within IBCCs, demonstrating how the competition environment accelerates students' transition into professional identities.

These identity shifts highlight the transformative potential of IBCCs but also raise questions about sustainability and transferability. While students describe profound changes in confidence and professional orientation, such outcomes may be influenced by the intensity and novelty of the competition environment. Further research is needed to examine whether these identity gains persist over time and how they translate into workplace performance.

Importantly, this identity formation begins even before students compete. Several students who had not yet participated in a competition described feeling as though they were already entering a professional community simply by preparing for one. As Mark explained:

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"Just training for competitions makes me feel like I'm stepping into the business world. I'm already thinking differently from my usual coursework."

Rebecca supported this view and noted:

"Watching previous teams and trying to learn from them makes me want to match their professionalism. Even before competing, I feel like I'm joining a community I want to belong to."

These comments highlight the anticipatory socialisation that occurs during preparation, where newcomers begin modelling themselves on the norms and behaviours of more experienced competitors.

The transient yet intense nature of these communities of practice facilitates accelerated social learning. As Spradley (1980) noted in ethnographic contexts, learning under observation and feedback produces profound transformation. Within competitions, participants learn to articulate and defend ideas persuasively before industry executives, receiving feedback that mirrors professional consulting engagements.

The data from both universities suggest that COIL activities served as an informal preparatory stage for IBCC participation. Students who engaged in COIL projects reported greater confidence in cross-cultural communication, virtual teamwork, and navigating ambiguity; skills directly transferable to competition settings. Coaches also noted that COIL cohorts adapted more quickly to the collaborative demands of IBCC training, supporting the argument that COIL can function as a developmental pipeline for competition readiness.

Benefits for Students

Research consistently demonstrates that competition participation enhances analytical, presentational, and interpersonal skills (Carter et al., 2019). Students experience a form of "compressed learning," acquiring and applying concepts in hours rather than weeks. The rapid pace, combined with authentic cases, intensifies learning retention. John, reflecting on his first international competition, explained:

"I learned more about teamwork and decision-making in one weekend than in an entire semester. You can't hide behind the group; everyone contributes, or you fail together."

This immediacy transforms theoretical knowledge into professional competence. As Kolb (1984) notes, the power of experience lies in its capacity to bridge cognition and action—a bridge that IBCCs construct with remarkable efficiency. Moreover, international competitions compel students to navigate cultural differences, communication styles, and decision-making norms, fostering the ability to collaborate across cultures (Damnjanović & Mijatović, 2017). Indeed, Kristina remarked:

"Working with teammates from four continents made me rethink how culture shapes problem-solving. What I thought was 'logical' was really just cultural habit."

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Such transformative moments contribute to what Deardorff (2020) suggests is a lifelong capacity to learn from and adapt to diversity.

Another issue was that of communicating in English. Although most of the students in the study were native English speakers, there were some for whom English was not their first language. As competitions increasingly attract diverse international cohorts, students must navigate not only complex business problems but also the linguistic demands of presenting, negotiating, and collaborating in a language that is not always their first. The following quotes illustrate how both novice and experienced competitors understood and adapted to these challenges. Patience, an African student new to competitions, stated:

"I know my English is good, but I still get nervous when I think about presenting in front of judges. Everything we do—the cases, the teamwork, the presentations—is in English, and I worry that I won't find the right words quickly enough. I'm excited to learn, but I'm also scared of making a mistake in front of everyone."

While Patience's concerns reflect the uncertainty that many new competitors feel when entering an English-dominant environment, experienced students describe a different perspective - one shaped by time, exposure, and conversations with other international teams. Their reflections suggest that linguistic insecurity is both widespread and temporary, often dissolving as students become accustomed to the expectations and rhythms of competition. Kristina made the following observations:

"Before my first competition, I was really worried about my English. I thought everyone else would be fluent and that I would stand out. But then I realised the Romanian team spoke Romanian and Hungarian at home, and English was their third language, and they had exactly the same concerns. All the teams felt the same way, and once I understood that the fear disappeared. Competitions have pushed me to speak more, and now I feel confident presenting in public."

Together, these accounts show that linguistic anxiety is a shared experience across both novice and seasoned competitors. Over time, repeated exposure to English-language tasks and supportive peer environments can transform initial apprehension into confidence. These reflections reinforce the value of inclusive training practices that normalise linguistic diversity and encourage students to develop their communicative competence through sustained participation.

Confidence levels fluctuated dramatically in the early stages of the competition journey. For some students, the public-facing nature of presentations triggered deep anxieties. *"Presenting scares me the most,"* Alex admitted. "*I sometimes doubt whether I belong here,"* Kelly shared, highlighting an undercurrent of impostor syndrome that often precedes growth during IBCC participation.

Teamwork was another area where students voiced initial apprehension, especially around finding their role and building trust quickly. *"I've never worked in a team where the stakes feel this high,"* Maria explained, while Alex worried about

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his place, saying, *"Everyone seems so smart, and I don't want to be the weak link",* illustrating how students grapple not just with collaboration logistics but with identity and belonging in high-performance peer groups.

The reflections captured above show that many students entered the competition space with a mix of anticipation and anxiety. From managing pressure to navigating new group dynamics and dealing with confidence gaps, their initial sense-making was marked by vulnerability. However, as later data from University B suggest, these very vulnerabilities often became catalysts for transformational learning.

These reflections align with broader research showing that high-stakes competitive environments can heighten stress, trigger impostor feelings, and create emotional fatigue, particularly among first-time participants (Jacobsen, 2025; Nurajab et al, 2025; Yaumunnishar, Sultoni, and Nuryanti, 2026). Several students in this study described difficulty sleeping before presentations, fear of letting teammates down, and anxiety about being judged by industry professionals. While these pressures often diminished with experience, they represent an important dimension of the IBCC journey and underscore the need for structured emotional support within training programmes.

Case competitions are also powerful employability signals. Employers value them because they replicate workplace challenges: ambiguity, time constraints, and client-facing communication (AACSB, 2016). Carayannopoulos and Damnjanović (2025) found a strong correlation between competition participation and early career advancement; a point supported by Simmons (2016). Student testimonies underscore this connection. For instance, Nelson, a recent graduate of University B who now has a consultancy role at PwC noted that:

> *"During my job interview, everything I described about pressure, teamwork, and creativity came from the case competitions. The interviewer told me, 'That's exactly what consulting is.' They told me that my having competition experience was a key factor in me getting this job."*

Importantly, students felt an increased confidence in their abilities, which directly impacted on their increased employability. Tom spoke for many when he noted that:

> *"For my interview for my current job, I had to start with a presentation. A year ago, I would have been terrible. I'd have blown my chances. But, because of competitions, I've got better and better. I used to hate presenting, and it terrified me, but now I've found that I enjoy presenting. I think I'm good at it. My interviewer said afterwards that it was the best presentation she'd seen by miles."*

Lucy felt a great pride in what she'd done. As she put it:

> *"Who else can say that they've represented their country? The Olympics maybe, but who else? At [one competition], we were the only team from the UK to qualify for the finals. I was representing the UK. It made me so proud! It also impressed my interviewers!"*

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The transformative nature of these experiences was repeatedly reflected in students' accounts, which reveal not only enhanced confidence and skill development but also a profound shift in self-perception and career direction. The following comments from experienced University B students illustrate the lasting personal and professional impact that competition participation can have.

"Before competing, I doubted my ability to think clearly under pressure. Now, after just two competitions, I've realised I thrive in those situations. It's changed how I approach every challenge, both academic and personal." (Andrew)

"What I gained wasn't just confidence or skill—it was direction. I now know I want to work in strategy consulting, and the competition experience gave me the credibility to pursue that path." (Ling)

Collectively, these reflections underscore how international competitions extend far beyond skill acquisition — they serve as incubators for identity formation, purpose, and professional readiness. Through these experiences, students emerge not only more employable but also more globally attuned and self-aware, embodying the leadership values their universities strive to cultivate.

Benefits for Coaches and Mentors

Academic coaches play a dual role as educators and facilitators of professional formation. Preparing teams for competitions requires intensive mentorship, iterative feedback, and reflective debriefing. These engagements exemplify "transformational coaching," where faculty act not as instructors but as catalysts of self-regulated learning (Patton, 2015). However, there is an emotional connection between the coaches and their students that can easily be overlooked by those who are not involved. As Ned, an experienced coach, put it:

"Coaching is emotionally taxing but deeply rewarding. When students go into the case room, you feel almost as nervous as they do, but seeing them walk out proud of what they've created—that's unforgettable."

He explained that coaches often balance pushing students to be their best with protecting them from burnout.

"Students don't always see what we see—the potential, the talent—so our job is to hold that belief for them until they start believing it themselves."

Coaches themselves benefit professionally. They develop pedagogical innovation skills -blending analytical rigour with creativity, adopting design thinking techniques, and integrating real-time feedback mechanisms. Many report that competition preparation informs classroom teaching by introducing live-case methodologies and reflective practices (Burke et al., 2013b).

Sarah, a novice coach, explained:

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"The case teams have become our pedagogical laboratory. What works under competition pressure often translates directly into our teaching methods. I can't wait to get involved and try this out for myself."

For less experienced institutions like University A, partnerships with established universities provide capacity-building for faculty as well as students. Through COIL projects with University B, faculty members exchange insights, co-supervise teams, and design intercultural problem-solving modules, expanding their teaching portfolios and supporting institutional internationalisation (Rubin & Guth, 2023).

Ling, a new coach, reflected on how the experience was shaping her own development:

"Even as a new coach, I can already feel my confidence and visibility growing within the department. Supporting student teams through these challenges is pushing me to develop both my teaching and leadership skills—and I'm confident it's going to benefit my career in the long run."

Kumar, an experienced coach, described how competition success had tangible career impacts:

"People think the benefit is all for the students, but coaching made me a better teacher. It taught me how to give clearer feedback, how to help students think under pressure, and how to design cases for the classroom that mirror real-world ambiguity. Competition involvement raised my visibility internally. After our team won, I was asked to lead two new applied-learning initiatives. Coaching opens doors for staff as much as students. I was promoted to Senior Lecturer. The university recognised that our students' performance reflected our mentoring quality. It's been immensely rewarding to see how their success translated into institutional and personal recognition."

Ned emphasised the pedagogical value of competitions:

"The competition environment is the ultimate testing ground for what we teach in class. Seeing how students apply frameworks under pressure has completely reshaped the way I design and deliver my courses."

These benefits are often overlooked in the literature, which tends to focus more on how students can be impacted by competitions, but growth of academic staff is a valuable outcome that should be recognised.

These findings resonate with established coaching frameworks that emphasise the relational, developmental, and identity-forming aspects of academic coaching (e.g. Cox, Bachkirova and Clutterbuck, 2023). Within IBCC contexts, coaches act not only as technical advisors but also as mentors who scaffold students' emotional resilience, reflective capacity, and professional identity formation. This dual role helps explain the intensity and significance of the coaching experience described by participants.

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Institutional Benefits and Strategic Alignment

Universities gain valuable reputational capital when students succeed in international competitions, signalling teaching quality, innovative pedagogy, and graduate capabilities (AACSB, 2016). Hosting events further boosts global visibility and fosters industry partnerships (IACBE, 2018). Participation in networks like NIBS supports institutional goals around globalisation and partnerships. For University B, long-term involvement aids its pursuit of triple accreditation, a recognised benchmark of excellence. Competitions support key accreditation priorities: AACSB values experiential learning, engagement, and impact (AACSB, 2025); EQUIS requires internationalisation, corporate links, and responsible management education (EQUIS, 2023); and AMBA emphasises leadership and employability outcomes (AMBA, 2024). IBCCs deliver across all these dimensions. In the case of University B, both their EQUIS and AACSB accreditation submissions explicitly showcased their participation and performance in international business case competitions as evidence of our global engagement and experiential learning excellence. Ned and Kumar both contributed heavily to their university's accreditation bid. As Ned observed,

"Our success in international case competitions so winning twice in Denmark and once in Cairo was a powerful example of how we embed experiential and internationalised learning into the curriculum. We made sure this featured prominently in our EQUIS documentation because it demonstrated, in concrete terms, how our students apply theory to global practice."

Similarly, Kumar added:

"When we pulled together the AACSB documentation, the competitions were central to the narrative of engagement, innovation, and impact. We also included a detailed case study showing how we connect case competitions and COIL projects to our wider international programme it really brought to life how our teaching philosophy translates into measurable student and institutional outcomes."

Together, these reflections highlight how competition participation was not only celebrated internally but strategically positioned as evidence of the University's commitment to experiential learning, employability, and internationalisation.

By embedding competitions and COILs into curricula and showcasing outcomes in accreditation reports, University B reinforces its alignment with these standards. University A's collaboration through COIL initiatives with University B enables it to adopt similar evidence-based practices, accelerating its own path toward international recognition.

Additionally, the wider aspects of internationalisation and collaboration are enhanced by competition involvement. The partnership between University A and University B illustrates how IBCCs act as catalysts for internationalisation. University B supports University A in identifying high-potential students and training

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them through online workshops, shared cases, and mentorship. COIL projects link classrooms across borders, introducing international collaboration early in students' learning journeys (Rubin & Guth, 2023).

Kumar summarised this approach thus:

"Through COIL sessions, our students meet their future rivals months before travelling. By the time they compete, they've already built trust and cultural understanding."

Such early integration not only improves performance but also embeds internationalisation within the curriculum rather than treating it as an add-on.

Although our study demonstrates significant benefits for institutions, it should be noted that IBCC participation also carries economic implications. There are competition fees, travel costs (flights and hotels, plus subsistence), there are training costs prior to the competition, there are costs associated with disseminating learning among the student pool. For the universities under study in this chapter, these costs run to many tens of thousands of dollars per year over a five-year period. Therefore, the undoubted benefits must be weighed against financial barriers faced by less-resourced institutions, where limited budgets constrain access to international competitions. Thus, a clear understanding of these cost–benefit dynamics is essential for institutions considering long-term investment in IBCC programmes.

CHALLENGES AND CRITICAL CONSIDERATIONS

While the benefits are substantial, challenges persist. Resource inequality limits participation for institutions lacking travel or coaching budgets (NACE, 2020). Digital competitions have widened access but cannot entirely replace the relational intensity of in-person events.

Another challenge lies in maintaining educational depth amid competitive pressure. Without structured reflection, students may focus on "winning" rather than learning. Best practice integrates debriefing sessions, learning journals, and assessment alignment to embed reflection (Braun & Clarke, 2021).

Interestingly, gender and cultural diversity remain uneven across competitions. Research by Spindler (2023) shows that women and students from developing economies are under-represented in global competitions, often due to financial and institutional barriers. However, this was not the case in either University A or University B. In the former case, the competition lead and head coach is female, and there is a strong female representation in the student cohort. Similarly, University B has a male lead and a male deputy, but the coaching team contains equal numbers of men and women. This strong female presence is also replicated in the student cohort and can be seen in the sample population of the present study (as shown in Table 1).

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Finally, sustainability and ethics must remain central. As competitions increasingly adopt ESG-themed cases, they offer opportunities to embed the UN SDGs within management education (UN PRME, 2023). Universities must ensure that competition cases promote responsible, inclusive, and sustainable business models, aligning with accreditation standards and societal needs.

LIMITATIONS OF THE STUDY

While this study offers meaningful insights, several limitations should be noted. The sample includes only undergraduate business students aged 20–22, limiting generalisability across age groups and disciplines. However, this mirrors the structural reality of IBCCs, which predominantly target this demographic. The study also draws on participants from just two universities, one experienced and one new to IBCCs, resulting in more data from the former. Although this comparative design provides useful contrasts, it may not reflect the full diversity of institutional contexts. The study relies largely on self-reported data, which may be influenced by bias or retrospective interpretation. Future research could include observational or performance-based data. Finally, the timing of data collection during competition season may have amplified participants' emotions and stress levels, influencing their responses. Nonetheless, the study remains robust in capturing the authentic experiences of those actively engaged in IBCCs and offers relevant insights for the target population.

CONCLUSION: LEARNING, LEADERSHIP AND LEGACY

The title of this chapter encapsulates the broader significance of IBCCs. Competitions operationalise experiential and situated learning theories in ways few other pedagogical tools can match. They provide authentic, high-stakes environments for applying theory to practice, developing skills, and fostering intercultural understanding.

Through team dynamics, strategic analysis, and presentation challenges, competitions nurture leadership behaviours—decision-making, persuasion, and ethical reasoning. As one University B student reflected:

"I used to think leadership was about confidence. After two competitions, I realised it's about listening, timing, and empathy."

Leadership, in this sense, emerges as distributed and adaptive rather than hierarchical.

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For universities, the legacy of IBCC participation lies in sustained cultural transformation. Students become ambassadors of experiential learning; coaches evolve pedagogical practices; institutions gain international visibility. The partnership between Universities A and B demonstrates how legacy is shared—how collaboration, mentorship, and COIL-based integration generate lasting institutional change.

International business case competitions occupy a unique intersection between learning and leadership, between individual development and institutional strategy. They exemplify how global education can be simultaneously experiential, collaborative, and impactful.

For students, competitions develop cognitive, interpersonal, and professional capabilities that transcend disciplinary boundaries. For coaches, they inspire pedagogical innovation and professional growth. For universities, they reinforce global networks, support accreditation standards, and embody the principles of internationalisation and responsible management education.

As higher education continues to grapple with the challenges of relevance, employability, and inclusivity, IBCCs offer a tested model of transformative learning. The collaboration between University A and University B - anchored in COIL and supported by a shared commitment to excellence - illustrates that competitions are not merely contests but catalysts for sustained educational innovation and institutional advancement.

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Chapter 2
Developing Radical and Inclusive Innovation Leaders:
Demystifying the Learning Journey

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EXECUTIVE SUMMARY

Teaching people to do things never done before needs an unconventional approach. This chapter charts the path through 6 projects and reflections of 100 HE students revealing their lived experience of developing the necessary habits of mind. Supported by interdisciplinary theory, it argues that radical innovation is neither designed nor managed, but emerges through co-created dialogue among biased research participants motivated towards a better way of being. Radical innovation exhibits semiotic failure; no words describe things yet to exist. To overcome this, collective intelligence reframes meanings around both desired outcome and the emerging product making it the obvious choice for customers to adopt. The processes needed to marshal collective intelligence are described with reference to Rogers' human centric practice and Knowles' andragogy. Transformational experiential learning draws on education scholars to propose an Andragogy for Radical Innovation, contributing a student's view of the mindset shifts and strategies that achieve impact with radical innovation.

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INTRODUCTION

The World Economic Forum's 2025 Risk report[1] highlights growing scepticism that current societal mechanisms and governing institutions can deal with the risks we face. In so many areas like climate change and social justice humanity's trajectory is unsustainable. The need for radically new approaches is growing, yet with so much resistance to anything beyond incremental improvements to the existing (Heidenreich et al., 2016), (Kleijnen et al., 2009), many have given up trying (Blank, 2019). How do we change this? Is successful radical innovation just luck? Serendipity? Or is there a repeatable way to come up with radically better ways of doing things? And crucially, how do we ensure such novel practices become widely adopted?

This chapter describes the mechanism by which initially inconceivable ideas emerge and how their innovators develop them into products that, once experienced, rapidly become the obvious choice for their intended beneficiaries. It shows how these products transform cultural norms in the process, as a critical enabler of wider adoption. Data was taken from 6 student projects and the written reflections of a hundred students learning how to innovate as part of their higher education studies. Taking adoption as the unit of analysis leads to the conclusion that, instead of 'taking a product to market', successful innovators find a "motivated market" (Neild, 2023) with a *problem worth solving* and co-create new products to address it. The chapter draws on a broader research programme that proposes an *Andragogy for Radical Innovation*, a counter-intuitive *learner-centric* approach of reflective experiential learning. It focuses on the approaches used by student innovators highlighting the metacognitive strategies they reflect upon as being instrumental to their progress. In the next sections I will briefly summarise the main argument.

The innovation paradox

Where would you go to find out about something that does not yet exist? If you consider this question for a few moments, you are likely to conclude that none of the usual approaches will work. Nothing can possibly be found about something that is yet to exist. If it did, then it must already exist, or else how could anyone know about it? This, Socrates' *learning paradox,* is compounded by the concept that learning is *situated* in practical activity (Cole, 1996) – which implies that we cannot comprehend things that we have never experienced. Taken together, it seems impossible to embrace radically new ways of being[2]. Fortunately, education scholars such as (Bereiter, 1985) and (Lemke, 1997) and creativity researchers such as (Sawyer, 2012) have proposed resolutions to this learning paradox, which underpin a theoretical basis for an Andragogy for radical innovation, which when

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combined with philosophers Karl Popper and Martin Heidegger and design scholar Krippendorf lead to a new ontology, a third dimension of reality.

Physical or objective reality is problematic because it leads students to conclude that all people are rational and think alike. A cultural or social semiotic view of reality is missing for something that does not yet exist as the learning paradox describes, thus semiotics fails radical innovation. The third, semantic, concept of reality exists as *meanings*. It describes the individual way people experience artefacts and phenomena – on the *intramental* level (Vygotsky, 1978). It too is problematic because individuals experience phenomena in very different ways. For example, one person might have a deeply ingrained fear of dogs following a traumatic early childhood experience, another might love them and yet another might never have experienced them in childhood, but frame an opinion based on the irritating mess they leave. The signifier "dog" completely fails to capture the nuance of the different meanings individuals ascribe to this word. Apple's Steve Jobs famously argued that "customers don't know what they want". I argue that they do know *what* they want, but struggle to articulate *how* it might be delivered, especially if current offerings are unfit for the purpose they have in mind. This is where an innovator's intervention adds most value. Radical innovators use dialogical co-creation to facilitate the emergence of a resonant consensus, firstly around the problem / desired outcome, which describes *what* a solution must deliver, which in turn informs *how* a radically new product can deliver most value. It is the consensus that drives customer resonance, ensuring the product becomes the obvious solution to unshared desires that can be difficult to express.

That some student innovators had first-hand experience of the problems they sought to address was both help and hindrance. Help, because they had a deep awareness of the issue; hindrance because their natural assumption was that others saw the world as they did. Co-creative dialogue builds a consensus among diverse participants firstly, on how to describe the issue in a way that makes sense to fellow sufferers and then how best to tackle it in the most accessible way. This *inclusive* innovation process works just as well for minorities experiencing shared difficulties for which mainstream products offer no resolution (Neild, 2020).

The cases chosen demonstrate how innovative entrepreneurship is an emancipatory enabler of personal growth, helping these change leaders create a bigger impact than through other means. They exemplify *Double Morphogenesis* (Archer, 2020) in that their own change enables and is enabled by helping others change. They also illustrate why experiential learning is essential for this transformation. Many students reflect that their initial impulses often led them in the wrong direction, only discovering more effective strategies through experimentation and reflection (Dewey, 1938). Positive steers from teaching staff in lectures all too often fall on deaf ears. These written reflections coupled with observations from coaching prac-

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tical projects offer a unique student voice perspective, bringing deep insights into their challenges and triumphs as they develop the skills needed to innovate from the earliest genesis of an idea.

Before exploring the practical experience, the next section discusses socio-cultural learning theory as a lens to examine innovation as a cultural phenomenon, an approach relatively unexplored in enterprise education literature.

Theoretical and Literature Background

Vygotsky's "*general genetic law of cultural development*" (Vygotsky, 1978) first set out the social and cultural nature of childhood learning almost a century ago. As mentioned above, he distinguished between *intramental* learning, (individually making sense of things and mastering techniques) and *intermental* learning, (where knowledge is acquired through social and cultural interactions). While the former is a natural form of learning - most of us were not taught how to walk, the latter is very much the province of education. Without socio-cultural learning, humans would need to work everything out for themselves and their (rather limited) accumulated knowledge would die with them. Social learning is what distinguishes humans from other animals (Vygotsky & Luria, 1930)

Building on Vygotsky's extensive research, Cole (1996) argues that cultural psychology significantly outperforms scientific psychology in predicting human behaviour and that *mind* emerges in joint mediated activity with its surrounding environment. This, Cole's *cultural mediation* explains why people resist change. Their habits and perceptions form through cumulative individual experiences and influences, in contrast to the homogenous and predictably rational people that economic theory suggests (Hodgson, 2012). But given the huge range of possible experiences stretching back in ontogenetic and phylogenetic time, how can anyone possibly predict how another sees the world?

When different people review a new product or service, they typically objectively agree on its physical properties, but may disagree about whether they want it. These perceptions are invisible to external observers and may be equally so within those observed. Vygotsky describes our intramental habits as "*everyday*". We *just do* many things in our daily routines and *just prefer* some things over others; it involves little conscious thought and defies easy explanation other than force of habit. This is problematic for innovators, seeking to promote better ways of being. How can they determine what *better* looks like for people who cannot readily describe everyday experience? This is compounded for things so radically different that they fall outside people's previous experience. With no adequate signifiers, they are very hard to market. As Simester (2016) shows, some 40% of great products fail, not because they offer no value to customers, but because they simply do not understand it.

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Value is only as useful as the innovator's ability to give meaning to it appreciated by the intended customer.

Cultural psychology predicts this semiotic failure for radically new ideas. Situated learning in *communities of practice* (Lave & Wenger, 1991) impedes radical creativity (Lemke, 1997). Habits and thinking become so situated in shared practice and common culture that imaging a radical departure becomes impossible, indeed the most knowledgeable resist change as it diminishes their "guru" status. It is little surprise that many organisations struggle with innovation (Mcgrath, 2012). Creating a radically new product and then taking it to market, it seems, is doomed to failure. Academic literature abdicates the initial approach as *fuzzy* (O'Brien, 2020) while Norman & Verganti (2014) argue that radical innovations cannot be designed.

If neither generally accepted (socio-cultural) educational methods nor design will work for radical innovation, we need to find another way. What follows is a set of examples showing how students find their way through these apparent contradictions. Effectual reasoning (Sarasvathy, 2001) proves pivotal. But before going there, a few words about how the research was conducted.

Researching innovation in practice

Getting inside students' heads 'in the moment' poses ethical and methodological challenges. Pure research might use laboratory tests, but this interrupts education and loses the authenticity of the real problems students are solving. Similarly, interviewing loads extra work on the students for the researcher's benefit rather than theirs. Inviting students to write reflective journals as a core part of their assessment has the benefit of encouraging critical reflection and surfaces their skills at applying the tools and methods taught. Giving them free reign to discuss whichever experiences they found most meaningful is instructive in the choices they make and reduces the effect of teacher / researcher bias. It has educational benefits described in more detail later in Transformational Learning, while also providing an excellently authentic learning resource for students following on. While some students turn in bland descriptions of their processes, others provide deep insights into their epiphanies. Unsurprisingly, the latter tend to perform better in the other part of the assessment, pitching their project and longitudinally for those that take their project forward after graduating. Thus, the most insightful reflections typically describe higher performing strategies, although there is no statistical analysis to definitively prove this.

Reflections were grouped by subject matter and analysed thematically, to highlight common success factors. Several of the findings were unexpected (including the one in the next section) but made sense against theory. Case studies of the highest

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performing teams were created by combining team members' reflections with the group submission and 'supervision' notes made by staff during the term.

Escaping the constraints of situated learning through effectuation

If situated cognition, (that all learning is mediated by culture and environment), is the problem, does it also offer a solution? Surprisingly, it does. Situated cognition is most acute in communities of practice. Theoretically, it follows that a community with limited shared culture and habits should find it easier to escape the constraints of situated cognition. In practice it might, but unfortunately it throws up other challenges as a diverse group of home and international students in my innovation class thrown together into a team reflected:

significantly, different cultural experiences between each member of the group… resulted in a disparity in understanding (JO)

Literature helped deal with this unprecedented phenomenon. Articles on interaction across cultures revealed 20 strategies (Goryunova, 2020), of which *seeking common ground proved the most impactful* (JO). Without something in common, then, communication between people with highly diverse experiences becomes almost impossible. But innovators are not seeking to change everything; finding a diverse community united by a common aim enables "thinking outside the box"[3] without the situated constraints as this case study shows.

Case Study: How to sell out events when nobody can afford them

The story starts with pent-up frustration as the Covid lockdown restrictions started to lift and young people needed to party. An Innovation student organised a mini one night "festival" in a barn, some creatives volunteered to perform, others decorated the venue. Everybody loved it so much that a repeat performance seemed essential. A core group of people got together, and events largely emerged with little planning or design. They found a venue offering cheap drinks close by and brought their own entertainment. Word spread organically and the group expanded, producing a regular cult event with a tight community feel, until the council intervened as the venue lacked the appropriate licenses for.

They started afresh.

Conventional wisdom for events held that success is driven by the "headline" act. Lacking the budget to hire a "crowd pleaser", they did it themselves. Using social media and word of mouth, the organisers researched what the crowd were willing to pay for. Several among them were creatives looking to get into the events

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business, but lacking work experience, events companies would not take them on. Killing two birds with one stone, offering up and coming talent an opportunity to debut lowered the cost. Wednesday nights are student society social nights; the new venue was handily placed. The organisers selected an event theme, empowering the creatives to do the rest. They co-created the décor, music and performers based on who was available and what seemed to fit together. The branding emerged, reflecting what seemed most popular and led to early success, cult spaces, décor and low cost. People often came along to support the new creatives and gradually the size of venues increased until they found themselves selling out all 800 tickets to big venues in 48 hours – almost unheard of in post pandemic events and inconceivable with no headline act to draw the crowds.

This exemplifies my definition of radical innovation:

The intentional deployment of an initially inconceivable product, judged by its intended users to be the obvious choice relative to existing alternatives.

Nobody in their right mind would set out to intentionally go against conventional wisdom. The "product" emerged through co-creation between organisers (innovators) and their intended customers. The fit was contextual, contingent on the resources available to innovators with a very tight budget. Given the speed with which the tickets sold, the choice of this event relative to others was obvious, at least among those for whom it was intended.

There are two other key points to note from this. Firstly, those familiar with the work of Saras Sarasvathy will spot a near textbook example of *effectuation* (Sarasvathy, 2023). Instead of setting out to design a radically new genre of events, they emerged through the resources that came their way and the contextual opportunities that presented themselves. The notes for the above came from a talk the two founders gave as part of an "inspiring entrepreneurs" series where relatable recent graduates talk about their journeys. At the end I asked them if they realised that their journey was effectual. They looked blank. Yes, of course, they recognised the term from their studies, but there was no deliberate process; it emerged (Neild, 2024). We will return to this concept later as it is important.

The second point to note is that these founders did not design a product and then take it to market. They did the opposite. They gathered a market together and co-created the product with them. It was only by bringing the market with them on the journey that an inconceivable idea morphed into the obvious thing to do. Nobody questioned the lack of a headline act, but over time as more people joined the community, cultural norms significantly shifted. This has implications for scaling because outside the community, the norms remain unaltered. Yes they could take their events from Bristol to London, but only because of the numbers of Bristol graduates that live in London. They would need to start small until they could bring a new crowd with them to embrace a radically different event genre as they found

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out to their cost when they tried. New people do not know to look for radically new things, but experienced advocates can bring them in.

Two years later (November 2025) the team came back to regale a fresh set of students with their journey. Notable was how analytical they had become. They knew their numbers, understood the social media algorithms, and had clearly become a lot more professional. They presented a Blue Ocean Strategy[4] chart showing their distinctive positioning and even succumbed to registering for VAT. Survival demanded in professionalism in this precarious industry. Co-creation works well at the genesis of a new product. It develops an intersubjective understanding of what will bring the customers in, but its efficacy wanes as the numbers grow. Behavioural data analysis takes over, although it risks de-humanising the experience.

This case looks almost accidental, as if the team were lucky. Effectuation appears that way, but belies the deep relationships built up, the trust and the mutual understanding required before people are willing to commit resources. In the next sections I will explore two factors that make co-creation successful. Empathy and embracing diversity lay the foundations for the state of intersubjective transcendence that is the crucible for radical innovation.

DEVELOPING EMPATHY

Many people underestimate how hard developing empathy is. It comes as quite a shock (particularly for STEM students) to realise that others do not see the world as they do. Because we cannot see others' thoughts, we have no basis for understanding how different they can be. One student reflected that while recognising obvious differences, the implications are missed. Another thought that their own experience in a market brought understanding of target customers, but through the entrepreneurial research process went on to observe that humans can only really know *themselves* well and *overestimate the extent to which that knowledge applies to others*. Physical diversity is easy to see, cognitive diversity even among neurotypicals drives different choices but takes a deep and intersubjective research process to fully surface. The very invisibility of personality, cultural and experiential differences caught out many of the students. One commented that:

> *Empathy does not come naturally to the majority of the population, and our team were no different.*

Another observed:

> *While tools like the Empathy Map Canvas can show innovators what they do not yet know about their customers, it does not help with developing the relational skills needed to empathise. These need to be experienced to be appreciated.*

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Valuing diversity

In preparation for project-based work in multi-disciplinary teams, we encourage students to do various personality tests and compare results with their teammates. This begins to expose differences; as one reflected.

Using the MBTI, individuals can learn to value others' points of view, while also appreciating contrasts in character or approaches to work.

He went on to note the frustration among the *perceivers* in the group that the *judgers* tried to bring too much order at the expense of spontaneity, showing the benefit of developing a diagnostic view of human relations. To mitigate these differences, we also ask them to draw up a team charter (Aaron et al., 2014) setting out expected behaviours to encourage psychological safety and conversational turn-taking (Duhigg, 2016). Often this pays unexpected dividends:

The continuous effort to include all in conversations is what allowed us to find the topic of our business venture, as it was the idea of an Introverted individual that we chose to pursue.

Beyond ideation, diversity also brings a more critical view to data gathered. Other students suggested that encouraging individual team members to add their own perspectives to the various canvases[5] used enabled the team to understand different points of view and *collaborate* to arrive at a consensus. This further illustrates the value of *collective cognition* (West, 2007), a topic I elaborate on later. Several students commented that this was their first introduction to the tenets of *psychological safety* but opined that it had improved their effectiveness in working as a team. While this is one important aspect, the other is that it opens students' eyes to diversity in their customer and research participant base too.

…having a **general knowledge of potential target users***, was in no way equivalent to empathising with them, or* **understanding what they really needed** *from a product. (emphasis in the original)*

At this point it becomes clearer that *hypothesis testing* a solution as in *lean start-up* (Ries, 2011) requires far less depth of insight than *discovering* a 'problem worth solving' (discussed next), which again proved to be a hard-won truth gained through experience. A student who went on to launch a highly successful high protein, low carbohydrate range of sports snacks, put it this way.

validating pre-existing beliefs would have had some value, a much more 'user centred design process' of primary research, allowed me to gain much more detailed and effective insight into who my target audience truly was.

Before continuing to develop the empathy theme, the two quotations above provide an opportunity to notice the second point from the case study – discovering a market and co-creating a product, rather than the testing a product in the market. The next section describes some of the metacognitive shifts needed to accomplish this.

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A problem worth solving

While design disciplines can be strong on empathy – the starting point of Stanford's d.School method is "*empathise",* – typically design starts with a brief (Brown, 2009) in much the same way as engineering. Here, the problem is taken as a given, the objective is to solve it within knowable constraints. Entrepreneurship on the other hand, is often characterised as *opportunity seeking* (Vaghely & Julien, 2010), (Sarasvathy et al., 2003), which implies that it is the job of the entrepreneur to write the *brief*. Many students, and particularly those from STEM backgrounds find this disconcerting. Their natural impulse is to solve problems rather than define them, which can lead to a common cause of start-up failure; creating products customers do not want (CB Insights, 2020; CB Insights, 2021). For radical innovation, that these products are inconceivable, compounds the difficulties. Not only will customers not be looking for them, but also such products fall so far outside their experience that their relevance will not be obvious however amazing the relief from a major frustration. As the first case showed, an opportunity exists when customers' needs or desires are unmet. These needs are relatable, but novel solutions, even ones that satisfy those needs may well not be. This presents both challenge and opportunity.

Students fequently reflect on their natural tendency to leap into solving problems before determining whether the problem merits their attention. As one reflected:

> *…we rushed to working on the solution without first analysing the whole scope of the problem.*

Another elaborates:

> *Instinctively, we all leaped into methods of rapid ideation based upon divergent thinking. The premise being that at least one or two good proposals would be stumbled across.*

Several students reflected on the risk of producing *over-engineered solutions* to *problems that did not exist* often illustrated with examples drawn from real product failures, while admitting that they too had fallen into this trap. As many came to realise, starting with ideas or solutions made it hard to identify the market and even harder to articulate why a customer might want it.

Mission-driven entrepreneurs encounter no such difficulties; for them a problem is made obvious by their direct experience of it. Their challenge is to discover whether other people recognise it too.

And, oh, did we discover!

None of the six vegans or vegetarians we interviewed had any issues soaking beans — turns out, the struggle was mine alone.

Words like "rushed" and "intinctively" above highlight the prevalance of these impulsive habits despite session 2 in the course, (the first session focuses on teamwork as metioned above), majoring on the need to find a problem or opportunity as

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the entry point (or brief) for the project. For a project to be worth doing, the impact must justify both the effort and resources expended. To maximise the likelihood of achieving significant impact requires that the innovation process starts with a *problem worth solving*, defined as a problem for which:

1. Enough people want a solution and,
2. They want it enough to expend effort to achieve it.

The first part determines whether the project is scalable, the second avoids the '*meh* trap', a product that people *say* they want, but do not buy it when offered. Identifying a problem worth solving shows *desirability.* It is a necessary start, but is insufficient. To achieve impact requires that we solve the problem, realising the benefit for a meaningful number of people – a test of its *feasibility* and that all of this can be achieved in a financially *viable* way. Even for social purpose, the key benefit of a social venture over a charity is that the former is self-sustaining (viable), while the latter relies on persuading grant-makers to fund you.

By this stage, it is still too early to get into problem-solving.

Outcome Thinking

Many students start off thinking that a value proposition is a statement of what the solution delivers – its depiction as a gift on the value proposition canvas perhaps feeds this misconception.

But instead of carefully mapping our users' pains and gains, we were shaping that map around what we wanted to build. No wonder our "fit" never happened.

A more customer-centric perspective sees a value proposition as the outcome that a solution must deliver. To achieve impact, a product needs not only to be bought, but also to be so effective that customers delight in using it and advocate it to others. A value proposition acts as a promise to support customers in completing the *job to be done.*

Christensen et al. (2016) and Ulwick (1996) argue that customers *hire products* to do *jobs* and judge those products by how well they support the execution of the task. Such a utilitarian view is simplistic *Jobs* can be interpreted in two ways, as activities or as progress towards a higher goal. DIY is often used to illustrate this. People may need holes in walls to put up a picture, curtains or shelves. They might then "hire" a drill for the purpose. In this case the *job* is the *activity* of drilling a hole. The output of the activity is a hole. But who really wants a hole? The hole is the means rather than the end and provides *progress* towards, for example, a more aesthetic environment by putting up a picture. Focussing on outputs – the hole, limits our options, but if the desired outcome is aesthetics, then several unconnected

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options become possibilities such as mood lighting or projecting an image rather than sticking it to the wall. Outcome thinking provides a good way of escaping contextual situatedness by reframing the problem or job to be done.

> *thinking in terms of outcomes... we were able to avoid constrained thinking into solving with traditional approaches or simply improving on an existing, sub-standard process…this is true innovation - allowing for divergent thinking without having to consider self-applied constraints.*

Activity or "do-goals" can be helpful, but constrain thinking. As Klement (2018) points out, radical innovation stems from finding alternative routes to "be goals" – by reframing the *meaning*. An activities view may find better ways of cutting the grass, but a progress view would consider ways of not having to cut the grass at all; for example, imitation grass or getting a goat. Here the be goal might be for example house pride and grass cutting just an irritating route to achieve it that we would gladly ditch. Outcome thinking helps us "think outside the box" by making the 'box' far bigger:

> *we only succeeded when we stopped thinking about solutions and started thinking about outcomes.*

But it is not the only way to achieve fresh thinking.

Student reflections noted the power of *drilling down critically and honestly* to the root cause of problems, *determining the desired impact* and *forcing the innovator to consider what the customer really wants.*

A regular student project is to try to tackle the environmental impacts of "fast fashion". Many then think about circular economy solutions – worthy, but rarely that effective.

> *I finally saw our mistake: We weren't solving the root cause of overconsumption — we were just dressing up the symptom. The real issue wasn't fast fashion; it was impulse buying.*

This group, Vero Financial managed to secure impact funding before they had even graduated. Another group used this approach just as effectively on a similar problem, the environmental impacts of single use menstrual products. Rather than falling into the trap of creating another reusable product, they stopped to ask what was wrong with the existing products. The answer surprised them – nothing, except the lack of an easy way to reuse them – they needed cleaning. Instead of creating a menstrual cup, they created a cup cleaner, small enough to fit in a handbag and needing nothing more than water – inconceivable at the outset, but so obvious in hindsight. That they won the Royal Academy of Engineering's prize for the most sustainable start-up suggests how rare it is for innovators to really understand the root cause.

Root Cause Analysis aided by the "5-Whys?" and outcome thinking, particularly when considering needs higher up Maslow's (1943) hierarchy, both provide

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very practical ways to escape situational constraints to *do what has not been done before* (Norman & Verganti, 2014). Radical solutions are not designed as Norman and Verganti quite rightly point out, but desirable outcomes emerge through a user-centric discovery process, as the first case study shows. However, sometimes this can lead to innovation so radical that it goes beyond inconceivable into the realms of unthinkable, like a urinal for women. What sort of a process could bring that to market? The discussion on the events business provided a trailer – the concept of culture change. The next section describes how cultural transformation keeps step with the emergence of revolutionary products to render unorthodoxy the new normal. In doing so, it picks up the empathy thread and theory section from earlier.

CULTURAL TRANSFORMATION

When looking at socio-cultural theory, I mentioned that radical innovation exhibits semiotic failure. Vygotsky describes two modes necessary for learning, intermental (social) and intramental (individual). Semiotics exist on the social or cultural level. For a product that does not exist and there is nothing like it, no words adequately describe it. Having a shared label for things cuts out a lot of explanation. The individual level, by definition, is not shared; or is it? Whilst it is true that individual perceptions are shaped by unique personal experiences that are not consistently shared with others, there is nothing to say others might not have parallel experiences in different contexts that engender similar fears, hopes, aspirations or desires. Different people may individually experience similar phenomena in similar ways, but process (internalise) them their own way. Lacking a shared way to describe them, they rarely if ever get talked about, especially if it is culturally unacceptable or embarrassing to talk about them, however frustrating they may be, like not being able to reuse menstrual cups or admitting to personal failures. The result is that the true extent or depth of feeling about such issues remain hidden from view…

Until an innovator starts asking probing questions and the third or fourth *why?* elicits similar responses from a diverse group even if couched in different terminology. As our earlier fast fashion warrior describes in the same reflection:

> *At this point, our conversations kept leading us to one unavoidable realization: we were no longer talking about fashion. We were talking about personal finance, behavioral economics, and the psychology of spending.*

Their research participants had not colluded, they were interviewed individually, but were expressing a similar source of frustration, almost certainly experienced individually and rarely if ever discussed. A guilty secret in which "*the emotional rush from buying just keeps on winning"* a participant confided. This is the genesis of a "motivated market" (Neild, 2023) in which a common problem is widespread.

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It is not yet a "problem worth solving" because the appetite to act among those experiencing the problem remains untested, but it shows how human-centric research executed in a spirit of discovery can surface substantial opportunities. Cultural transformation occurs later in the process and is described in the case that first inspired the concept of the *motivated market* next. To understand the mechanics of the process requires a deeper exploration of co-creation and the collective intelligence that transforms culture.

DIALOGICAL CO-CREATION

Both co-creation and its near relative, *participatory design* suffer from a very broad interpretation (Hoyer et al., 2010), (Sanders, 2008). So broad, that some scholars describe co-creation in terms that imply no interaction at all between innovators and their prospective customers. This section describes the factors that help co-creation drive effective radical innovation using examples from student projects. Dialogue might be assumed to be essential as are some of the techniques already described to develop empathy and psychological safety, but crucially, it is the relationship that really matters.

PARTNERSHIP

Observation of the interactions between student innovators and their prospective customers suggests a more nuanced view than aligning interests and sharing the proceeds equitably. Partnerships are built on complementarity, each party bringing a resource to the table that the other cannot easily obtain on their own. Earlier sections on empathy and outcome thinking highlighted activities customers rarely achieve on their own; skilled innovators help them interpret their own thought processes, surface hidden desires or realise they are not alone. Generally, the exact nature of these resources is not obvious at the outset. They emerge through dialogue mediating between different aims to arrive at a mutually beneficial outcome. When Peequal first started their primary research process, they were trying to answer a simple question:

How can we reduce bathroom stigma through conversation?

The team had already realised through secondary research that women's toilet habits were a taboo subject. They could have offered participants a reward for filling in a survey, but recognised that such a transactional relationship would reveal few deep insights. Instead, they needed to engender trust and a belief that together was greater than the sum of the parts. Through their discussions they came to realise that.

to normalise taboo surrounding our product we need to create a strong community.[6]

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This proved to be a common thread. Another team aiming for safer nighttime streets arrived at a similar conclusion. A surprising finding in their research was how reluctant women were to report incidents. They felt like a failure, because they had been unable to prevent or repel their assailant. Overcoming this feeling became the real value of the product. They needed to show vulnerable women that reporting made a difference. Peer support from other women could help encourage it. Their app located incidents, highlighting unsafe areas for others thereby creating a stronger evidence base for the police. Reframing the act as helping peers rather than admitting vulnerability encouraged reporting. Their 3-way partnership succeeded through mutually beneficial value exchange. Each party benefited from something that only another could offer.

What may have started off as a simple campaign to raise awareness of a serious issue, has been developed into a long-term vision for reducing cases of sexual misconduct, building a community of people with a voice to speak out against it and holding guilty parties to account for their actions.

These two cases show the importance of developing a partnering relationship and a community interested in addressing complex social issues. The next two sub-sections will look at other aspects of the relationship before moving on to examine the mechanism through which simple questions led to compelling solutions to complex problems.

Beyond an interest in tackling these issues, what else is needed to attract people to participate in such research processes?

Abundance, authenticity and meta-reflexivity

The term 'Abundance mindset' (Covey, 1989) implies that collaboration is more sustainable than competition – that working with others will deliver the needed resources for a project if you find the courage to ask. Putnam-Walkerly (2021) characterises an abundance mindset as an investment of energy into the venture including its participants which increases impact. In practical terms, an abundance mindset radiates confidence and a conviction that positive change is possible. It is one of the factors that distinguishes *idle talk* from *authenticity* (Heidegger, 1962), the former might attract followers on social media by shouting that "something must be done", while the rather rarer latter people do that something. Authenticity is about living our values rather than falsely and meekly complying with those set by others; it champions fulfilling our potential in the service of others. Its energy is contagious gaining students, short of social capital, but long on drive, access to resources they would otherwise struggle to obtain. Archer (2007) described such people as *meta-reflexive* and it is no surprise that they are amongst the most accomplished entrepreneurs (Wimalasena et al., 2021). It enabled the Peequal team to

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secure a spot at Glastonbury festival to pilot their product, but all the teams that went the distance exhibited it. They all attracted dozens of people to participate in their research, but what motivated them?

Motivation

It was notable that in none of the student research did cash change hands. None of the participants are paid, in stark contrast to paid focus groups run by market research firms or the prize draws used as inducements to complete surveys. *Extrinsic* motivation (carrot and stick) is weaker than satisfying *intrinsic* motivation (Kuvaas, 2018). Considering the deeply intimate details needed to develop a new women's loo, the vulnerability of students harassed at night and sharing details of menstrual practice, why do they do it? They are motivated by the promise of a Heideggerian 'better way of being'. Participation is a vote of confidence that promised outcomes matter – they are *desirable*. Extrinsic motivation masks this if people only participate for the reward. With no stake in the outcome, they engage just sufficiently to trigger the reward. Their presence gives little indication of likely future engagement and their views are more superficial than insightful. But when people rally behind a cause, it gives a massive boost to the innovators. It is transformative. As one confided to me on the way to an interview with the BBC to share their plans to help people out of their cars when shopping:

> *you can tell when you are on to something – suddenly lots of people want to help you.*

It becomes a virtuous circle.

Individual motivators of different parties to the relationship need not be the same. The safer streets team engaged with the police because they recognised that better evidence of crimes enabled prosecution. Victims not reporting harassment fearing no action became a self-fulfilling prophecy; without reports the police had insufficient evidence to act. But reframing reporting away from an admission of weakness into a community-spirited action was the real innovation. The process for that is the next topic. Sharing these perspectives propelled an escape from 'chicken and egg' stalemate towards virtuous intersubjective circle.

Intersubjectivity

These key motivators only emerge through intersubjective relationships, genuinely seeking which benefits for the other party promote an outcome that everyone wants even if for different reasons. While empathy enables people to understand difference, intersubjectivity seeks commonality in that difference which in turn provides clues about the evolution of the underlying system[7]. The sense of shared endeavour

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was a striking feature in every case. It was instrumental in bringing together the various tribes of research participants as communities of interest. Co-creation relies on intersubjectivity to surface the intrinsic motivation needed to overcome change. It also enables the assembly of the disparate pieces of the puzzle held in different heads needed for fresher more appropriate meanings to emerge. It is this process that I will focus on next.

Collective Intelligence

The previous sub-sections describe substantial transformations from relatively simple ideas into complex product concepts during which the meanings participants ascribe to phenomena also change. This section draws on theory and literature originally from outside education, which is now beginning to influence teaching practice. Intermental (individual) experiences can be used to reframe and transform the everyday into radically new ideas, but to do so requires dialogical co-creation under the carefully controlled conditions explored above. Radical innovation requires people with different perspectives on similar troubling phenomena, a willingness to engage with alternative perspectives in a non-judgmental and intersubjective way (O'Hara, 2002) and to build on them to arrive at a shared way of understanding these phenomena in creative and constructive ways. These conditions were originally discovered in Carl Rogers' *client-centred therapy* in the 1950s and his later work on *encounter groups* (Rogers, 1970). Rogers had a big influence on Knowles' concept of *Andragogy* (Knowles et al., 2005), (Knowles et al., 2015), which forms the basis of the *learner-centric* approach advanced throughout this chapter. Together with Bohm's (2004) work on *dialogue* they throw light on how *collective intelligence* can facilitate the emergence of radical possibilities that no individual could conceive on their own. O'Hara & Wood (2005) sets out three decades of research into "group consciousness" in which they describe:

> *situations in which old habits, certainties, … and behavioral routines … no longer serve, consciousness is able to respond by learning new ways of being that result in the ability to experience self and the world with greater depth of understanding, mastery and wonder. (p3)*

Group consciousness supports a view that a "problem worth solving" exists only because current practice or products in the relevant context are no longer fit for purpose. Rather than taking an innovator's idea to market, intersubjective innovators discover these disequilibria, pull together those who self-identify as desiring something better – a *motivated market (Neild, 2023)* and co-create a more appropriate product to restore equilibrium. This offers a more contemporary and human take on disequilibrium theory in economics.

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It explains why nearly 100 women participated in Peequal's research, fed up with the inequality in the provision of toilet facilities that privileged men's needs. Even the brand name emerged to reflect their shared mission: pee equality. Both co-founders being women inspired through their own lived experience, made establishing empathy much easier than in other cases. Their initial interviews showed participants less inhibited about the topic than secondary research suggested, but they noted in focus groups how participants would change their position, one woman answering candidly seemingly permitted another to admit they felt the same despite conditioning to respond in a manner that did not reflect their real feelings. This is the benefit of a non-judgemental community. Originally, the word urinal signified inequality, there were already products that enabled women to pee standing, artificially emulating the male anatomy. The group rejected these. The design emerged as the founders discovered how many women hovered over sit-down toilets, leading them towards a urinal to squat over. In dialogue, a urinal designed by women for women came to symbolise equality, making this signifier acceptable. Participants seemed more open to talk about "wild peeing" when desperation forced them to practices, shameful in normal circumstances, providing fertile ground for an emerging design that legitimised wild peeing. It incorporated features that mimicked the "female fort" of friends providing protection when most vulnerable and strategically placed hand holds intended to steady use after a few drinks. The result was a design that felt natural and comforting despite being a radical departure from anything that had gone before. 94% of women who tried them recommended them to others[8] and over a million women have since enjoyed the facility with plans for exports gaining momentum according to Peequal sources. Krippendorff (2005) reminds us that designers should shift away from the materiality of artefacts to focus on the meanings they embody. The further from social semiotics these artefacts lie the more important it is to understand and communicate through more innate meanings.

But how can the diversity needed to overcome situatedness converge towards a shared view of the best way forward? Clues to the process come from recent research trying to better explain Vygotsky's *internalisation*. Toomela (1996) proposed that internalisation combines sensory and semiotic input to develop new mental structures, enabling the creation of novel information (meanings) beyond the readily observable. S*ymbolic resources* and *position exchange* both provide opportunities for shared cultural meanings even from activities that are not shared. For example, different people in the group may have independently read the same book or seen the same film offering a shared cultural reference point for intersubjective meanings. Members of a motivated market participate in similar if individual practices; it is the shortcomings of their current lived experience that brings them together. Where they differ from a *community of practice* is that those experiences happen in different

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situations without shared semiotic shorthand. Avoiding groupthink, they draw on a far broader and representative set of meanings in which to situate a radical idea.

Harnessing the cognitive diversity of individual team member's experience provides multiple perspectives for describing and tackling problems, which has been shown to improve innovation (Van Der Vegt & Bunderson, 2005). So long as the collaborating group reasonably represents the wider market, they develop a consensual view of how the problem manifests sufficiently to resonate with outsiders along with a similarly resonant proposition. This is how inconceivable products become the obvious choice, providing the foundation for scaling the product well beyond the research collaborators.

EXPERIENTIAL ANDRAGOGY

In conclusion, this chapter has illustrated aspects of an *Andragogy for Radical Innovation*. Andragogy customarily relates to adult learners (Knowles et al., 2005), but need not apply exclusively to those over 18 if they have life experience to draw on and can communicate complex concepts. Distinctive is the overall approach. Andragogy puts the *learner at the centre* of education experiences (Knowles et al. 2015) emphasising learner agency, relevance to their interests (Dewey, 1938) and congruence with their strengths and available resources (Sarasvathy, 2001). It contrasts with the more traditional *teacher-centred* knowledge that lecturers consider important in preparation for a tightly prescribed assessment.

In all the examples shared, students had freedom bounded only by legal and ethical concerns to choose their project and which aspect of it to reflect upon; their choices as illuminating as the epiphanies they described. Their main assessment was to justify their chosen project evidencing the research undertaken in areas typically covered by a pitch deck. Tools and techniques were presented, but the main learning happened in their team projects as students contextualised the materials provided (and often others as well) with staff acting as coach / facilitator rather than teacher. What is striking about the student quotes is that their discoveries came through their own experience and so could not easily be prompted from an LLM.

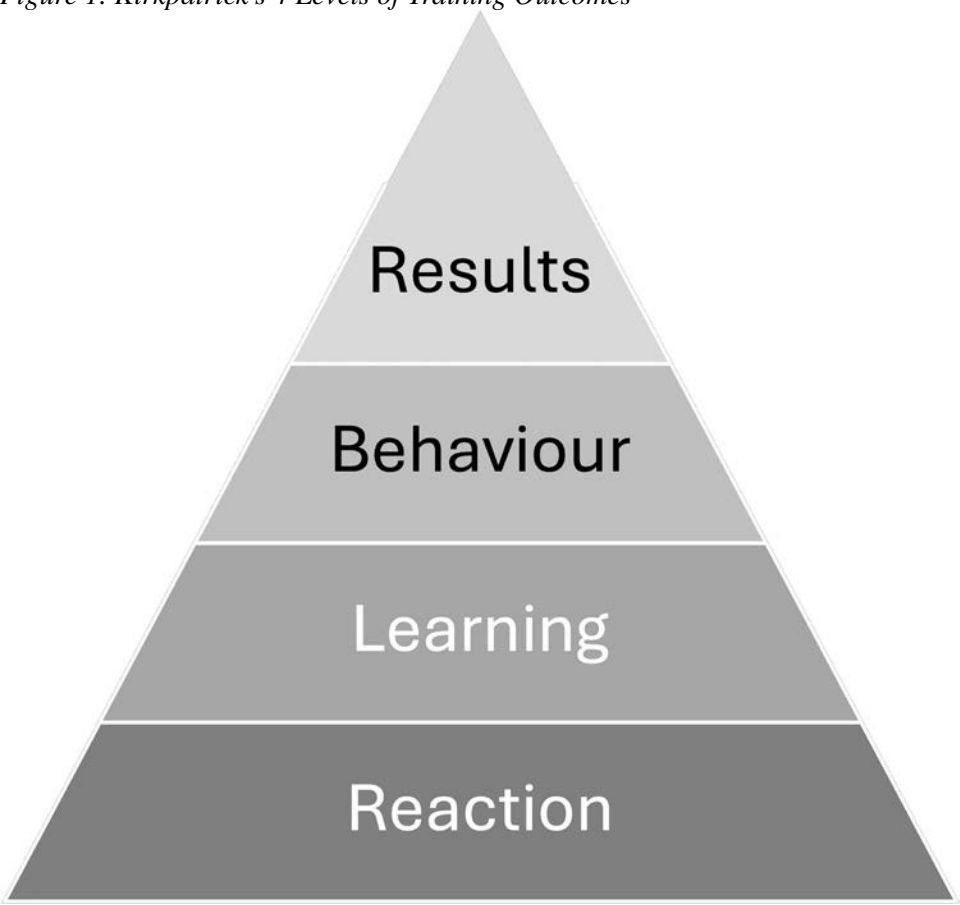
The role of the lecturer is to provide a conducive environment to experiment with a set of *guard rails* to keep students out of trouble and on track. In many ways, it is more like PhD supervision than undergraduate teaching, but follows taught content in the manner of some professional doctorates. It is more resource intensive, than lecturing 200+ students, but team teaching a hundred UK undergraduate students can be accomplished with 4 staff for a 40-credit module within teaching budget. Students can be taught *about* effectual reasoning, sufficient for a passable essay, but it is not until they realise for themselves how counter-intuitively pragmatic is

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its approach, that they truly master it. Only then will they happily facilitate emergence rather than attempting to design or manage an output with insufficient or unobtainable resources. Similarly, cognitive diversity needs to be rendered visible to be appreciated and it takes confidence to have a go.

The reflections shared in this chapter, provide plenty of evidence of transformational learning – level 3 (behaviour change) and above on Kirkpatrick's scale (Kirkpatrick & Kirkpatrick, 2008) while formal education typically achieves level 2 (learning assessment) and extra-curricular learning, level 1 (reaction assessed through a feedback form)

Figure 1. Kirkpatrick's 4 Levels of Training Outcomes



Critics of Kirkpatrick, eg (Bates, 2004), argue that little evidence supports success at lower levels causing higher level accomplishment. While the triangular representation might imply this, Kirkpatrick never made that claim. A comedian

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could elicit a very positive reaction at level 1, with participants learning nothing. Yet these reflections demonstrate how learning led to behaviour change even if the research design precludes a claim of causation. Careful consideration of the design of each layer based on established education theories creates a solid foundation for the one above. For example, giving the group agency in their choice of project leads to greater engagement in their learning (Dewey, 1938). Encouraging reflection when intentions do not deliver expected results supports the development of more effective strategies (Archer, 2010), (Flavell, 1979), which, when rewarded with success reinforces positive behaviour change in *habits of mind* and *meaning perspectives* (Merizow, 2009). More effective habits of mind provide the foundations for results or project impact. Positivists argue that causation can only be claimed where all other possible influences are controlled out. That is true for laboratories, but a real-world venture only has impact if customers buy the product, investors provide funds for growth and suppliers make the necessary resources available to produce what customers buy. Educators develop students' critical and evidence-led capabilities to direct their designs towards products that customers desire, that are feasible for suppliers to produce and with a viable business model that is investible. These are the foundations that encourage these others to contribute towards venture impact. Even without the contributions of other key stakeholders, the result is still a transformative educational experience. Impact may only flow from taking the idea to market, but surely it is the promising opportunity, convincingly articulated that causes stakeholders to come onboard.

By way of summary, the next section unpacks Dewey's experiential learning cycle to explain how it underpins an Andragogy for radical innovation.

Transformational learning

True transformational learning takes place at levels 3 (behaviour change / enhanced capability to apply learning) and 4 (results /impact /venture growth). Although some metacognitive strategies are developed at level 2, for example, how to structure an essay or tackle a maths problem, the most startling epiphanies in the student reflections involved Habermasian *communicative learning* – the human meanings behind the words, a most authentic demonstration of empathy. Mastering innovation practice requires acquiring the metacognitive strategies and habits of mind described in the students' own words throughout this chapter, cemented through critical reflection on their experiences. Dewey's (1938) experiential learning cycle describes how students discovered the techniques they share, acting intentionally but impulsively towards some purpose. Impulse typically produces sub-optimal results. Observing the difference between intended and obtained results, they reflect on closing the gap, revealing better strategies to try. And so, the cycle continues to mastery. Practical

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innovation tasks, supported by coaching, offer far more opportunities for students to experiment, get feedback and work through Dewey's cycle than a single assessment. The motivation to persevere towards a goal of their choosing is also far stronger. Group work, enhanced through team effectiveness exercises, develops the human empathy skills for dialogical co-creation.

Contribution

There is a paucity of literature that closely examines enterprise education from the students' perspective. This chapter emphatically does, in the process, highlighting both the mindset shifts required for successful innovation and strategies students use to achieve them. Radical innovation is poorly understood, typically described in hindsight, risking selection bias. The examples in this chapter were selected at the time of creation, during curricular units in a multi-award-winning Higher Education Institution. Most studies on metacognition have taken place in the laboratory, rarely examining enterprise education. Examining strategies adopted by successful innovation leaders provides both relevant resource for educators and relatable role models for students.

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ENDNOTES

1 https://www.weforum.org/publications/global-risks-report-2025/digest/

2 The concept of a "better way of being" draws on Heidegger's (1962) concept of *authenticity,* in which humans yearn for a more fulfilling life, but struggle against society for the means to achieve it.

3 I struggle with this commonly used entreaty. Situated cognition supported by neuroscience (Volz & von Cramon, 2006) and other cognitive research eg (Tversky & Kahneman, 1974) show that the further we deviate from experience, the more fallible our thinking becomes.

4 See https://www.blueoceanstrategy.com/what-is-blue-ocean-strategy/

5 Lean Canvas, Empathy Map Canvas, Value proposition Canvas and Business Model Canvas

6 When Peequal were invited to review the chapter when seeking their permission to quote their name, they reiterated how important the community was to surfacing personal insights.

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[7] In the same sense that Darwinian evolution argues that adapting to the best fit with the environment ensures species survival, a parallel can be drawn with products in markets that can also be considered complex adaptive systems. If the diversity amongst research participants offers a sufficiently representative sample of the wider market, it is posited that collective intelligence will emerge towards a *cultural attractor* (Falandays & Smaldino, 2022) that will resonate with the wider market facilitating product adoption. Space does not permit a fuller discussion of the exciting possibilities of this concept.

[8] Source: Founders' social media posts.

KEY TERMS AND DEFINITIONS

Empathy: *An understanding and respect for others and otherness.*

Intersubjectivity: *the connectedness between self, others and the world.*

Motivated Market: *A diverse community united by a common aim of achieving a better way of being.*

Product: *The endpoint of an innovation process. It may be physical, virtual or conceptual, but acts as the vehicle that transports its users to a better way of being.*

Radical innovation: *The intentional deployment of an initially inconceivable product, judged by its intended users to be the obvious choice relative to existing alternatives.*

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Chapter 3
From Bias to Belonging: Designing Interculturally Inclusive Experiential Learning Environments

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EXECUTIVE SUMMARY

Entrepreneurship education in UK higher education increasingly employs experiential learning focused on action, collaboration, and venture creation. While effective in developing entrepreneurial skills, these approaches can disadvantage international students by embedding culturally specific assumptions about learning. This chapter examines international undergraduates' experiences in experiential entrepreneurship modules, drawing on longitudinal interviews with four students from diverse backgrounds. Findings show that language barriers, cultural expectations, group dynamics, and demands for independent learning can lead to uncertainty and marginalisation. The chapter argues for an interculturally responsive experiential pedagogy that values cultural diversity and supports inclusive entrepreneurial learning.

INTRODUCTION

Entrepreneurship education has become a key component of higher education globally, reflecting its role in fostering innovation, economic development, and em-

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ployability (Pittaway & Cope, 2007; Bell & Bell, 2020). Increasingly, programmes combine theoretical knowledge with experiential learning, where students actively engage in creating, managing, and reflecting upon real or simulated business activities. This approach aims to develop entrepreneurial competencies such as opportunity recognition, problem-solving, and resource management, alongside teamwork, communication, and resilience (Morselli, 2019).

However, students enter higher education with diverse educational backgrounds, cultural norms, and levels of entrepreneurial exposure. Some may have family business experience, school-based entrepreneurship activities, or informal entrepreneurial engagement, while others have little prior exposure (Zapkau et al., 2015). This variation presents both opportunities and challenges: diverse cohorts can enrich learning experiences, yet assumptions of a shared baseline of knowledge and familiarity with experiential, team-based learning can disadvantage students from more traditional, directive, or exam-oriented educational systems (Crose, 2011; Vita, 2001).

A particular concern for international students is the intersection of cultural barriers and pedagogical bias. Many UK programmes adopt teaching and assessment practices that reflect local norms, including collaborative projects, business plan competitions, simulations, and open-ended tasks (Bell & Bell, 2020). These methods can pose challenges for students whose prior education emphasised hierarchical teacher-student relationships, rote learning, or individual assessment. Language proficiency, familiarity with local business contexts, and participation norms further affect confidence, engagement, and the ability to demonstrate learning (Ramburuth & Tani, 2009; Crose, 2011).

There is a growing need to address cultural barriers and pedagogical biases within experiential learning, particularly in entrepreneurship education. This chapter examines the impact of cultural barriers and pedagogical bias on international students' engagement in UK entrepreneurship programmes. Drawing on literature and research, it highlights lessons for designing pedagogy that is inclusive, equitable, and responsive to the needs of diverse learners. The chapter advocates for an interculturally adaptive experiential pedagogy that acknowledges and integrates students' diverse socio-cultural backgrounds and prior learning experiences. By doing so, educators can equip all learners with the skills, confidence, and mindset required to engage meaningfully in entrepreneurial learning environments.

Building on the rationale outlined above, the literature review that follows positions this study within the broader literature on experiential learning, entrepreneurship education, and intercultural pedagogy in higher education. It critically examines key concepts, theoretical perspectives, and prior empirical research relevant to understanding how cultural expectations and pedagogical practices shape international students' engagement in UK entrepreneurship programmes. In doing so, the review identifies gaps in the literature that this study seeks to address, particularly in relation

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to culturally responsive experiential approaches to entrepreneurial learning. Together, these insights provide a conceptual and analytical foundation for the subsequent methodology, the presentation of student case studies, the thematic analysis of key findings, and the discussion that informs the study's recommendations for more inclusive pedagogical practice.

The remainder of this chapter is grounded in an empirical study of international students participating in experiential entrepreneurship learning at a UK-based university. Drawing on qualitative data from student case studies and reflective accounts of their experiences of assessment, group work, and classroom participation, the study explores how cultural expectations and pedagogical practices shape engagement within collaborative and applied learning environments. By examining how students interpret, negotiate, and adapt to unfamiliar learning approaches, the chapter provides insight into the ways intercultural pedagogy can both enable and constrain participation in entrepreneurship education. These findings inform a set of practical recommendations for educators seeking to design more inclusive experiential learning environments that recognise and respond to the diverse cultural and educational backgrounds students bring to entrepreneurship programmes.

SUPPORTING LITERATURE

Entrepreneurship education is increasingly recognised as a key element of higher education, designed to equip students with the knowledge, skills, and attitudes required to develop and manage business ventures. Students enter university with widely differing levels of prior exposure, which shapes their engagement with entrepreneurial learning. Some may have experience through family businesses, school-based programmes, or informal exposure, while others arrive with little knowledge of entrepreneurship (Zapkau et al., 2015). These differences present both challenges and opportunities for educators seeking to design inclusive curricula.

Despite recognition of student diversity, many institutions continue to employ dominant, uniform pedagogical approaches, including business plan competitions, simulations, and case-based learning (Pittaway & Cope, 2007). While these methods aim to develop entrepreneurial skills, they may fail to accommodate the cultural perspectives, learning preferences, and prior experiences of international students. Experiential approaches, which emphasise active participation, reflection, and iterative learning, can be particularly challenging for students unfamiliar with autonomous, collaborative, or applied learning (Bell & Bell, 2020).

Experiential entrepreneurship education focuses on developing competencies through practical engagement, enabling students to identify and apply their entrepreneurial potential (Bell & Bell, 2020). Assessment often includes business plans,

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presentations, reports, and applied tasks (Morselli, 2019). However, these tasks may be culturally unfamiliar for students from exam-focused or directive systems, creating additional barriers. While intercultural education is often intended to promote inclusion, many initiatives unintentionally reinforce dominant norms (Gorski, 2008). Consequently, students' experiences may be compromised when their cultural and educational backgrounds diverge from host country expectations (Crose, 2011). Otten (2003) notes that accommodating diverse learners requires time, emotional labour, and pedagogical adaptation, which can limit staff willingness to modify practices, highlighting the need for institutional support and targeted professional development.

EXPERIENTIAL ENTREPRENEURSHIP EDUCATION

Group Work

Group work is a central element of experiential entrepreneurship education. Culturally and linguistically diverse groups may initially struggle due to differences in communication, expectations, and learning styles (Crose, 2011; Jones & Iredale, 2010). Watson et al. (1993) found that mixed groups often perform less well initially but can outperform homogenous groups in problem-solving and creativity over time. Summers and Volet (2008) emphasise that time and sustained engagement are crucial for diverse groups to realise the benefits of diversity. Challenges include assumptions about cultural norms, uneven participation, misinterpretation of intentions, and social hierarchies based on language proficiency. Without careful scaffolding, these challenges may reinforce pedagogical bias. Conversely, well-supported group work promotes communication, creativity, and intercultural competence (Summers & Volet, 2008).

Assessment

Assessment in experiential entrepreneurship education is central to shaping how students understand and engage with entrepreneurial learning. Traditional academic assessments that emphasise abstract knowledge recall are increasingly seen as misaligned with the experiential and practice-oriented nature of entrepreneurship (Rae, 2010). Rae also highlights that entrepreneurial learning is social and experiential, requiring assessment approaches that reflect authentic practice rather than conventional outputs. When assessment strategies do not align with core competencies

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such as risk-taking, innovation, and reflective judgement, student engagement can be reduced (Bull, 2025; Jack & Anderson,1999).

Collaborative assessment is common in entrepreneurship programmes, but without deliberate design it can reproduce inequities and obscure individual contributions (Scager et al., 2016). Equitable assessment is therefore essential to support diverse learners. Tasks should be designed to accommodate different learning styles, cultural perspectives, and prior experiences, ensuring that no group of students is unintentionally privileged (Apelehin et al., 2025). Nelson and Klak (2012) emphasise that equity is fostered through reciprocity, where students engage in mutually respectful and inclusive practices. Integrating experiential learning with social and emotional development can further enhance equity, promoting collaboration across diverse groups and improving intergroup relations (Li-Grining et al., 2021).

Power Relations in the Classroom

Power dynamics shape intercultural learning in entrepreneurship education, influencing who speaks, whose ideas are valued, and how participation occurs. Traditional teacher-centred approaches place authority firmly with the teacher, reinforcing hierarchies where students act as passive recipients of knowledge. Such structures can privilege students familiar with directive authority while marginalising those less confident in challenging dominant voices (O'Neill & McMahon, 2015). Student-centred pedagogies redistribute power by positioning learners as active agents in constructing meaning, co-creating knowledge, and engaging in reflective dialogue, enhancing engagement, autonomy, and critical thinking, particularly in culturally diverse contexts (O'Neill & McMahon, 2015).

However, student-centred methods alone do not dissolve underlying hierarchies. Symonds (2021) highlights that power is embedded in classroom norms, interactions, and assessment practices. Without intentional facilitation, dominant cultural styles and confident communicators can shape discussions and marginalise quieter students.

Culture and Adaptation

International students face challenges arising from cultural differences in norms, expectations, and classroom behaviour. Hofstede (1986) notes that learners carry culturally shaped cognitive patterns into cross-cultural learning environments. Students from directive systems may struggle with participatory pedagogies prioritising autonomy and discussion (Vita, 2001). Cultural norms around assertiveness, conflict, and engagement also influence participation in group work.

Culture shock and stress are common during initial adaptation (Brown & Holloway, 2008; Zhou and Todman, 2008). Intercultural adaptation encompasses psychological

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coping (stress, anxiety) and sociocultural engagement (language, education) (Elliot, 2018). Cortazzi and Jun (1996) caution against expecting students to assimilate fully, emphasising the importance of mutual cultural understanding. Peer and tutor interactions are pivotal but may be constrained by time, language, and social anxiety (Chapdelaine & Alexitch, 2004; Schweisfurth & Gu, 2009). Resilience, reflection, and strategic coping are critical for successful adaptation (Zhou & Todman, 2008).

Language as a Cultural Barrier

Language proficiency is a central determinant of international students' engagement in experiential learning. When instruction is delivered in a language other than a student's first language, comprehension can be hindered, affecting both learning and confidence (Ramburuth & Tani, 2009). Hofstede (1986) argues that, where feasible, tutors should adapt instruction to reduce the burden of translation on students. However, in classrooms containing multiple linguistic backgrounds, this may be difficult, necessitating sensitive and adaptable teaching strategies. Language barriers not only affect academic understanding but may also impact students' willingness to participate, increasing social isolation and compounding cultural stress (Crose, 2011).

Effective strategies for mitigating language barriers include avoiding colloquialisms, providing clear instructions, and scaffolding complex tasks to ensure comprehension for all students (Vita, 2001; Crose, 2011). Over time, students may develop proficiency in interpreting host-country language norms and idioms, but initial adaptation requires patience, support, and structured guidance from educators.

Intercultural Learning

Intercultural learning presents challenges for both students and tutors. Hofstede (1986) highlights that students may struggle to adapt to new cognitive approaches and pedagogical methods, even if they were successful academically in their home countries. Failure to accommodate these differences can undermine confidence, reduce engagement, and exacerbate feelings of alienation (Crose, 2011). Critically, most intercultural education practices reinforce dominant structures rather than challenging them (Gorski, 2008), meaning that students are often expected to adjust to existing teaching styles without reciprocal adaptation from instructors.

Cultural influences also shape learning preferences, as described by Vita (2001) in the concept of "cultural conditioning." Students' previous educational experiences inform how they engage with learning, interpret feedback, and respond to assessment. For example, students accustomed to rote learning may find interactive, participatory activities unfamiliar, while those from cultures that value indirect com-

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munication may hesitate to challenge ideas or assert opinions in group discussions. Tutors' willingness to accommodate these differences may vary, particularly given the additional time, energy, and emotional labour required (Otten, 2003).

Institutional Dimensions of Pedagogy

Entrepreneurship education is not neutral; it is shaped by structural and cultural contexts. Institutional factors, including policy, regulation, and socio-cultural norms, directly influence programme design, delivery, and learning outcomes (Nikou et al., 2023). Dominant approaches frequently prioritise planning, prediction, and high-growth ventures, often marginalising alternative forms of entrepreneurship (Linton & Klinton, 2019; Walter & Block, 2016). Pedagogical design, including assessment and teaching practices, reflects these institutional norms, defining what is considered legitimate entrepreneurial knowledge (Lyu et al, 2024).

Pedagogical bias arises when teaching practices, curricula, or classroom interactions assume dominant cultural norms, unintentionally disadvantaging international students. Addressing these challenges requires deliberate inclusive strategies and the development of educator intercultural competence (Maringe & Sing, 2014). Educators must also critically consider how broader educational, social, and political structures shape learning experiences (Saunders & Wong, 2020). In experiential entrepreneurship education, assumptions about collaboration, participation, and prior knowledge can restrict engagement, highlighting the need for curriculum and pedagogy that are responsive to diverse cultural and educational backgrounds.

Summary

Cultural differences and pedagogical bias influence international students' engagement, confidence, and learning outcomes in experiential entrepreneurship education. Variations in prior experience, educational background, language, and classroom norms affect participation, reflection, and independent learning. While experiential approaches can develop entrepreneurial competencies, their benefits depend on educators' awareness of student diversity and willingness to adapt teaching. Inclusive pedagogy, scaffolding, and intercultural sensitivity are critical to ensure equitable participation, skill development, and meaningful learning outcomes.

This study extends prior research by examining intercultural pedagogy and pedagogical bias specifically in experiential entrepreneurship education. Previous work addresses cultural adaptation, staff intercultural competence, and power dynamics (Dunne, 2011; Maringe & Sing, 2014; Saunders & Wong, 2020; Symonds, 2021), but few studies consider how these intersect in collaborative, applied learning. Focusing on international students demonstrates that experiential approaches do

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not automatically promote equity, revealing embedded biases in assessment, group work, and participation. These findings inform the design of curricula, pedagogy, and assessment that leverage diversity to enhance engagement, intercultural competence, and entrepreneurial skills.

This study extends prior research by examining intercultural pedagogy and pedagogical bias within experiential entrepreneurship education, with particular attention to international students' experiences of assessment, group work, and participation. The following section outlines the methodology adopted to investigate these issues, including the research design, participant selection, data collection, and analytical approach.

METHODOLOGY

The purpose of this chapter is to explore the lived experiences of international students engaged in experiential entrepreneurship education within the UK. Specifically, the chapter focuses on undergraduate students who participate in the creation of a new business venture as part of their degree programme. By concentrating on students who engage in academic activities that incorporate unfamiliar pedagogical approaches, the study seeks to gain a deeper understanding of how these methods shape the student learning experience, including their enjoyment, engagement, confidence, and development as emerging entrepreneurs.

International students bring with them a wide range of cultural, social, and educational backgrounds, which inevitably influence their perceptions of and responses to learning. To capture this complexity, the chapter adopts an interpretivist research approach, recognising that individuals continuously interpret their surroundings, including social interactions, behaviours, and institutional norms, in ways that are highly personal and context-dependent (Blaikie, 2007). This perspective emphasises that students' experiences cannot be understood in isolation from their prior knowledge, cultural expectations, or previous educational practices. In addition, a social constructionist lens informs the creation of the case studies, acknowledging that knowledge is not fixed but historically and culturally situated, emerging through interaction and reflection (Nightingale & Cromby, 1999). This approach allows the chapter to examine how international students' prior educational experiences and exposure to entrepreneurship shape the development of their entrepreneurial thinking, identity, and capacity to act as entrepreneurs within a UK higher education context.

A qualitative research design was employed to explore the nuanced experiences of international students within experiential entrepreneurship modules. Data was collected through three rounds of in-depth, semi-structured interviews with each participant over the course of their final year of study. This longitudinal approach

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enabled the researchers to capture the evolution of students' perceptions, learning strategies, and adaptation to unfamiliar pedagogical practices, as well as the challenges and successes they encountered.

Four international students, each from a different country, were selected from a single UK university. All participants were enrolled in Level 6 experiential entrepreneurship modules that required them to actively develop, launch, and manage a new business venture in collaboration with their peers. The modules were designed to integrate both theoretical knowledge and practical, hands-on business activities, providing a rich context to examine how students navigate unfamiliar teaching and assessment practices.

To analyse the collected data, both thematic analysis and narrative analysis techniques were applied. Thematic analysis allowed the researchers to identify recurring patterns, challenges, and perceptions across the dataset, while narrative analysis preserved the individual complexity of each student's story, capturing how experiences unfolded over time and were shaped by personal, cultural, and social contexts. This dual approach ensures that the findings reflect both the commonalities and unique variations in students' experiences, providing a holistic understanding of how international students engage with and are affected by experiential entrepreneurship education.

Overall, the methodology enables a detailed exploration of how cultural background, prior learning experiences, and pedagogical approaches intersect to influence international students' engagement, adaptation, and development within experiential entrepreneurship programmes in the UK.

Drawing on this methodological approach, the chapter now presents the student case studies, followed by a thematic discussion of key findings that illustrate how cultural background, prior learning experiences, and pedagogical approaches shape engagement, adaptation, and development within experiential entrepreneurship programmes. These insights will then inform practical recommendations for educators and practitioners aimed at enhancing international students' participation, intercultural competence, and overall development in entrepreneurship education.

STUDENT INSIGHT

We will now look at four international student cases, illustrating how diverse backgrounds, prior educational experiences, and cultural norms interact with the pedagogical assumptions of experiential entrepreneurship education in a UK university. The cases highlight challenges related to group work, social integration, language, and unfamiliar pedagogies, and demonstrate how these factors influence student engagement, confidence, and learning outcomes. While each student's experience

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is unique, common themes emerge around the need for structured support, inclusive practices, and culturally responsive teaching to enable equitable participation.

Overview of Student Cases

Student A – Student A had informal exposure to entrepreneurship through a family business but no formal academic experience in the subject. Upon entering the UK programme, he was unfamiliar with group-based, student-centred learning. He faced difficulties participating in collaborative projects, particularly when peers' ideas conflicted with his cultural or religious values. Language barriers, including understanding regional accents, added further challenges. Student A found support and solidarity among other international students, highlighting the role of peer networks in mitigating social and cultural exclusion. His experience illustrates how entrepreneurship education can privilege domestic students' norms and communication styles, making full participation more challenging for culturally and linguistically diverse learners.

Student B – Student B came from a highly individualised and teacher-led educational background, where collaborative work was minimal. The transition to group-based, experiential learning required adaptation to new pedagogical expectations, particularly in negotiating leadership roles and resolving conflicts within teams. She experienced tension when contributions were unevenly distributed, highlighting differences in cultural expectations of merit and fairness. In addition, the predominantly UK-centric curriculum limited her exposure to international entrepreneurial contexts, reinforcing the need for inclusive and globalised content. Student B's case underscores the challenges of adapting to collaborative, participatory learning for students from individual-focused educational systems.

Student C – Student C had no prior entrepreneurship education and came from a highly directive, school-based system. She encountered differences in academic writing conventions, assessment expectations, and creative tasks, which were grounded in implicit cultural norms. Participation in group work was complicated by social positioning and cultural misunderstandings, with her linguistic differences sometimes being perceived as lack of competence. These experiences led to cautious engagement and self-protection rather than authentic cultural contribution. Student C's case highlights how pedagogical assumptions about appropriate communication, creativity, and collaboration can inadvertently marginalise international students.

Student D – Student D had limited exposure to entrepreneurship and academic group work, with prior education heavily reliant on directive teaching. His first experience with applied, collaborative entrepreneurship education involved mixed-gender group projects, independent learning, and real-world business development. Initial challenges included adapting to autonomous learning, navigating language

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barriers, and managing group dynamics. Over time, he developed resilience, intercultural competence, and self-directed learning strategies. Student D's experience demonstrates how structured support and culturally responsive pedagogy can enable international students to succeed despite initial disadvantages.

STUDENT INSIGHT: THEMES

Group Work

Group work emerged as a central yet contested component of entrepreneurship education, functioning not merely as a pedagogical tool but as a complex social arena in which cultural expectations, identities, and power relations were actively negotiated. Across all four case studies, collaborative learning did not naturally produce cohesion; rather, it frequently exposed underlying differences in values, communication styles, and assumptions about learning.

For Student A, group work was experienced as a site of exclusion from the outset. Having entered the programme with no prior exposure to group-based learning, he encountered immediate difficulty integrating into pre-allocated teams dominated by domestic students. His consistent distinction between "I" and "they" reflected a perceived boundary that structured his interactions. This division became particularly pronounced during an idea-generation task, when proposed business concepts conflicted with his religious beliefs:

> *"We shared some ideas together at the beginning. I had to explain them my religion because they came up with so many ideas that contradict with my religion… like coming up with something for beers or for pork or whatever it is that they wanted to do."*

This moment illustrates how group work can privilege dominant cultural norms, positioning alternative perspectives as deviations requiring justification. Rather than being recognised as a legitimate contribution to the creative process, his values became a constraint that had to be defended. The burden of explanation fell solely on him, reinforcing his marginalisation within the group. Consequently, collaboration did not foster inclusion but instead heightened his awareness of difference and exclusion. Student A's preference for working with other international students "I would prefer to work with other overseas students because we would have understood each other" further reflects how group work, when unsupported, can drive students toward culturally homogeneous networks rather than encouraging integration.

Student A's experience was compounded by broader expectations about classroom behaviour and authority. He contrasted the perceived informality of UK classrooms with the strict discipline of his prior education:

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"the lecturers are very strict… He will just point out to the door." "yeah, and I wish they would implement it here… at least kick them out."

Here, group work is embedded within a wider cultural framework of classroom management. For Student A, effective collaboration depended on order and authority, conditions he felt were lacking. This highlights how participation in group work is shaped not only by peer interaction but also by institutional norms governing behaviour and control.

Similarly, Student B's experience reveals how group work can generate tensions around fairness, responsibility, and leadership. Coming from a highly individualised educational background, she initially welcomed the opportunity to collaborate "we had the opportunity to communicate and discuss any topics" but quickly became disillusioned when confronted with unequal contribution:

"I knew that not all of them contributed. I found that unfair… the same grade with me as the other guy for example that didn't contribute at all."

This perception of injustice reflects a clash between pedagogical intentions and student expectations. While entrepreneurship education often emphasises shared responsibility and collective outcomes, students accustomed to individual assessment may interpret group grading as inequitable. Without mechanisms to recognise individual effort, collaboration risks undermining motivation rather than enhancing learning.

Leadership dynamics further complicated her experience. Student B described confusion and conflict arising from differing interpretations of authority within the group:

"we faced issues… because they misunderstood the role of the leader… we had a member that always took the advantage of everyone and tried to be the boss."

This highlights the implicit nature of collaborative competencies within entrepreneurship education. Skills such as role negotiation, conflict resolution, and shared leadership are often assumed rather than explicitly taught. For Student B, whose prior education positioned teachers as authority figures, the expectation that leadership should emerge organically among peers created uncertainty and tension. Her interaction with the tutor further underscores this pedagogical mismatch:

"when I asked my tutor's advice, he recommend that it was my job… I think it's his job."

This exchange reveals a fundamental divergence in expectations regarding the role of educators. While the tutor promoted autonomy and self-management, Student B interpreted the lack of intervention as insufficient support. This suggests that group work, as implemented, relies on culturally specific assumptions about independence and agency that may not be universally shared.

Student C's experience reinforces the role of group work in reproducing social divisions. Although her group performed well overall, she perceived a clear in-group

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dynamic among domestic students, who "stuck together," leaving international students marginalised. This division became particularly evident during moments of conflict, where her contributions were devalued:

"I felt like every time like whatever I was doing… it was never enough… I just wanted to kind of tell her that I'm not stupid you know just cause I speak another language."

Here, linguistic difference was implicitly equated with lack of competence, illustrating how group work can reinforce hierarchies rather than challenge them. Her experience demonstrates that participation is not simply about contributing ideas but about being recognised as a legitimate contributor. When this recognition is absent, collaboration becomes a source of frustration and diminished confidence.

Student D introduces an additional dimension of gender. His initial discomfort at being the only male in a mixed-gender group reflects how social identity shapes participation:

"I am feeling more confident working with someone with the same gender as me" talking about working with females he noted that "It was a new experience…"

Although he ultimately chose to remain in the group, recognising its relevance for future employment, his reflections reveal the interpersonal challenges involved:

"I think men and women think differently… girls tend to be more… that's one thing that didn't really go well." While problematic in its phrasing, this statement highlights the negotiation of gendered perceptions within collaborative settings. Importantly, Student D also demonstrated adaptability, acknowledging the value of working with diverse peers despite initial discomfort.

Across the cases, group work emerges as a socially constructed process shaped by cultural norms, identity, and unequal expectations. Rather than functioning as a neutral or universally beneficial pedagogy, it can privilege students who are already familiar with its implicit rules while disadvantaging those who are not. Without explicit scaffolding, collaborative learning risks reproducing inequality, positioning some students as confident participants and others as peripheral contributors.

Social Identity

The challenges encountered within group work were closely tied to students' sense of social identity and belonging. For many, identity was not a static attribute, but something actively negotiated through everyday interactions within the classroom.

For Student A, religious and cultural difference played a central role in shaping his experience. The need to explain his beliefs during group discussions heightened his awareness of being "other," reinforcing a sense of separation from domestic peers. His preference for working with other international students reflects how shared identity can provide emotional security in unfamiliar environments:

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"I would prefer to work with other overseas students because we would have understood each other."

This suggests that, in the absence of inclusive practices, students may gravitate toward those who share similar backgrounds, creating parallel social networks rather than integrated communities. Student C's experience further illustrates how identity is both experienced and imposed. Her perception that domestic students "stuck together" indicates the formation of informal in-groups, while her account of being criticised reveals how linguistic difference can be interpreted as intellectual inferiority:

"I just wanted to kind of tell her that I'm not stupid you know just cause I speak another language."

Here, identity is shaped not only by self-perception but also by how others respond. Assumptions about language proficiency become proxies for judgments about ability, positioning international students as less competent. Such dynamics can lead to internalised insecurity and reduced participation.

Student D's narrative similarly highlights the intersection of identity and participation. His initial reluctance to speak in class stemmed from fear of being judged for linguistic mistakes, a concern rooted in past experiences: "I needed a year to feel comfortable."

Over time, he recognised the need to actively challenge this fear "just not be afraid to speak" demonstrating how identity evolves through engagement and adaptation.

Collectively, these experiences suggest that social identity plays a crucial role in shaping engagement with entrepreneurship education. When difference is not recognised or valued, it can lead to exclusion, self-censorship, and reduced confidence. Conversely, supportive environments that acknowledge diversity can foster belonging and participation.

Culture

Cultural differences underpin many of the challenges described, influencing communication styles, perceptions of authority, and definitions of knowledge. These differences are particularly evident in how students interpret and respond to pedagogical practices.

Student B's reluctance to confront peers reflects cultural norms prioritising harmony and respect for authority. In contrast, entrepreneurship education often assumes assertiveness and open negotiation. Without explicit guidance, this mismatch can hinder effective participation, as students may avoid conflict even when it is necessary for group functioning.

Student B's critique of the curriculum further highlights issues of cultural relevance:

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"how to set up a business outside of the UK… international merchandising, trade and all of these things."

This points to the dominance of UK-centric knowledge within the curriculum, which may not align with the aspirations of international students. By prioritising local contexts, the programme risks marginalising diverse perspectives and limiting the applicability of learning.

Student C's reflections on academic writing reveal deeper cultural distinctions in what constitutes quality: "the longer it is, the better it is… Here it is like… really brief sentences."

The absence of explicit instruction transformed feedback into a source of confusion rather than development. Similarly, her experience with the creative task illustrates how cultural knowledge may not translate across contexts:

"people were like, oh what is that… Now I pay more attention whether… something that I think is famous is famous here as well…" Rather than encouraging intercultural exchange, this experience led to self-censorship, demonstrating how cultural difference can be suppressed when not actively valued.

Culture emerges as a key theme shaping international students' engagement with experiential entrepreneurship education. Differences in communication styles, expectations of authority, and understandings of academic practice created tensions between prior learning experiences and UK pedagogical assumptions. UK-centred curriculum content and implicit expectations further limited relevance and confidence, highlighting the need for more culturally responsive and inclusive approaches to entrepreneurial learning.

Language Barriers

Language emerges across the case studies not simply as a matter of proficiency, but as a complex factor shaping access, participation, identity, and power within entrepreneurship education. Rather than functioning as a neutral medium, it operates as a gatekeeping mechanism that influences how students engage and how they are perceived by others.

For Student A, language barriers were primarily experienced at the level of comprehension. His difficulty understanding a tutor with a strong regional accent highlights an often-overlooked dimension of linguistic challenge:

"In one class I just didn't understand what he was saying… he had a really strong accent. I had to ask the person next to me to tell me what he meant, or I would miss things."

This illustrates that linguistic accessibility extends beyond basic English proficiency to include accent variation and delivery style. Such barriers create unequal access to knowledge, where domestic students can engage more easily while inter-

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national students must rely on informal peer support. This reliance can reinforce feelings of dependency and marginalisation, positioning the student as an outsider within the learning environment.

At the same time, Student A's experience reveals the social dimension of language. His reliance on peers for clarification and his statement that:

"being with international students makes me more comfortable…"

suggest that shared linguistic challenges can foster solidarity. However, this also risks reinforcing separation, as students may gravitate toward those with similar backgrounds rather than integrating across the cohort.

For Student C and Student D, language barriers were less about comprehension and more about spoken communication and confidence. Student C's anxiety around presentations demonstrates how communication-intensive pedagogies can heighten linguistic insecurity:

"what if I am going to start making all these mistakes…"

Similarly, Student D described how fear of judgment limited his participation: "I needed a year to feel comfortable."

These accounts emphasise the emotional dimension of language, where the challenge is not only speaking English, but having the confidence to use it in high-pressure academic settings. Entrepreneurship education, with its focus on pitching, discussion, and presentations, places particular demands on verbal fluency, potentially disadvantaging less confident students.

Language also intersects with identity and perceptions of competence. Student C's frustration

"I'm not stupid you know just cause I speak another language" illustrates how linguistic difference can be misread as intellectual inferiority, marginalising students within group work.

These issues are reinforced by pedagogical design. Discussion-based learning assumes communicative confidence, often privileging fluent speakers and creating anxiety for others. Although confidence can develop over time, as seen in Student D's shift to "just not be afraid to speak," this adaptation is gradual and requires support.

Significantly, language barriers shape participation and perception, revealing an implicit bias toward linguistic homogeneity within the learning environment.

Unfamiliar Pedagogies

A central challenge across the case studies is the need for international students to adapt to unfamiliar pedagogical models within UK higher education, particularly in entrepreneurship education. These approaches emphasise experiential learning, collaboration, critical thinking, and independence, often contrasting with the struc-

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tured, teacher-led systems students previously experienced. As a result, students must not only learn new content but also adjust to new ways of learning.

Student B's experience highlights this shift clearly. Coming from an education system focused on individual work and strong teacher authority, she noted that "we didn't even have the meaning of team building."

The move to group-based, discussion-driven tasks was therefore a significant adjustment. Student B's attempt to "try to forget (her) traditional learning methods" reflects the extent of this transition. Although she valued opportunities to interact "we had the opportunity to communicate and discuss" she still faced challenges in understanding expectations around collaboration and participation.

Student D similarly struggled with the independence required in UK higher education. His previous learning had been highly directive, whereas university demanded self-management and initiative. His reflection "I had to step up my game… more consistent to study" demonstrates how adapting required both behavioural and attitudinal change. His initial lower performance further illustrates the difficulty of adjusting to a system that assumes prior experience with independent learning.

Student A's case shows how unfamiliar pedagogies can also conflict with cultural expectations around authority and classroom structure. His preference for stricter discipline suggests that student-centred approaches may be interpreted as a lack of control, which can affect engagement and perceptions of teaching quality.

Across the cases, entrepreneurship education relies on implicit skills such as self-direction, critical thinking, and collaboration that are not always explicitly taught. Students are expected to navigate these demands independently, which can lead to uncertainty and reduced confidence. Overall, unfamiliar pedagogies represent a significant barrier to engagement, highlighting the need for clearer guidance and more structured support to ensure inclusive learning environments.

Pedagogical Bias

Across the case studies, an implicit pedagogical bias becomes evident, revealing how entrepreneurship education is shaped by culturally specific assumptions about learning, participation, and competence. These assumptions are embedded within teaching practices and assessment structures, yet often remain unspoken, placing international students at a disadvantage. One key example is the emphasis on group assessment, which assumes acceptance of shared responsibility and equal contribution. For Student B, this conflicted with her expectations of individual accountability, leading to frustration when effort was uneven:

"I knew that not all of them contributed. I found that unfair… the same grade with me as the other guy… that didn't contribute at all."

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Here, collaboration is prioritised without sufficient mechanisms to address disparities in contribution, reflecting a bias toward collective assessment models that may not align with all educational backgrounds.

Similarly, the expectation that students will manage group dynamics independently reflects a culturally specific understanding of learner autonomy. When Student B sought support, she was told that resolving the issue was her responsibility:

"he recommend that it was my job… I think it's his job."

While intended to promote independence, this approach can be experienced as a lack of guidance, particularly by students accustomed to more directive teaching. Autonomy, in this context, is not universally empowering but contingent on prior familiarity with such expectations.

Communication-heavy pedagogies further reinforce these biases. Activities such as presentations and discussions assume confidence in spoken English and assertive participation. Student C described her anxiety about making mistakes in front of peers:

"what if I am going to start making all these mistakes…,"

while Student D reflected on the time it took him to feel comfortable speaking in class:

"I needed a year to feel comfortable."

These examples illustrate how such approaches can disadvantage students whose confidence is shaped by linguistic or cultural factors.

Curriculum content also reflects a narrow perspective. Student B suggested that entrepreneurship programmes should include how to set up a business outside of the UK, highlighting the dominance of UK-centric knowledge, which may reduce relevance for international students. Overall, pedagogical bias operates subtly but consistently, privileging those whose prior experiences align with these norms. Without greater recognition and support, these practices risk reinforcing inequality rather than enabling inclusive learning.

These examples from the case studies, highlighting challenges with group work, language, and unfamiliar pedagogies, illustrate how implicit assumptions and cultural norms shape students' experiences and directly link to the next section of the chapter, which focuses on the discussion of pedagogical bias and cultural barriers in experiential entrepreneurship education.

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KEY THEMES

Cultural Barriers and Pedagogical Bias

The case studies presented in this chapter illuminate the complex interplay between cultural barriers and pedagogical bias within experiential entrepreneurship education in a UK university context. While entrepreneurship education is widely promoted for its collaborative, practice-based, and student-centred approaches, the findings suggest these features can inadvertently disadvantage international students when not underpinned by inclusive and culturally responsive design. Across the cases, challenges related to group work, social integration, language, and unfamiliar pedagogies were interconnected factors shaping students' confidence, participation, and overall learning experience.

Entrepreneurship education is increasingly recognised as a vital component of higher education, aiming to equip students with the knowledge, skills, and attitudes necessary to navigate and create business ventures. However, students enter university with vastly different levels of exposure to entrepreneurship, through family-run businesses, school-based programmes, or previous entrepreneurial experiences, while others arrive with minimal knowledge or interest (Zapkau et al., 2015). These differences present both opportunities and challenges for educators designing inclusive curricula. Despite growing recognition of student diversity, many institutions continue to adopt dominant, uniform pedagogical approaches, business plan competitions, simulations, and case-based learning, which may fail to accommodate international students' prior knowledge, cultural perspectives, or learning preferences (Pittaway & Cope, 2007).

Group Work Requires Intentional Facilitation

A key insight from the study is that group work requires deliberate and structured facilitation to ensure inclusivity. Although heterogeneous grouping is often justified as promoting diversity and real-world collaboration, the data show that diversity alone does not guarantee equitable participation. Instead, group work frequently reproduced social divisions between home and international students, with informal in-groups forming along cultural, linguistic, and gender lines. For example, Student A described consistently using "I" and "they" when referring to domestic peers, signalling a perceived boundary that shaped interactions and limited full engagement: "I would prefer to work with other overseas students because we would have

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understood each other." Similarly, Student C observed that domestic students "stuck together," creating an inner circle that marginalised international participants.

Without structured guidance, clear role allocation, or accountability mechanisms, dominant voices shaped group processes while others were sidelined. Students who were less confident in English or unfamiliar with self-directed, collaborative learning often found it difficult to assert themselves, leading to unequal participation. Student B highlighted the challenge of negotiating leadership in her group, reporting that a peer "always took the advantage of everyone and tried to be the boss," while she struggled to assert authority due to both cultural norms and unfamiliarity with collaborative dynamics.

This aligns with Watson et al. (1993) and Summers & Volet (2008), who found that culturally mixed groups may perform less effectively in the short term due to misunderstandings but can achieve higher creativity and problem-solving outcomes over time if supported. Scager et al. (2016) further note that students may accept unequal contributions when they feel disempowered to negotiate responsibilities. These findings underscore that group work is not inherently equitable; intentional facilitation, clear role definition, and accountability mechanisms are essential to prevent exclusion. Without such support, collaborative tasks risk reinforcing existing social hierarchies rather than challenging them, limiting both learning outcomes and the development of intercultural competencies.

Social and Academic Integration Challenges

A key insight from the study is that group work requires deliberate and structured facilitation to ensure inclusivity. Although heterogeneous grouping is often justified as promoting diversity and real-world collaboration, the data show that diversity alone does not guarantee equitable participation. Instead, group work frequently reproduced social divisions between home and international students, with informal in-groups forming along cultural, linguistic, and gender lines. For example, Student A described consistently using "I" and "they" when referring to domestic peers, signalling a perceived boundary that shaped interactions and limited full engagement: "I would prefer to work with other overseas students because we would have understood each other." Similarly, Student C observed that domestic students "stuck together," creating an inner circle that marginalised international participants. Student D's reflections on mixed-gender groups further illustrate how social identity can intersect with group dynamics, as he noted both discomfort and learning opportunities: "I am feeling more confident working with someone with

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the same gender as me…it was a new experience…it will provide me with different experiences of working with different gender."

Without structured guidance, clear role allocation, or accountability mechanisms, dominant voices shaped group processes while others were sidelined. Students less confident in English or unfamiliar with self-directed, collaborative learning often struggled to assert themselves, leading to unequal participation. Student B described leadership conflict in her group, explaining that a peer "always took the advantage of everyone and tried to be the boss," while she felt uncertain about asserting authority due to both cultural norms and lack of prior experience with collaborative work. Similarly, Student C's account of being criticised for choosing an unfamiliar product brand demonstrates how linguistic and cultural differences can be interpreted as incompetence, further marginalising contributions: "I just wanted to kind of tell her that I'm not stupid you know just cause I speak another language."

This aligns with Watson et al. (1993) and Summers & Volet (2008), who found that culturally mixed groups may perform less effectively in the short term due to misunderstandings, but can achieve higher creativity and problem-solving outcomes over time if supported. Scager et al. (2016) further note that students may accept unequal contributions when they feel disempowered to negotiate responsibilities. These findings emphasise that group work is not inherently equitable; intentional facilitation, clear role definition, and accountability mechanisms are essential to prevent exclusion. Where facilitation is absent, collaborative tasks risk reinforcing existing social hierarchies rather than challenging them, limiting learning outcomes and constraining the development of intercultural competencies. Effective group work, therefore, requires deliberate scaffolding to support negotiation, communication, and participation across diverse student groups.

Language and Communication Barriers

Language emerged as a persistent barrier throughout the cases. Despite meeting formal English requirements, students encountered difficulties with regional accents, discipline-specific terminology, and informal classroom discourse. Student A, for example, reported that in one lecture "I just didn't understand what he was saying… he had a really strong accent. I had to ask the person next to me to tell me what he meant, or I would miss things." Such experiences highlight how comprehension is not solely a matter of proficiency but also involves navigating variation in pronunciation, speech speed, and context-specific vocabulary. Fear of miscommunication often discouraged active participation, particularly in discussion- and presentation-heavy tasks. Student D reflected on his early reluctance to speak in class: "I needed

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a year to feel comfortable," indicating the emotional dimension of language and its influence on engagement.

These challenges demonstrate how communication-intensive pedagogies can privilege linguistically confident students while disadvantaging those who are less assured, even when they have strong ideas or analytical ability (Ramburuth & Tani, 2009; Crose, 2011). Presentation-based assessments, which evaluate fluency, clarity, and confidence, further reinforced inequities and highlighted structural pedagogical bias (Morselli, 2019). Student C described the pressure of oral tasks: "I was afraid that like my presentation because obviously English is not my first language… what if I am going to start making all these mistakes?" Such anxieties illustrate how linguistic difference can be interpreted as lack of competence, marginalising contributions and affecting participation.

Effective strategies include avoiding colloquialisms, providing clear instructions, and scaffolding complex tasks to ensure comprehension (Vita, 2001; Crose, 2011). Peer support and collaborative preparation can also help students gradually adapt to linguistic norms. While proficiency and confidence can develop over time, initial adaptation requires structured guidance, patience, and explicit recognition of the emotional and cognitive demands placed on international students navigating unfamiliar linguistic environments. Supporting students in this way not only enhances access but also fosters equitable participation and engagement in communication-intensive pedagogies.

Inclusive and Culturally Responsive Teaching

Students' prior educational experiences strongly shaped their expectations of teaching, learning, and assessment. Those accustomed to highly structured, teacher-led environments often found the shift to open-ended, experiential tasks disorienting. Student B described her previous schooling as individualised and heavily supervised: "we didn't even have the meaning of team building, working as a team… each activity was individual." Similarly, Student D reflected on his earlier education as predominantly directive, with little room for self-directed exploration. In this context, implicit assumptions in UK entrepreneurship education—that students would be comfortable with ambiguity, self-direction, and peer-led collaboration—functioned as a hidden curriculum, privileging those already familiar with these approaches (Bell & Bell, 2020; Vita, 2001).

For many international students, adaptation required not only mastering content but also learning how to navigate unfamiliar pedagogical expectations. Student B explained that she "chose to try to forget [her] traditional learning methods in order to fully engage and learn whilst at university," highlighting the cognitive and emotional effort involved in adjusting to new norms. Student D similarly noted that he

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"had to step up [his] game… more consistent to study, more hours, study harder, study better, quality of study," reflecting the need to develop self-management and independent learning strategies.

Structured support proved essential in easing this transition. Explicit instruction in teamwork, clear assessment criteria, and guided practice in communication and collaboration helped students understand what was expected and build confidence. Without such scaffolding, adjustment processes could undermine self-efficacy, inhibit participation, and delay meaningful engagement with entrepreneurial tasks. Across the cases, it was clear that unfamiliar pedagogies were not merely a technical challenge but a deeply social and cognitive one, requiring intentional support to ensure equitable learning outcomes.

Pedagogical Bias and Institutional Context

Entrepreneurship education often assumes a culturally neutral learner - someone who is confident, fluent in the host language, and experienced in collaborative, self-directed learning. In practice, these assumptions privilege students whose prior experiences align with these expectations, while disadvantaging others. Group assessments, which emphasise shared responsibility and collective outcomes, may conflict with students' beliefs about individual accountability. For example, Student B expressed frustration that some group members contributed minimally yet received the same grade: "I knew that not all of them contributed. I found that unfair… the same grade with me as the other guy… that didn't contribute at all." Similarly, expectations that students independently resolve conflict reflect culturally specific norms. When she sought guidance from her tutor, she was told, "he recommend that it was my job… I think it's his job," illustrating how autonomy is assumed rather than scaffolded (Crose, 2011; Pittaway & Cope, 2007).

Institutional frameworks further shape these pedagogical choices. Dominant business-school logics prioritise planning, prediction, and high-growth venture creation, marginalising alternative forms of entrepreneurship that may be more familiar to international or culturally diverse students (Walter & Block, 2016; Lyu et al., 2024). Classroom activities, assessment practices, and educator competencies collectively influence what is recognised as legitimate entrepreneurial knowledge. Student C reflected on how creative contributions were often misunderstood: "I just wanted to kind of tell her that I'm not stupid you know just cause I speak another language," highlighting how linguistic and cultural differences intersect with these structural expectations.

Without intentional design, these structural and cultural dimensions reproduce inequities, privileging those who already understand or feel comfortable with prevailing norms. Students unfamiliar with dominant models of communication,

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collaboration, or entrepreneurial practice may experience marginalisation, reduced confidence, and inhibited participation. The implicit bias embedded in pedagogy, assessment, and institutional logic therefore shapes both the learning experience and the recognition of capability, underlining the need for culturally responsive and inclusive design in entrepreneurship education.

Culture, Adaptation, and Intercultural Learning

Cultural norms exert a profound influence on classroom behaviour, communication, and engagement. Students entering UK higher education from teacher-led, directive systems often struggled to adapt to interactive, student-centred pedagogies that prioritised autonomy, critical discussion, and collaborative problem-solving (Hofstede, 1986; Vita, 2001). Student B, for example, reflected on the contrast with her home country: "we didn't even have the meaning of team building… each activity was individual," highlighting how prior educational experiences shaped expectations about participation and responsibility. Similarly, Student D noted that transitioning from structured, teacher-led learning to independent tasks required him to "step up [his] game… study harder, study better, quality of study," demonstrating the cognitive and behavioural adjustments necessary to meet new pedagogical demands.

Social expectations, including deference to authority, indirect communication, and the prioritisation of group harmony, further shaped engagement in group work and classroom interactions. Student A's need to explain his religious position in response to conflicting group ideas illustrates how cultural and social norms can complicate participation: "I had to explain them my religion because they came up with so many ideas that contradict with my religion." Such situations required students to negotiate their identity and beliefs while simultaneously learning unfamiliar modes of communication and collaboration.

Cultural adaptation is not assimilation; it is a process of mutual understanding, negotiation, and learning. Students who persevere in cross-cultural interactions must navigate language, social norms, and educational expectations, often under considerable stress (Chapdelaine & Alexitch, 2004; Schweisfurth & Gu, 2009). Student C, for instance, described self-censoring her cultural references in creative tasks after peers failed to recognise their significance: "Now I pay more attention whether… something that I think is famous is famous here as well." These experiences highlight the emotional and reflective labour required to engage fully in unfamiliar contexts. Intercultural learning therefore depends on active facilitation, scaffolding, and ongoing support from both peers and tutors to create an environment where difference is recognised, valued, and leveraged as a resource for learning (Cortazzi & Jin, 1996; Gorski, 2008).

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Assessment and Power Relations

Equity in assessment is critical to ensuring that all students can engage meaningfully with entrepreneurship education. Standardised assessment approaches often privilege students whose prior experiences align with host-country educational expectations, particularly those accustomed to self-directed, discussion-based, and collaborative learning environments (Apelehin et al., 2025; Nelson & Klak, 2012). For many international students, unfamiliarity with these norms created anxiety and limited engagement. Student B described frustration when group members contributed unevenly, noting that grades did not reflect individual effort: "I knew that not all of them contributed. I found that unfair… the same grade with me as the other guy… that didn't contribute at all." Similarly, Student C experienced difficulty in translating her cultural knowledge into tasks, leading to misinterpretation by peers and reinforcing a sense of marginalisation: "people were like, oh what is that… now I pay more attention whether something that I think is famous is famous here as well."

Integrating experiential learning with reflective, socially grounded practices can help address these inequities. Providing structured opportunities for discussion, clear assessment criteria, and guided reflection supports students in developing intercultural competence and collaborative skills, while simultaneously recognising diverse contributions (Li-Grining et al., 2021). Power dynamics within the classroom also shape participation: while student-centred learning distributes authority more equitably than traditional teacher-led approaches, implicit hierarchies persist unless explicitly addressed. Student A's need to justify his religious perspective in group work, and Student D's negotiation of mixed-gender dynamics, demonstrate that social and cultural positioning can influence whose knowledge is valued and whose voice is heard. Without deliberate design and support, assessment practices risk reproducing these inequities, privileging familiar norms and marginalising students who lack prior exposure to host-country educational conventions (Dunne, 2011; Symonds, 2021; O'Neill & McMahon, 2015).

Ensuring equitable assessment, therefore, requires not only clarity and consistency in marking criteria but also an explicit recognition of diverse backgrounds, learning approaches, and communicative styles. Assessment must be structured to allow all students to demonstrate capability, creativity, and collaboration, creating a genuinely inclusive learning environment.

SUMMARY AND RECOMMENDATIONS FOR PRACTICE

The difficulties faced by international students stem not from individual shortcomings but from misalignments between pedagogical design and student diversity.

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Effective experiential entrepreneurship education requires intentional design that fosters inclusion, scaffolds participation, addresses language barriers, and recognises prior learning experiences. When done well, interculturally responsive teaching transforms diversity into a resource, enhancing confidence, entrepreneurial competencies, and engagement (Bell & Bell, 2020; Li-Grining et al., 2021).

This chapter challenges standardised approaches to experiential entrepreneurship education by highlighting the lived experiences of international students engaging in experiential learning within UK higher education. By shifting the focus from conventional, native-centred pedagogical assumptions to the perspectives of international learners, the chapter invites educators, students, and practitioners to critically reassess what truly inclusive entrepreneurship education entails. The insights emerging from the case studies highlight several overarching themes that emphasise the need for a more interculturally adaptive pedagogy.

The findings from this study underline the centrality of language, classroom dynamics, assessment formats, and group processes in shaping international students' experience of entrepreneurship education. They also demonstrate that without careful consideration, experiential learning can inadvertently privilege certain learning styles and cultural assumptions, thereby disadvantaging students whose prior educational experiences differ significantly from UK norms.

To support educators and institutions in addressing these issues, the following key takeaways summarise the core lessons emerging from this research:

- Inclusive and culturally responsive teaching is essential educators must acknowledge diverse learning histories and adapt pedagogy accordingly.
- Group work requires intentional facilitation to prevent exclusion and ensure equitable participation among home and international students.
- International students need structured support to understand and adjust to experiential and participatory learning expectations.
- Social and academic integration challenges persist, influencing confidence, engagement, and overall learning experience.
- Language and communication barriers remain significant, impacting participation, collaboration, and assessed performance.

These takeaways highlight the complex interplay between cultural background, language, prior educational experience, and pedagogical design in shaping international students' engagement with entrepreneurship education. The insights underline that experiential learning is not inherently inclusive; without deliberate facilitation, structured support, and culturally responsive practices, it can inadvertently privilege some students while disadvantaging others. The recommendations that follow build directly on these findings, offering practical strategies to address the barriers and

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biases identified in the case studies. By focusing on pre-module preparation, structured induction, scaffolded group work, and ongoing tutor facilitation, these measures aim to create learning environments where all students, regardless of cultural, linguistic, or educational background, can participate confidently, collaborate effectively, and develop entrepreneurial competence. In this way, the chapter concludes by moving from analysis to actionable guidance, linking the lived experiences of international students to concrete steps for fostering inclusion, equity, and intercultural awareness in entrepreneurship education.

RECOMMENDATIONS FOR ADDRESSING CULTURAL BARRIERS AND PEDAGOGICAL BIAS

Pre-Module

1. Induction to UK Culture and Pedagogy

- Provide an orientation session focusing on UK academic expectations, learning culture, and teaching methods.
- Include clear explanations of module structure, activities, and expected forms of participation.
- Outline support structures for students struggling academically or personally.

2. Cultural Competency Preparation

- Cultural awareness training for staff, with a particular focus on the culture of students enrolled on the module, where possible.
- Offer pre-module discussions or workshops on cultural competencies to reflect on own and others' learning styles and communication norms.
- Include one-to-one or small-group discussions with tutors to clarify engagement expectations.

Module Induction

1. Collaborative Glossary and Academic Language

- Facilitate group activities where students develop a glossary of subject-specific, business, entrepreneurship, and academic terminology. Ensure all students contribute to foster inclusion and confidence, and shared understanding.

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2. Reflection on Prior Group Work

- Tutors lead tasks where students discuss prior experiences with group work (academic, sports, or work contexts).
- Encourage reflection on what worked, challenges faced, and strategies for effective collaboration.

3. Tutor-Led Group Formation

- Tutors actively guide group formation, considering cultural diversity and individual strengths.
- Provide structured planning for roles and responsibilities.
- Monitor early engagement; investigate low participation sensitively with cultural context in mind.
- Tutors act as observers to ensure equitable participation, recognising cultural norms may influence visible engagement.

During Module

1. Observing Process, Not Just Output

- Emphasise tutor observation of task processes, not just outcomes.
- Design tasks that reward inclusive processes, collaboration, and equitable contribution.

2. Cultural Sensitivity in Support

- Tutors should consider cultural background before interpreting disengagement or lack of confidence.
- Maintain open channels for students to discuss challenges.

3. Preparation and Skills Support

- Explain tasks clearly in advance, including assessment and formative activities.
- Offer or signpost extra support for key skills, e.g., presenting, research, or teamwork.

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4. Ongoing Tutor Role

- Tutors act as facilitators and observers, pro-actively supporting equitable participation.
- Encourage self- and peer-reflection within groups to reinforce inclusive and collaborative practices.

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Chapter 4
A Case Study on Giving HE Female Students a Voice and the Benefits for Learning and Business

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EXECUTIVE SUMMARY

This chapter explores gender disparities in classroom participation and how these dynamics shape women's confidence, voice, and leadership trajectories in professional environments. Using a qualitative multi-method approach—including ethnographic classroom observations, an informal focus group with female postgraduate students, and semi-structured interviews with 19 senior female leaders—the study investigates how participation patterns emerge in higher education and persist in the workplace. Findings highlight the influence of classroom design, cultural background, peer dynamics, and self-confidence on women's engagement. Drawing on the experiential learning theories of John Dewey and David A. Kolb, the chapter proposes practical pedagogical interventions to amplify female voices. By fostering experiential, inclusive learning environments, universities can help reduce participation inequalities, support women's leadership development, and contribute to global goals such as quality education and gender equality.

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INTRODUCTION

Despite progress, gender inequality persists in education and in the workplace. This remains true even though female higher-education enrolment has risen sharply over the past 20 years, now exceeding male enrolment by more than 5% across 100 countries (Bonfert & Wadhwa, 2024). However, improvement at the educational level, does not equate to equality in the workplace. As of 2025, only 11% of Fortune 500 companies had a female CEO (Ajemian, 2025). The gap between educational attainment and professional representation raises important questions about when and how gender disparities begin to take shape. This study will examine power dynamics in the classroom and how it is later reflected in the workplace. Longitudinal research carried out by McKinsey & Company (2023) highlights that in the workplace men speak more and interrupt female colleagues more frequently. These patterns appear to start in an academic setting despite women achieving equal or higher academic outcomes. Lee and McCabe (2020) found that male students interrupt and speak 1.6 times more than female students. A similar study from Shandel and Verkerke (2022) at the University of Virginia Law School revealed that women's participation is determined by certain variables i.e.) class size, structure and layout. These studies suggest that participation inequities are context-dependent and can be reduced through deliberate pedagogical strategies. A study by Aguillon et al. (2020) found that experiential learning activities can help reduce gender disparities in participation. These approaches were shown to limit instances of male over-participation, while fostering a more supportive, collaborative environment that enables women to build confidence through peer interaction.

Cultural background is also relevant, with census data showing 373,600 non-UK students in England and Wales in 2021. The largest groups are from India, China, Romania, and Nigeria, with one-third in London. Although 64% report another first language, most have strong English proficiency (Noble & Fitch, 2023). Women constitute a slight majority of this cohort (55%), highlighting and reinforcing the need for Higher Education institutions to design pedagogical approaches that reflect both linguistic diversity and gender dynamics (Cox, 2025). Intersectionality, as introduced by Crenshaw (1991), plays a critical role in higher education by revealing how gender inequities compound for minoritized women, creating barriers beyond gender alone. Research by Mirza (2017) documents this "cultural silencing" among Black and South Asian women in UK academia, where intersecting race and gender dynamics produce significant participation gaps (Abdi, 2020). An intersectional lens thus calls for tailored experiential learning pedagogies, such as gender-specific forums and activities designed with cultural sensitivity to foster inclusive, internationalized classrooms to bridge these inequities. This chapter will analyse gender disparities within a classroom based on existing literature, ethnographic classroom

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observations, an informal focus group with female postgraduate students at a London-based university and in-depth interviews with 19 senior female leaders from different industries. By considering classroom dynamics within broader discussions of gender equality, this chapter aims to contribute to ongoing debates about the role of higher education in advancing women beyond the classroom. Empowering female students is both a societal and economic obligation, with direct relevance to the achievement of multiple UN Sustainable Development Goals. By understanding how gender participation patterns in the classroom are reproduced in professional settings, it is possible to understand how voice gaps are not only a pedagogical issue, but also an economic and organisational one, a theme explored in the next section.

GENDERED PARTICIPATION: ECONOMIC AND ORGANISATIONAL IMPACT

Research demonstrates that women are often interrupted in professional settings. A McKinsey report "*Women in the Workplace 2024"* revealed that in 2019 50% of women reported being interrupted in meetings. Although this figure declined to 29% in 2021 and further to 22% in 2023, it rose sharply to 39% in 2024, illustrating that progress toward gender-equitable communication is fragile (McKinsey, 2024).

Similarly, a study conducted by Perceptyx observing 1,500 women revealed that meetings remain the main places where exclusion takes place. Participants reported being interrupted, spoken over, or assigned tasks unrelated to their role more frequently than their male colleagues. As Sieghart (2021) argues in her book *The Authority Gap*, being interrupted constitutes a form of silencing that restricts an individual's ability to express ideas, contribute meaningfully, and establish authority (Sieghart, 2021). Continual inequalities in voice and acknowledgement are not merely social challenges but structural issues that impact an organisation's performance (McKinsey, 2023).

According to the IMF narrowing the gender participation gap by 5.9% in emerging and developing economies alone could boost their GDP by 8% over the next few years (Budina et al., 2023). Even OECD countries would benefit from increasing female employment, adding $6 trillion per year in GDP (PwC, 2023).

CULTURAL AWARENESS FOR MULTICULTURAL ENGAGEMENT

The globalisation of Higher Education has created increasingly diverse classrooms, where there are a wide range of cultures, learning behaviours and communication

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styles. Understanding and embracing this diversity is critical to promoting inclusive learning. Students from hierarchical cultures may view that challenging the lecturer or speaking out in class is disrespectful, whereas students from individualistic countries as outlined in Hofstede's theory on cultural dimensions (Kirwa, 2025) see active participation as signs of intellectual engagement. These disparities in the classroom can lead to unequal participation patterns impacting students' self-confidence and assessment outcomes (Lee & McCabe, 2020). Crenshaw's (1991) intersectional perspective recognises that cultural dynamics do not operate in isolation but interact with gender, race, and other social identities. For marginalised female students in multicultural classrooms, participation patterns may be further constrained by the combined effects of cultural barriers and social norms. Pedagogical approaches must address both cultural and structural inequalities to ensure equitable opportunities (Brady et al., 2024), while Stephen Brookfield (2017) emphasises reflective practice as a means of questioning assumptions about what is "good participation." Together, these perspectives support models that position the lecturer as a "guide on the side," fostering inclusive participation across diverse student backgrounds (King, 2016). Building on this, it is important to explore how gender participation gaps further shape learning experiences.

GENDER GAPS IN PARTICIPATION AND THEIR LEARNING EFFECTS

Classroom participation is widely recognised as one of the most effective strategies for promoting student engagement, as it stimulates interest, maintains attention, and transforms passive listening into active learning. Multiple perspectives make lessons more interesting and dynamic for all (Levy, 2024). Lecturers play a key role in promoting engagement and participation, their role of "guide on the side" approach is based on student-centred teaching where the educator is seen as a facilitator. Instead of "lecturing" the teacher creates a learning environment where students feel they can ask questions, discuss and solve problems (King, 2016). Participation also helps teachers gauge insights into students learning and understanding of ideas and concepts.

Participation plays a critical role as an exercise of free speech, self-fulfilment and notion acquisition. Verbalising ideas forces learners to articulate and organise their thoughts strengthening their critical thinking abilities. Students who regularly contribute to class discussions become more comfortable public speakers. These are key skills required by employers in today's technologically driven workplace (Alzati, 2024). Participation also gives students opportunities to practice discipline-specific vocabulary, helping them achieve fluency in the language of their field (Weimer, 2018).

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Silence has consequences that academics and managers should not overlook. In both educational and organisational settings, it can lead to the loss of valuable ideas and perspectives. When students remain silent, the collective learning experience is diminished because important contributions are not shared (Lee & McCabe, 2020).

First hand work in higher education settings illustrates how these dynamics take place. Lee and McCabe (2020) carried out extensive ethnographic observations across 9 courses totalling 95 hours. Their findings show that male students speak 1.6 times more than female students, often interrupting, speaking out of turn and using more forceful language. On the other hand, female students were more reserved and apologetic. Lee and McCabe (2020) draw on Cecilia Ridgeway's gender system framework (Ridgeway, 2011), which suggests that gender persists as a powerful cultural schema, systematically shaping social interactions and legitimising status hierarchies. They argue that these dynamics reinforce inequality in academic settings, influencing perceptions of knowledge, competence, and confidence. Complementary evidence from legal education further confirms that these patterns are context- dependent. Similarly, Shandel and Verkerke (2022) examined gender participation dynamics at the University of Virginia Law School through three studies. The first study, which analysed 107 recorded first-year classes, found that women contributed less frequently than men; however, the gap narrowed in smaller classes and when lecturers used cold-calling techniques. The second study, based on longitudinal surveys, revealed that participation disparities were most evident during the first year but diminished by graduation, suggesting that these differences are dynamic rather than permanent. The third study (2021) found that women reported receiving more criticism when expressing their views, which reduced their willingness to participate. Together, these studies demonstrate that gender gaps in participation are shaped by both academic environments and social dynamics and can be mitigated through targeted pedagogical interventions (Shandel & Verkerke, 2022).

Beyond gender, additional classroom and educator characteristics further impact how participation is experienced. A study by Crombie at the University of Ottawa examines how individual factors (gender, age, activity level) and classroom context (class size, gender composition, discipline, instructor gender) affect students' self-perceptions of participation and their perceptions of their instructors' behaviours. Findings showed that active male students see themselves as participating and interrupting more than active females; arts/social science students report more interaction than science students; and female students with male instructors have less favourable overall impressions of their instructors. The study highlights multiple contextual influences on participation and perception in university classrooms (Crombie et al., 2003).

These studies suggest that gender participation gaps are multifaceted, emerging from a combination of social norms, teaching environments, and lecturer practise.

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Reducing the gender participation gap could potentially have short and long-term benefits, enhancing all learners' ability to acquire knowledge and skills, and ultimately generating positive impacts on business and the wider economy.

AUTHORITY, VOICE, AND GENDER WEALTH GAP

Sieghart (2021) in her book "*The Authority Gap*" defines the authority gap as the disparity between how seriously women are taken compared to men, for equal or superior competencies. This gap exhibits itself often in subtle ways, for instance with frequent interruptions. Sieghart (2021) calls for systemic change and individual-level strategies such as allyship and bias-awareness training to close this gap. Sieghart allyship trainings consist of men only workshops to help men understand gender biases women face and provide tools to act as allies emphasising that gender equality benefits all (Sieghart,2021).

Chamorro-Premizic (2019) explores in his book "*Why do so many incompetent Men become leaders*" the psychological keystones around gender bias in leadership. He claims that traditional leadership traits such as charisma, dominance, self-confidence are over-valued, often leading incompetent men to rise to senior positions while highly qualified women are often overlooked. Chamorro-Premizic(2019) suggests that leadership should be redesigned focusing on emotional intelligence and soft skills creating a more meritocratic organisational culture (Chamorro-Premuzic, 2013). According to Rao (2022) there are 11 traits of a soft leader: character, charisma, conscience, conviction, courage, communication, compassion, commitment, consistency, consideration, contribution.

Soft skills are increasingly important in today's digital, fast-moving workplaces, enabling organisations to remain agile and thrive. Research suggests that women often excel in these traits. Jacinda Ardern, New Zealand's third female Prime Minister, exemplifies modern leadership by challenging the stereotype that leadership requires authoritarian or "traditionally masculine" qualities. Her empathetic, emotionally intelligent approach offers a model for girls to see leadership as inclusive and collaborative. Educational settings can draw on this example to cultivate environments where female students engage confidently, contribute meaningfully, and lead with kindness (Hughes, 2023).

Williams (2021), in *Why Women Are Poorer than Men*, highlights how structural, cultural, and institutional barriers contribute to global economic disparities between genders. Women earn, save, and accumulate significantly less wealth due to factors such as maternity leave, unpaid care work, persistent pay gaps, pension systems that overlook career breaks, and lower levels of financial literacy. Williams challenges stereotypes of women as risk-averse investors, noting that they are often underserved

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by financial systems. She also emphasises that the jobs of the future will increasingly demand traditionally "feminine" qualities such as empathy, collaboration, and emotional intelligence, making gender equity both a moral and economic imperative. Nobel laureate Esther Duflo's research with Abhijit Banerjee (2019) supports this, showing that prosperity for women benefits the whole society.

While these issues extend beyond the scope of this chapter, educators have a responsibility to raise awareness and encourage students of all genders to advocate for policy change. Active classroom participation can foster this engagement, helping students develop the confidence to challenge authority gaps and gendered inequalities. It is against this backdrop that the study situates its focused analysis of classroom participation and experiential learning.

STUDY AIMS

Building on this wider literature, the aims of this research are to:

- Investigate gender disparities and power dynamics in classroom settings, tracing how these patterns persist into women's professional careers.
- Explore how experiential learning in Higher Education can mitigate these gaps—amplifying women's voices, building career readiness, driving business growth, and advancing relevant SDGs.
- Draw on insights from female industry leaders to develop evidence-based strategies for educators, fostering equitable participation and empowering female students.

RESEARCH APPROACH

This qualitative, exploratory study investigates female participation in HE, examining how amplifying women's voices positively impacts learning outcomes, organisational success, relevant SDGs, and the broader economy.

The methodology combines three data collection methods:

- In-depth semi-structured interviews with 19 prominent female leaders from diverse industries (e.g., fashion, retail, academia, media, technology) across Europe. Participants were recruited via industry contacts, targeting those in or recently holding high-level senior positions with 15+ years' experience to ensure relevance and depth.

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- Classroom ethnography at a London university where the researcher lectures, focusing on behaviours, interactions, and in-class participation of both genders in marketing and business degrees, who were easily available to the researcher for observations.
- The informal focus group—held impromptu at the end of a 3-hour marketing/business lesson—engaged 17 female postgraduate students from the researcher's classrooms. Participants were asked targeted questions on their in-class participation experiences and challenges at this London university, eliciting direct insights that complemented ethnographic observations.

Justification of Qualitative Methods

Qualitative methods align with this study, providing rich, contextual insights into gender power dynamics in classrooms capturing lived experiences that numeric data cannot, and addressing imbalances that extend into the workplace. On this basis, ethnography, interviews and focus groups were selected as methods capable of capturing these layered dynamics.

Why Ethnography

Ethnography immerses the researcher in natural settings to uncover unspoken behaviours, offering educators insights into effective experiential learning techniques that benefit all students, especially women. The researcher's dual role as lecturer-observer ensures authentic, in-depth data linking classroom patterns to long-term outcomes. Ethnography, therefore, provides the contextual foundation upon which interview and focus group data can be interpreted.

Why Semi-Structured Interviews

This method balances flexibility and structure, enabling senior leaders (15+ years' experience across industries) to openly discuss career barriers and university recommendations. Verbatim recordings and transcripts facilitate thematic analysis of empowerment themes. These interviews add a longitudinal perspective, which connect classroom practices to subsequent women’s career progression.

Why Focus Groups

The informal group of 17 female students elicited direct insights on participation barriers, complementing ethnography by capturing nuances the observer might miss and prioritising student voices.

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Why This Multi-Method Fit

Taken together, these three research methods form a deliberately integrated research design.

DATA COLLECTION

In-depth Semi-Structured Interviews

Participants: 19 senior female leaders with 15+ years' experience from diverse industries, which were recruited based on industry connections and levels of experience.

Interview-Guide: semi-structured interview questions focusing on the participants career journeys, expression barriers and challenges and advice to educators on developing female students' skills to enter the workforce.

Process: 45–60 min (mostly virtual, some in-person); recorded/transcribed verbatim with consent.

Classroom Observations

Process: Observations were conducted in a classroom setting involving both undergraduate and postgraduate students enrolled in Business and Marketing degrees, which are the programmes the researcher currently teaches on. A combination of non-participant observations (researcher as the observer) was carried out and participant observation (researcher as the role of lecturer). Students were sent a Google consent form to ensure that they agreed to participate.

Areas of Observation: Composition of the class i.e.) split between males vs females, female contributions, interruptions by peers of female students and evidence of confidence or hesitation when participating, the role of the lecturer in stimulating participation. Reflective notes by the observer were also taken.

Analysing the Data

In-depth Semi-structured Interviews: Transcripts were analysed thematically identifying key themes around female empowerment, barriers to career progression, soft skills, voice, engagement, in-class participation. The theoretical approach carried out is based on social constructivism.

Observations: Were based on an inductive analysis of the behaviours of the students. Field notes were coded to identify patterns in participation, gender dynamics,

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classroom settings. Number of times male's vs females were engaged in classroom discussions was recorded.

Triangulation: Findings from both data sources were compared to identify correlations between the business leaders experience and in class observations.

Limitations and Ethics

- Informed consent was obtained from all interview participants and students observed.
- Confidentiality was ensured by anonymising participants' names and organisations.

Limitations of the Study

This study has several limitations which are highlighted below.
Sample Limitations

- The data was collected from a single Higher Education institution in the UK, which may limit the generalisability of the findings.
- Heavy focus on several industries such as fashion, retail and technology.
- Most of the professionals are in the later stages of their careers, resulting in a limited representation of younger women in industry.
- Including interviews with prominent male business leaders could have offered an additional perspective; however, this was not feasible due to time constraints.

Observation Findings

Approximately 30 hours of in-class observations were conducted, including sessions where the researcher observed colleagues' teaching alongside sessions of their own teaching. These were documented in a reflective journal. All observed classes featured a male-dominated student demographic, with an approximate 60:40 male-to-female ratio.

An intersectional lens helps interpret these patterns of engagement, recognising that gender does not operate independently but intersects with other social identities, including cultural background and prior educational experience (Crenshaw, 1991).

One observation stood out: despite the lecturer's and support staff's efforts to engage female students, participation remained unbalanced. In a Level 4 Business Management class of 60 students (20 female, 40 male), males made 26 verbal in-

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terventions while females made none. First-year status may have influenced this, posing a study limitation.

In contrast, during two other observations (8 hours) with a similar gender distribution (30% female and 70% male), female students demonstrated higher levels of engagement than their male peers. Notably, these female students were seated together at a table near the front of the classroom, which may have amplified their voice and participation.

Overall, these findings highlight the importance of considering intersectional factors when designing pedagogical interventions. Female participation is shaped not only by gender but also by cultural background, peer dynamics, and classroom environment. Further research is needed to understand how cultural norms, social identities, and classroom contexts collectively influence participation, particularly for minoritised female students in diverse Higher Education settings. These patterns underscore the need to examine not just who participates, but also how educational settings affect engagement.

CLASS ENVIRONMENT AND PHYSICAL LAYOUT

Building directly on the observations carried out, research on learning spaces suggests that the physical layout of the classroom can influence who feels able to participate. As highlighted by Rossi (2023), the configuration of a classroom can significantly influence student learning See Figure 1. In her book on *Inclusive Learning and Design*, Rossi identifies key features of an inclusive learning environment, where students should be sitting in a table facing each other rather than in rows as seen in Figure 1. This was also highlighted in the classroom observations conducted, where many spaces were noisy and open plan. Such environments made it challenging for lecturers to adopt the role of a "guide on the side" rather than a "sage on the stage" ("From Sage on the Stage to Guide on the Side," 2025). The classroom layout also influenced where students chose to sit and how they interact. Classroom observations showed that more inclusive and flexible designs were associated with higher engagement levels, particularly among female students. This finding aligns with Forbes (2024), who reported that women felt "more heard" in all-female learning environments. Similarly, the researcher's own experience teaching all-female lectures confirmed significantly higher levels of overall participation.

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Figure 1 What a Lesson in Inclusive Learning Looks Like (Rossi, 2023)



Teaching style also influences engagement (McLeod, 2025). The observations indicated that student participation increased when lecturers actively prompted learners. Moreover, experiential learning activities especially those designed with a focus on enhancing female engagement proved to be highly valuable and warrant further exploration. As many of the observations conducted focused on traditional, lecturer-led sessions rather than on extensive experiential learning activities, which were primarily delivered by the researcher. Incorporating a greater number of observations centred on experiential learning would have further strengthened this study.

INFORMAL FOCUS GROUP OF FEMALE STUDENTS

An informal focus group was conducted with 17 female postgraduate Marketing students to explore in-class participation, gender dynamics, and cultural influences on learning experiences. Many participants believed their male peers were more knowledgeable, assuming they held prior marketing degrees. One student said, *"All the boys seemed so confident in class—I was convinced they already had marketing degrees, unlike us girls who were just starting out. It made me hold back from speaking up."* This perception highlighted self-confidence as the primary barrier to participation, alongside cultural influences.

Several students described home environments where fathers or brothers dominated conversations, impacting their confidence in class. Conversely, those raised by strong, career-driven mothers reported greater self-belief. One participant reflected, *"My mum has always been so strong and career-driven—she's my role model. Seeing*

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her succeed made me believe I could too, and it really boosted my confidence to speak up and aim high."

The group emphasised pride in studying in the UK as a step towards independence and the importance of education in addressing barriers. Participants suggested cohort-wide discussions on gender and participation, female-only activities, debate clubs, and public speaking forums as strategies to build confidence in a supportive environment. Overall, the focus group highlighted how cultural and gender-related barriers shape learning experiences and reinforced the importance of designing educational interventions that help female students develop the assertiveness needed to thrive professionally reflecting challenges reported by senior women leaders throughout their careers.

In-depth interview findings

The in-depth interviews with senior women leaders extend these themes over time and across sectors. This study draws on semi-structured interviews with 19 women in senior leadership across sectors like fashion, finance, technology, retail, banking, and academia. The aim was to capture their lived experiences and help develop university strategies for boosting female student participation through experiential learning initiatives that produce work-ready graduates.

The key themes emerging from these interviews are outlined in the following sections.

VOICE DYNAMICS IN THE WORKPLACE

As highlighted in a recent McKinsey (2024) study on women in the workplace, women are 50% more likely than men to be interrupted in professional settings. The study also revealed that women are more frequently spoken over and often do not receive recognition for their contributions, reflecting a persistent voice gap in many workplaces.

All the women interviewed in this research confirmed that they had experienced being interrupted or spoken over in meetings or even silenced at times. Many also reported holding back from contributing unless they felt fully prepared or were in an environment that supported their participation. Quoting one respondent she stated, "I felt completely left out during meetings because nobody asked for my input."

A recurring theme was the critical role of the environment in encouraging women to speak up and share ideas. This aligns with research showing that 87% of students in all-girls' schools felt heard and respected, compared with only 58% in co-educational settings (Fox, 2024). These findings underscore the importance of

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creating inclusive classroom spaces that support equal participation across gender. Both lecturers and universities play a pivotal role in fostering an environment where students feel confident to express their ideas freely. The industry participants in the study consistently emphasized the responsibility of universities in promoting engagement, a skill that is essential for students as they enter the workplace. These accounts reinforce the notion that voice dynamics in the workplace are linked to earlier educational experiences.

THE CONFIDENCE GAP: SELF-IMAGE AND IMPOSTER SYNDROME

All participants reflected that they had become significantly more self-confident, typically after 10+ years of work experience. This raises an important question: how can self-confidence be developed earlier? Here, the role of universities—and how students, particularly women, are taught—becomes crucial.

Several respondents admitted that they often held back in meetings because they did not feel adequately prepared. Imposter syndrome frequently undermined their confidence, preventing active participation. One participant noted, *"In meetings, imposter syndrome kept me silent—I'd shrink back, convinced my ideas weren't as good as the men's, even when they were spot on."*

80% of the participants highlighted the environment as a key factor in participation. Both organisations and universities must focus on creating supportive learning and working environments that enable women to reach their full potential. This benefits organisations directly; companies with greater gender diversity are 25% more likely to achieve above-average profitability (IMD, 2023). The recurring confidence gap underscores the potential for Higher Education to serve as an early intervention point.

BOYS' CLUB AND NETWORKING

Most of the respondents mentioned the "boys' club" and after-hours networking as one of the barriers to career growth as they often felt excluded. One of the respondents stated, "Early in my career in my team, I felt like an outsider due to the "boys' club"—the men always sat together whispering, undermining my designs, and leaving me out of bonding trips like golf, making it clear I didn't belong."

The "boys' club" culture and informal networks can limit access to valuable networking, mentorship, and career opportunities for women. To overcome this, organisations can foster more inclusive networking practices by hosting events during working hours, creating structured mentorship programs, and ensuring di-

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verse representation at all gatherings. Leaders also play a crucial role in challenging exclusionary behaviours and modelling inclusive practices, helping to build a culture where all employees feel welcome and equally able to participate. Discussing and developing awareness around this issue with students prior to entering the job market can be beneficial. These unstructured structures are important to address to help prepare students for real-world organisational settings.

ROLE MODELS IN BUSINESS AND UNIVERSITY

Interviewees emphasised the importance of role models and mentors from both industry and universities to shape students' aspirations and confidence. Several participants highlighted that female lecturers who have held senior positions in industry serve not only as educators but also as powerful role models, bridging the gap between theory and practice demonstrating that success in competitive industries is attainable—particularly for students from underrepresented backgrounds.

Several interviewees felt strongly that a structured mentoring programme developed in partnership between alumni, industry professionals, and academic staff is critical for building confidence, self-efficacy, and providing guidance, particularly for international and underrepresented students.

Participants also highlighted the role of educators in fostering inclusive classroom dynamics, recommending that lecturers actively balance participation across genders and encourage open discussions about participation patterns to raise awareness. Overall, the visibility of women leaders and educators with authentic industry experience was considered vital in inspiring the next generation and reinforcing that diversity and professional success go hand in hand.

EDUCATIONAL SYSTEM GAPS AFFECTING LEARNING

All interviewees reported developing self-confidence and assertiveness later in their careers, typically after around ten years of professional experience, highlighting the need for earlier interventions. Higher education provides an ideal environment to cultivate soft skills, yet employers consistently note a gap in graduates' non-technical abilities. For example, China's soft skills training market is projected to grow at a 57% CAGR, emphasizing the global importance of this area.

Essential skills for educators to prioritise include communication—supported by active class participation—teamwork, adaptability, and leadership. A Times Higher Education (2024) survey found that 83% of businesses consider developing leadership capabilities at all levels crucial. To bridge this gap, educators need proper

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training to integrate soft skills into curricula. Collaboration with industry partners, particularly female role models in academia and business, is vital to provide guidance and support, helping young women avoid years of professional struggle and advance in their careers. The next section touches upon the extent to which students and academics are aware of these participation dynamics.

LIMITED AWARENESS OF IN-CLASS PARTICIPATION

The findings revealed that disparities in class participation are not widely recognised among all stakeholders involved in the study, highlighting a need for greater awareness and attention. Industry leaders expressed surprise at the statistics presented in the McKinsey (2024) report, which indicate that women are 33% more likely than men to be interrupted. This insight prompted many to reflect on their own career experiences, recalling instances in which they had been interrupted or felt compelled to remain silent in various professional contexts.

83% percent of respondents confirmed that, throughout their careers, they had frequently been spoken over during meetings and often felt that they were not "heard." However, several participants noted that this issue also depended on the specific environment and personalities present in the room. Regardless of gender, dominant personalities tended to speak over others. Nonetheless, a lack of meeting etiquette emerged as a recurring theme among the women interviewed.

Several participants also proposed that this topic be addressed with male managers to increase awareness in professional settings. Additionally, the discussions highlighted the importance of physical positioning in both classrooms and meeting rooms, as it significantly influences engagement. Encouraging females to sit at the front of the class was viewed as a simple yet effective strategy to promote active participation. In fact, during the observations which were carried out it was evident that in class seating positions encouraged participation.

One participant suggested that in-class participation could serve as an effective training ground for developing meeting etiquette among both male and female students. Role play sessions around meetings could help address this issue. Furthermore, 60% of respondents recommended that in-class participation should become a structured topic of discussion within the classroom to help raise awareness of the issue among all learners. In class participation provides a safe space for all learners to be able develop and express their ideas freely and without judgement.

The female leaders in the study explained that their confidence to speak up was developed gradually through years of professional experience. All participants agreed that university acts as "launchpad" for reducing this gap and suggested that if greater emphasis had been placed on this issue during their studies, their career

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progression might have occurred earlier. These reflections underscore that awareness itself can be considered a form of experiential learning which can deliberately be embedded in classroom practise.

BARRIERS IDENTIFIED BY THE RESPONDENTS

77% of respondents identified several barriers to participation in the workplace based on their own experiences. Half of the women who took part in the study referred to the existence of a *"boys' club"* culture, activities such as golf outings and after-work drinks were forms of exclusion. These activities often exclude women from informal networking opportunities and limit their access to decision-making circles within the organisation. Three respondents expressed particularly strong feelings of exclusion resulting from these frequent male bonding events.

All participants reported feeling the need to overprepare for meetings to assert their credibility and ensure that their contributions were supported by reliable data. Furthermore, every participant agreed that having more female role models and mentors in the workplace could help to reduce these barriers. Several women also mentioned that they often felt compelled to adopt traditionally male leadership styles to fit in and be taken seriously.

Finally, a recurring theme was the fear of judgment: many participants noted that women's mistakes or unpopular opinions are often judged more harshly than those of men. Anxiety about negative attention, being seen as the "representative" of all women or being labelled as "pushy" were all factors that limited open participation and self-expression. Considering these barriers, the question is how universities can proactively design learning experiences that counteract, rather than encourage and reproduce these patterns.

BRIDGING THE GAP: GIRLS FROM CAMPUS TO BUSINESS

The in-depth interviews confirmed a strong link between in-class participation, engagement, and the development of confidence, communication skills, and empowerment—essential for leadership in today's dynamic marketplace. Respondents believed greater university focus on female engagement could accelerate women's path to leadership, benefiting all stakeholders, especially employers gaining "work-ready" graduates from day one.

Participants urged universities to openly address gender dynamics in classroom participation, involving students, staff, and senior management. They advocated

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targeted programs empowering female students while raising male awareness, preparing all genders to navigate diverse workplaces.

This research triangulated three methods to map these dynamics: 30 hours of observations revealed real-time patterns like male dominance (26 verbal interventions vs. zero from females) and layout-driven boosts to female engagement; an impromptu focus group with female postgraduate Marketing students exposed misconceptions of male peers' superior preparation and confidence; and semi-structured interviews with prominent senior female leaders validated parallels in workplace "boys' clubs" and interruptions. Experiential learning thus emerges as key to bridging the university-to-workplace gap, transforming passive classrooms into true empowerment zones.

EXPERIENTIAL LEARNING IN INCLUSIVE CLASSROOMS

Experiential learning offers a coherent theoretical and practical framework for designing interventions that address classroom participation gaps. Unlike traditional lecture-based teaching, it develops knowledge through direct experience. This section focuses on the experiential learning theories of John Dewey and David A. Kolb as seen in Figure 2 and Figure 3 and explores how their principles can help reduce gender disparities in participation while fostering self-confidence, awareness, and the soft skills needed in today's rapidly evolving labour market.

Kolb's theory proposes a four-stage cyclical process—concrete experience, reflective observation, abstract conceptualisation, and active experimentation—through which learners transform experience into knowledge (McLeod, 2025). This cycle is widely applied in Higher Education to design student-centred learning environments. Concrete experiences include activities such as World Café sessions, student-led conferences, simulations, or role plays. Reflective observation encourages students to make sense of these experiences via debates, journals, peer feedback, or debriefs. Abstract conceptualisation connects experience to theory through concept mapping, strategic proposals, or analysing live industry briefs. Active experimentation then applies ideas in real-world contexts, such as company projects, prototyping, or piloting strategies (Morris, 2020). Kolb also identifies nine experiential learning styles—experiencing, initiating, imagining, reflecting, analysing, thinking, deciding, acting, and balancing—representing how individuals' approach and process learning. This study examines which styles are activated through the implemented classroom activities (Institute for Experiential Learning, 2024).

Dewey's theory extends beyond experience itself, emphasizing democratic, socially interactive learning grounded in real-world problems (Main, 2023). He highlighted critical thinking, collaboration, and active citizenship—principles

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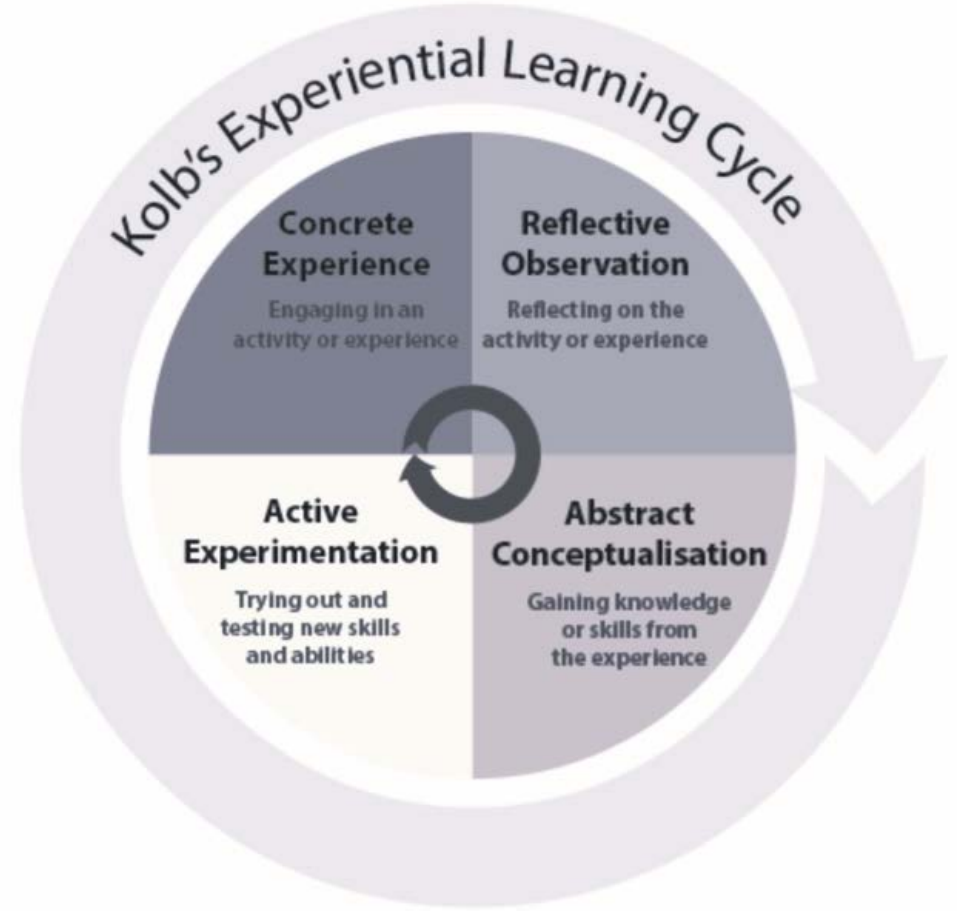
particularly relevant for preparing students for adaptable, cooperative, and socially responsible workplaces.

By placing students at the centre of learning through "learning by doing" (Kolb, 1984), experiential approaches can equip women with the interpersonal and leadership skills needed to accelerate professional empowerment. This research explores several experiential techniques implemented in the classroom to reduce participation gaps and strengthen confidence and communication skills. While not all were formally tested, they were informed by interviews with female leaders, classroom observations, and discussions with colleagues, offering tangible opportunities to foster empowerment and workplace competencies.

Having established the theoretical foundations of Kolb and Dewey, the following subsections illustrate how these principles can be applied through specific classroom activities designed to amplify female voices and promote gender equality.

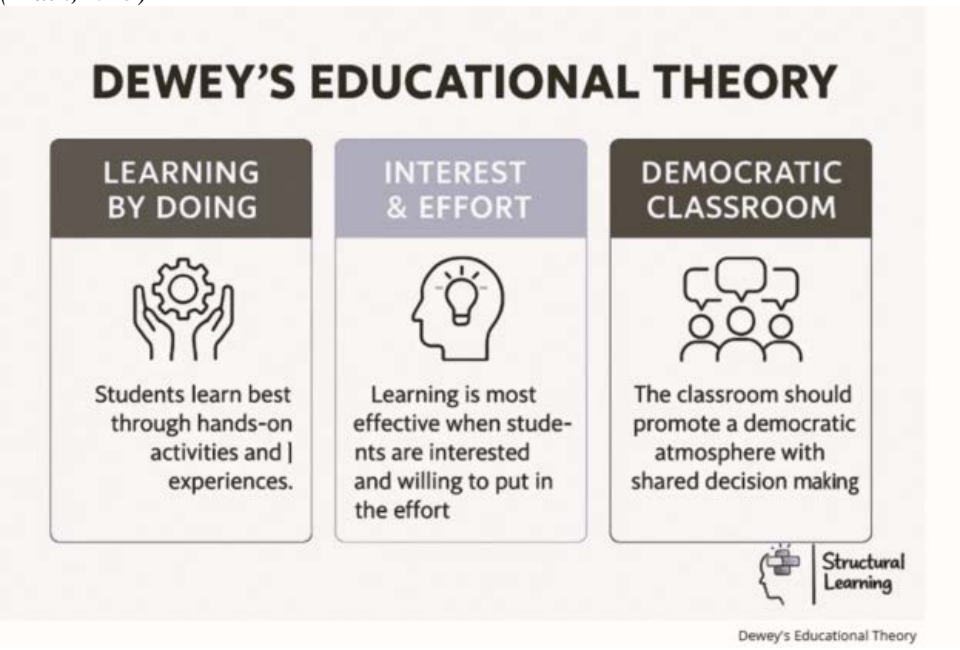
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Figure 2. "Experiential Learning as a source of learning and development" (Skills You Need, 2011)



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Figure 3. John Dewey's educational theory on experiential learning and reflection. (Main,2023)



EXPERIENTIAL ACTIVITIES FOR GENDER EQUALITY

Amplifying Girls' Voices Through Collaboration

The *amplification technique* which became popular during the Obama administration, encourages women in meeting rooms to "echo" and "reinforce" each other's ideas by repeating and crediting them aloud (Crockett, 2016). One of my interviewees mentioned and tested this technique during her MBA programme. This method can also be effectively applied in classroom settings, facilitated by the lecturer. In a learning environment this strategy helps to build solidarity and visibility and reinforces ideas which might not otherwise be heard. It also boosts peer recognition and generates a feedback loop of empowerment. When women support each other through amplification, they develop the self-confidence needed to speak up in male dominated environments. Amplification helps develop both

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individual as well as collaborative agency, fundamental in achieving equality and sustainable business development.

As a study carried out by the University of Missouri in collaboration with UCLA's Higher Education Research Institute graduates from all girls' schools tend to outperform their peers who attended co-ed schools across multiple disciplines (*Education Research Shows Girls' School Graduates Have Clear Edge*, 2018. In all girls' environments young women are at the centre stage. As highlighted in a study by Forbes (2024), 87% of students in all-girls' schools reported feeling heard and that their ideas were respected, compared to 58% of female students in co-educational environments (Fox, 2024).

An important question emerges: could the creation of "girls-only" environments within HE serves as a tool for amplifying girls' voices?

Workshops for Experts and Novices

In the classroom, "experts" in a specific topic are paired with "novices." The experts take on the role of explaining the topic to the novices, and throughout the workshop, each student alternates between being an expert and a novice. This structure fosters peer mentorship while ensuring that everyone must speak and practice active listening. This experiential learning technique promotes confidence building through vicarious learning: novices gain self-assurance by learning from their peers, while experts develop leadership, empathy, and patience through the act of teaching.

The approach creates an inclusive environment where all students can contribute without fear of judgment. It also supports the development of emotional intelligence skills such as active listening, communication, adaptability, and empathy. These are essential competencies for today's diverse workplaces, where collaboration requires flexibility and awareness of others' needs—including peers who may have learning differences and require adapted communication styles. For female students, working in smaller groups can help overcome the challenges of speaking up in larger settings, offering a supportive space to build confidence and find their voice.

World Café

The World Café method transforms the classroom into an open dialogue space, where students are divided into small groups to collectively explore and solve a specific issue. The researcher has implemented multiple World Café sessions focused on the UN Sustainable Development Goals (SDGs). Findings revealed that when the chosen topics resonated personally with female learners, their engagement levels increased significantly. Women often thrive in cooperative learning environments that emphasise soft skills such as empathy, critical thinking, and teamwork. The

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World Café is therefore an excellent experiential learning technique for promoting inclusivity, reflection, and collaborative problem-solving.

Women Guest Speakers

All the women who participated in the study emphasised the importance of having strong role models, noting that representation is a powerful means of empowering women. Universities should therefore consider inviting accomplished women from diverse industries into the classroom. Learners benefit from hearing multiple voices and perspectives, and visible representation can have a profound impact. Listening to women share their experiences of overcoming professional challenges fosters awareness, empathy, and aspiration among students of all genders. Guest speakers also enhance engagement and enrich the overall learning experience (Jablon-Roberts & McCracken, 2022).

Moreover, guest speakers often provide informal mentorship, offering insights on confidence, resilience, and negotiation—topics that formal curricula frequently overlook. Such encounters can inspire long-term professional ambition and create pathways for networking, mentoring, and shadowing opportunities (Jablon-Roberts & McCracken, 2022).

Empowering Classroom Communication and Speaking

The World Economic Forum Future Skills Report (2025) highlights leadership and social influence as among the most important skills for the future. Developing students' public speaking through structured, experiential activities is therefore essential, as it cultivates confidence, assertiveness, and communication—core competencies for professional success. Initiatives such as debates, negotiation clubs, provide valuable opportunities to practise these skills.

Universities can strengthen these outcomes by partnering with organisations like Debate Mate and Toastmasters to embed public speaking into the curriculum. Structured debate formats help female students assert themselves and articulate viewpoints, while negotiation clubs offer experiential practice in workplace challenges, including salary discussions and collaborative decision-making. Public speaking activities can also be incorporated into summative assessments to formally recognise and reinforce these competencies.

Several women interviewed for this study reported attending Toastmasters and Debate Mate independently and described the experiences as highly beneficial. Integrating such activities into university curricula would better prepare students for the workplace, support career progression, and contribute to broader organisational growth.

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Student-Led Conferences

Empowering and encouraging students to organise and lead conferences within academic settings transforms them from knowledge receivers into knowledge producers. Such initiatives provide valuable hands-on experience in key areas including project management, event coordination, and public speaking, thereby enhancing both professional competence and confidence.

These experiences also serve to challenge traditional gender stereotypes surrounding leadership in academic and corporate environments. By positioning female students as hosts, moderators, and keynote speakers, universities actively contribute to reshaping gender dynamics, fostering visibility, empowerment, and self-efficacy. This experiential approach not only enriches learning but also equips students—particularly women—with the confidence and skills required to thrive in professional and leadership contexts.

Online Discussion Forums

All respondents in the study emphasised the importance of raising awareness about classroom participation and gender dynamics. Several participants suggested creating safe spaces—separate forums for boys and girls—to foster freedom of expression and enable open discussion on sensitive topics such as gender equality.

The establishment of female online forums was also proposed to encourage women to express themselves freely while practising and developing essential leadership and communication skills. Furthermore, respondents recommended that HE institutions engage in active dialogue with academic staff to identify and implement strategies that address gender bias and position educators as guides and role models in fostering inclusive learning environments.

While empowering women is fundamental, participants also highlighted the importance of engaging boys in these conversations. Dedicated male forums can serve as platforms to promote self-awareness, challenge stereotypes, and inspire behavioural change both within and beyond the classroom. Ensuring that boys understand issues of equity and inclusion contributes to the development of respectful and collaborative workplace behaviours in the future.

Table 1 below summarises how the experiential learning activities discussed in this study align with the Kolb's learning styles and Dewey's learning principles, illustrating how these approaches can be integrated into the classroom to better prepare students from all backgrounds for the modern-day workplace.

Taken together these activities form a toolkit that can be used in experiential learning frameworks and equity outcomes.

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Table 1. Aligning experiential learning activities with Kolb & Dewey's Learning Framework

Activity	Kolb Learning Styles	Dewey's Experiential Learning Principles
Amplification of Voice	Experiencing, Reflecting, Imagining (Institute for Experiential Learning, 2024).	Democratic participation and social learning. Students strengthen one another's voices through dialogue and shared experience (Main, 2023).
Experts and Novices Workshops	Acting, Thinking, Reflecting (Institute for Experiential Learning, 2024).	Learning by doing and social interaction. Teaching peers deepens understanding through explanation and collaboration (Main, 2023).
World Café	Imagining, Experiencing, Reflecting (Institute for Experiential Learning, 2024).	Collaborative inquiry and reflective dialogue through collective discussion of real-world issues (Main, 2023).
Women Guest Speakers	Experiencing, Reflecting, Imagining (Institute for Experiential Learning, 2024).	Continuity of experience. Guest speakers connect theory with authentic professional perspectives.
Public Speaking / Debates / Negotiation Clubs	Acting, Deciding, Thinking (Institute for Experiential Learning, 2024).	Democratic dialogue and experiential participation that develops critical thinking and civic engagement (Main, 2023).
Student-Led Conferences	Initiating, Acting, Deciding (Institute for Experiential Learning, 2024).	Learning by doing and student agency through organising and leading learning activities (Main, 2023).
Online Discussion Forums	Reflecting, Imagining, Analysing (Institute for Experiential Learning, 2024).	Reflective thinking and inclusive participation through structured online dialogue (Main, 2023).

Table 2. Building Confidence in the Classroom through experiential learning activities

Activity	How It Builds Confidence	Suggested Impact
Experts-Novices Rotations	Peer teaching fosters leadership: novices learn vicariously without spotlight pressure.	Reduces "imposter syndrome" for minoritized women via role-switching empathy.
World Café	Rotating SDG discussions enable voice amplification in safe clusters before full-class share.	Women engage more cooperatively; cultural silencing (Mirza 2018) eases in resonant topics.
Gender-Specific Forums	Online/all-women debates simulate "amplification" (your technique), practicing assertiveness.	Builds agency against boys' club dynamics; 87% felt heard in girls-only settings (Fox 2024).
Role-Play Meetings	Simulate interruptions with debriefs; marginalized women direct scenarios.	Pragmatic experimentation counters McKinsey interruption patterns (2024).
Student-Led Conferences	Organizing positions women as hosts, challenging stereotypes through ownership.	Develops public speaking per WEF (2025); peer recognition loops empowerment.

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The above tables provide a framework on the links between specific experiential learning activities and Kolb's and Dewey theories and how these activities can have a positive impact on student's self-confidence and sense of empowerment.

CONCLUSION

This chapter has explored the intersectional factors that shape gender participation patterns in Higher Education classrooms in the UK, considering the evolving demographics of contemporary student cohorts. Despite increasing female participation in Higher Education, gaps in classroom participation remain evident and often continue into professional environments.

Drawing on ethnographic classroom observations, an exploratory focus group conducted with female postgraduate students, and in-depth interviews with senior female leaders across a range of industries, this research demonstrates that classroom participation is not merely a pedagogical activity. Rather, it plays a crucial role in empowerment, idea sharing, innovation, and long-term career progression.

The findings reveal that participation gaps frequently extend into professional settings, where women may feel less comfortable voicing their ideas despite often being highly prepared and achieving strong academic outcomes compared with their male counterparts. Many of the senior women interviewed described developing the confidence and assertiveness required to speak up only after many years of professional experience. This delay suggests that Higher Education institutions have an important role and responsibility in addressing these dynamics early in students' educational journeys.

Experiential learning approaches can play a powerful role in reducing these participation gaps. Techniques discussed in this chapter—including World Café discussions, peer mentoring workshops, structured debates, and student-led conferences—can help create classroom environments that mirror real-world professional contexts. Such approaches provide students with opportunities to practise communication, leadership, and collaborative skills that will benefit them when entering the workplace. These strategies are also aligned with established experiential learning theories, particularly those of Kolb and Dewey, who emphasise the importance of learning through interaction, reflection, and experience.

The study further highlights that classroom participation is influenced by multiple interconnected factors, including classroom design, cultural background, peer dynamics, gender composition, and lecturer interaction. These findings reinforce the importance of adopting intersectional and inclusive pedagogical strategies that recognise the complex power dynamics present within increasingly international and diverse classrooms.

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Higher Education institutions therefore need to ensure that they design learning environments that actively amplify the voices of female students. Supporting female participation contributes not only to individual empowerment but also to broader social and economic progress. Encouraging women to speak, lead, and participate during their educational experiences helps challenge the authority gap, strengthens organisational performance, and supports global priorities such as the United Nations Sustainable Development Goals—particularly SDG 4 (Quality Education), SDG 5 (Gender Equality), and SDG 8 (Decent Work and Economic Growth).When female students develop the confidence to express ideas, challenge assumptions, and lead discussions, they carry these capabilities into the workplace, into leadership roles, and into society more broadly. The following call to action synthesis these implications into concrete implications into concrete responsibilities for institutions and industry partners.

Call to Action: Universities and Industry for Women's Voices

The findings of this chapter show that classroom participation gaps often persist into the workplace, but these patterns are not fixed—they are shaped by intersecting social, cultural, and institutional factors. Higher Education institutions play a critical role in addressing these gaps by preparing students to become confident leaders, innovators, and decision-makers.

If gendered participation patterns begin in education and continue professionally, universities must act as catalysts for change. Educators, policymakers, and institutional leaders should implement strategies that amplify female voices, such as staff training on participation disparities, inclusive classroom design, and experiential teaching approaches that build confidence, assertiveness, and professional communication skills.

Collaboration with industry is also vital. Partnerships can provide insight into workplace expectations and create meaningful learning opportunities, including mentoring, live projects, and student-led initiatives like conferences and workshops. Interviews conducted for this research further highlight the importance of female role models; universities should engage women leaders to mentor students and share their professional journeys, inspiring confidence and active participation.

Promoting gender equality requires the inclusion of male students and staff. Universities should foster safe spaces to discuss participation, unconscious bias, and inclusive leadership collectively. Pedagogical interventions must adopt an intersectional approach, considering cultural background, classroom dynamics, and institutional practices. Supporting educators through training enables them to cultivate truly inclusive learning environments.

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Chapter 5
A Narrative Inquiry Into the Enterprise Experiences of an International MBA Student in the UK
"Entrepreneurship … No, It's Not for Me!"

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EXECUTIVE SUMMARY

This chapter foregrounds the experiences of Alex (pseudonym), an MBA student from India, and the enterprise activity she undertook during her year-long postgraduate programme. Her story offers insights into the strengths and potential challenges posed by the integration of experiential pedagogy into a "pre-experience" MBA course designed for international learners with limited prior executive management experience. It also contributes constructively and ethically to a re-imagined approach to research with, rather than about, international students in HE, challenging pervasive narratives of deficiency and drawing attention instead towards the complexities of individual student lives. A narrative account of Alex's experiences forms the centre of this chapter, and it is hoped that her story will resonate with the reader, prompting personal and/or professional reflections. Presenting storied data in this holistic way also serves to illustrate the value of Narrative Inquiry as an appropriate methodology for future research into experiential learning and student experience.

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NARRATIVE BEGINNINGS

"It is in thinking with experience that we understand the told and lived stories of people, and of people in relation." (Clandinin, Caine and Lessard, 2022, p.14)

At that moment, I knew nothing about the path you had travelled. I only saw a capable and articulate woman passionately fronting a team project that might make a positive difference to the world. You have since told me about the challenges you had to overcome to reach the finals of that competition, and the difficult decisions you had to make. Watching you pitching your ideas to the assembled audience that morning, I saw enthusiasm, commitment and competence. My most recent interactions with international students as an academic English tutor on your programme had been somewhat perplexing – engagement and attendance were consistently low across my classes, and I was unsure what I'd encounter as member of the judging panel at this competition. In truth, I was completely blown away by the dedication, vision and creativity of all the finalists and their projects, it was a different story altogether. I remain grateful to you for agreeing to share your experiences of the MBA and the enterprise scheme with me, and for trying to make sense of what it all meant to you, now that you were coming to the end of your studies. (Extract from chapter author's research journal, January 2023)

As chronicled above, I first came into contact with Alex at the preliminary stage of an employability and entrepreneurship competition she had been participating in alongside her studies at the UK business school where I work. I had been asked by a colleague to join the panel of judges that would help select a team to put through to the national finals of this competition, "Start-Up", to represent the university. This employability and entrepreneurship experience aimed at students in HE and FE had recently been introduced to MBA learners at my university. It is organised by Young Enterprise, a UK-based charity that aims to equip young people with confidence, financial skills and enhanced employability (Young Enterprise, 2025a). At that time, I was working in the school as a Senior Lecturer in Academic English for Business (AEB) supporting postgraduate international students with their academic and language skills via large, predominantly online, tutorials. Although I had not been directly involved with supporting Alex's MBA cohort, I jumped at the opportunity to meet some of these students in person, and to learn more about the experiential learning activity so many of them were involved in.

The virtual classrooms I usually taught in offered limited opportunity for me to interact with individual students, who for the most part remained anonymous, hidden behind closed cameras and muted microphones. Like so many English for Academic Purposes (EAP) practitioners, the implicit focus of my role was to minimise perceived student deficits such as poor grasp of written English, limited evidence of criticality and rising levels of plagiarism, accidental or otherwise, as reported by programme

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leaders. The pedagogic literature around supporting international students in UK HEIs painted a similarly bleak picture, highlighting challenges and concerns (e.g. Sawir, 2005 and Igwe et al., 2020) rather than offering positive examples of learner participation, achievement or intercultural learning. I had recently embarked on a doctoral inquiry which aimed to explore better, more effective ways of supporting this heterogenous group with their postgraduate studies by taking the time to listen to individual experiences, to explore their aspirations, motivations and perspectives. Although I did not know exactly what to expect at the Young Enterprise Start-Up finals, I hoped I might encounter a student or two, willing to share their stories with me for this project. To my delight, Alex agreed enthusiastically to an initial conversation with me, and our research relationship developed from there.

THE RESEARCH PUZZLE

Even though international students currently account for just over half of all UK postgraduates (HESA, 2025a), insufficient attention has been paid to their diverse needs or input to the classroom (Mantai and Huber, 2021), or to pedagogical practices that might be best suited to support their development (Lomer and Mittelmeier, 2023) . The HEI where I work boasts the third highest number (and percentage, 55%) of overseas students in the UK, over half of whom are enrolled on taught postgraduate business programmes in my school. There is a pressing need therefore for better understandings of this large population of learners, and the contributions they make to institutional life, and to the wider community. Subtle narratives of deficiency pervade much of the existing scholarly output in this area though, emphasising linguistic difficulties (e.g. Igwe et al., 2020) or problems with adapting to British pedagogic practices (Lomer and Mittelmeier, 2023) at the expense of exploring more positive areas of influence and attainment. Moreover, there is a dearth of research being co-created *with* international students (Mittelmeier et al., 2023) which could re-focus scholarly attention onto issues of more relevance and pertinence to students themselves. Having witnessed the passion, creativity and eloquence of those MBA students competing in the Young Enterprise Start-Up finals, I was curious to see whether shifting exploration away from "failures" onto episodes of "goodness" (Lawrence-Lightfoot, 2005) in the form of co-constructed stories, might draw attention away from this prevalent discourse of inadequacy and towards the achievements, successes and realities of individual student lives.

At the same time, I was interested in exploring what participation in this entrepreneurial experience might mean to those students who had voluntarily chosen to commit their time to it, and what insights, pedagogical or otherwise, might be gleaned from their reflections. Young Enterprise are a UK charity focused on financial and

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enterprise education. Through their schemes they encourage young people to "gain practical knowledge, find out what they're capable of and discover the self-belief to take the next step" (Young Enterprise, 2025b). The MBA makes claims, "to transform the way you think and work" (University of Hertfordshire, 2025). Within an educational climate where teaching and assessment practices are so often shaped by the need to demonstrate measurable outcomes (Vos and Page, 2020), the integration of Young Enterprise Start-Up, a non-credit bearing activity, into the MBA programme appeared instead to offer a more holistic approach to postgraduate business education. In his compelling manifesto for a reconceptualised HE curriculum and pedagogy, Barnett (2009, p. 439) contends that ontology and values should be foregrounded. He posits that for students to be able to negotiate a contemporary, unpredictable "world of supercomplexity" they must be supported to develop enduring qualities such as openness, integrity and perseverance, and encouraged to "cultivate wonder" (Spinosa et al., 2017). Rather than simply providing a "encounter with knowledge," Barnett (2009, p. 438) argues that HEIs should facilitate and scaffold for students a supportive, relational and enterprising process of "coming to know". I wondered whether experienced in tandem, this Young Enterprise – MBA partnership could rise to this challenge, and what the impact might be.

NARRATIVE INQUIRY

Narrative Inquiry offers a methodology for studying lived experience and is therefore a good fit for this research puzzle. Story is the phenomenon being explored as well as the method (Connelly and Clandinin, 2000) so attending to the storied construction of data (the plot, the characters, the settings) enables narrative researchers to explore how and why events took place a certain way, and how and why participants acted as they did. Analysing and interpreting how a storyteller chooses to present each of these aspects to the listener, either consciously or subconsciously, provides an opportunity to better understand the story as the teller sees it, the sense they are trying to make of their own life, or "narrative knowledge" (Polkinghorne, 1988). It is an inherently relational methodology, so rather than seeking to present a version, or even multiple versions of an experience exactly "as it was", the approach aims instead to create some kind of resonance with the reader or listener. A co-construction of reality is established first between storyteller and researcher, and then between storyteller, researcher and reader. In keeping with this approach, the findings presented in this chapter are intended to be generative rather than generalisable. Alex's story has been constructed through a lengthy process of analysis, interpretation, and dialogue. Although key personal, practical and sociopolitical

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understandings will be elucidated towards the end, no further interpretation will be offered, leaving space for you, the reader, to draw your own conclusions.

> *"I tell you a researcher's story, you tell me what you heard and what it meant to you. I hadn't thought of it this way, am transformed in some important way and tell the story differently the next time." (Connelly and Clandinin, 1990, p. 9)*

THE NARRATIVE TURN

Narrative Inquiry emerged as an approach to educational research in the 1990's through the influential work of Clandinin and Connelly (1996, 1998 ; Connelly and Clandinin,1988, 1990, 1999), based on their observations that what is known in education comes from teachers telling each other stories of experience. Their work formed part of the broader "narrative turn" of the late twentieth century which challenged positivist approaches to understanding the social world or human experiences, highlighting their incompatibility with the complex, relational and nuanced realities of everyday existence (Pinnegar & Daynes, 2006). At the heart of Narrative Inquiry is the epistemological premise that narrative is an "organizing principle" of human experience (Sarbin, 1986). This is the idea that human beings make sense of their everyday encounters with the physical and social world through the application of story structures (Polkinghorne, 1988), forging connections between things and drawing meaning from this. Bruner (1986) helpfully differentiates this *narrative* mode of thinking from a *paradigmatic* one which involves "constructions generated by logical and scientific procedures" (Bruner, 1991, p. 4) and which is concerned with classification, categorisation and a search for essential truth. Rather than searching for an absolute, empirically verifiable reality, narrative thinking generates "personal, practical knowledge" (Clandinin and Connelly, 2000, p. 3) which is constantly evolving or "in the midst" as one experience paves the way another. Narrative mode research therefore seeks to understand the meaning or significance of events, and to comprehend "the vicissitudes of human intentions" (Bruner, 1986, p. 16), the unpredictable realities of everyday existence.

Experiential Knowing

Narrative Inquiry as developed by Clandinin and Connelly is underpinned by Dewey's (1938) pragmatic philosophy of experience, which relies on a relationship between two inseparable and intersecting criteria of *continuity* and *interaction*. Experience is an ongoing (*continuous*) transaction between an individual's thoughts and feelings, and the personal, social and physical environment they find themselves *interacting* with (Clandinin and Rosiek, 2007). A person's understanding and sub-

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sequent representation of the world around them is therefore selective, subjective and context dependent. "What you see (and hear, feel, think, love, taste, despise, fear etc.) is what you get. That is all we ultimately have in which to ground our understanding" (Clandinin and Rosiek, 2007, p. 41). An exploration of individual student experience therefore calls for a research plan that respects these conditions of continuity and interaction, and acknowledges both the value and the situated, subjective nature of experiential knowledge. Narrative Inquiry, in which story is recognised as a "portal through which a person enters the world and by which their experience of the world is interpreted and made personally meaningful" (Clandinin et al., 2007, p. 22) offers such an strategy.

Narrative Analysis

The form of narrative analysis I adopted for this study, and will explore presently, is influenced by Clandinin and Connelly's (2000) three- dimensional narrative space. It embraces Bruner's narrative mode of knowing and draws on Dewey's conditions of *continuity* and *interaction,* with the additional consideration of *place*. Many different styles of scholarly research involving narratives have evolved since the 1980's though, not all of them adopting this holistic approach to analysis. Polkinghorne (1995) usefully categorises them into two broad types: "analysis of narratives" and "narrative analysis". The first relates to research which involves identifying and collecting narratives as data, then systematically analysing their component parts to extract themes and/or infer meaning. Examining narratives in this way adopts Bruner's paradigmatic mode of reasoning and tends to treat data as *synchronic* rather than *diachronic*. This means that individual elements of a story are considered devoid of temporal context or the sequential understanding necessary to address the impact or meaning of the whole story. By contrast, the second category, the "narrative analysis" embraced by Clandinin and Connelly, operates using Bruner's narrative cognition to configure data into a "coherent whole" (Polkinghorne, 1995, p. 5). This kind of analysis pays attention to what Dewey (1934) identifies as the aesthetic qualities of the participants' narratively constructed lives, typically through emplotting the data - arranging events, actions, occurrences into a temporally organised whole using a thematic thread (the plot) to make sense of them.

In addition to temporality, narrative analysis must attend to the spatial, personal and social dimensions of a person's narrative in order to understand its overall significance. Clandinin and Connelly (2000) refer to these *commonplaces* (dimensions) as *temporality*, *sociality* and *place* and they argue that researchers need to direct their attention to all three of these throughout their inquiries. This provides a structure for narrative data collection, analysis and representation, and respects Dewey's narrative notion of experience as always evolving, always in relation and

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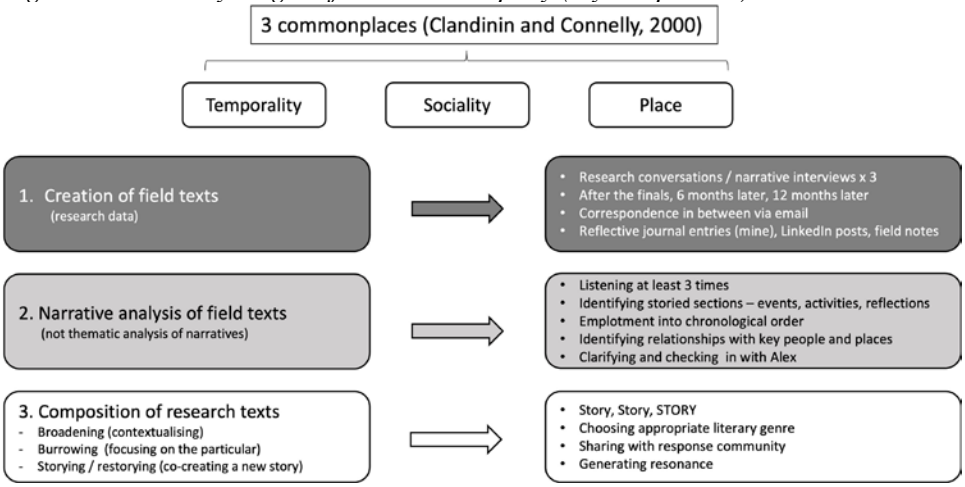
always situated in time and space. *Temporality* prompts a researcher to consider the broader historical context within which the narrated event or experience takes place, and the possible connections between the past, present and projected future. For the present study this involves exploring how Alex's MBA and Young Enterprise Start-Up experience might link to her previous employment and education, as well as to her aspirations for a future career. *Sociality* invites an exploration of the personal and social conditions of the participant (as well as the inquirer, reflexively) and maintains a balance between the inner world of hopes, desires and thoughts, and the surrounding social environment that forms an individual's context (Clandinin and Rosiek, 2007). It also draws attention to the relationship between participant and researcher and prompts consideration of power dynamics and their potential impact on the co-construction of stories. As a researcher-practitioner working within my own professional context, I was conscious of what Alex may or may not feel comfortable sharing with me. *Place* foregrounds the specific spaces and physical locations where the inquiry and the recollected events occur and respects the role these might play in narrative understanding. At each stage of this inquiry, these commonplaces have grounded me within a three-dimensional narrative space, shaping and structing my analysis alongside Alex.

THE ANALYTICAL PROCESS

Although the philosophical principles of Narrative Inquiry are well documented and discussed, narrative theorists often appear more comfortable illustrating what they do with stories from the field rather than describing their approach in more systematic ways (e.g. Huber et al., 2013; Caine et al., 2022). There is a common feeling that researchers need time and experience to work their way into Narrative Inquiry (Connelly and Clandinin, 1990) and an acknowledgement that this can be a frustrating process. Embracing this uncertainty, I created and iteratively refined a framework for my study based around Clandinin and Connelly's (2000) three key stages of Narrative Inquiry (Figure 1). This process broadly involves collecting *field texts* (the term narrative inquirers use instead of *data* to signify its intersubjectivity), analysing them, re-storying them, then creating research texts in collaboration with storytelling participants. Each participant was treated as a separate and unique "case" to explore, and Alex's experiences were the first that I re-storied into a narrative account.

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Figure 1. Three key stages of Narrative Inquiry (my adaptation)



About a month after the Young Enterprise Start-Up finals, Alex and I met up on campus for a loosely structured research conversation lasting around 45 minutes during which she began to share her experiences of the MBA and the Young Enterprise Start-Up competition with me. Narrative interviewing "necessitates following participants down their trails" (Riessman, 2008, p. 24) and our time together generated reflections on a myriad of events, activities and relationships of significance to Alex. We met up again six months later, then 12 months later, for further research conversations to revisit her postgraduate studies and extra-curricular activities in light of new developments in her personal and professional life, and her evolving circumstances. These were held online to accommodate her busy schedule and how far away she now lived from the university's campus. *Field texts* included audiovisual recordings and AI-generated transcripts (using Otter AI, 2025) of our three conversations, my field notes and reflective journal entries, posts from Alex's LinkedIn profile that she shared with me, and some email correspondence from in between our scheduled meetings.

The next step was to shape these field texts, iteratively, into research texts through the key analytic tools of *broadening* (to explore wider contextual influences and interactions), *burrowing* (into the specific intentions and actions of each participant) and *re-storying* (into a narrative account) that Clandinin and Connelly (2000) view as a central to narrative analysis. Listening purposefully to (as well as re-reading transcriptions of) each of our research conversations several times enabled me to attend to the data in stages. Although the listening guide proposed by Gilligan (2015) for qualitative analysis was too lengthy and prescriptive for this inquiry, I

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adapted their framework to incorporate several "listening / reading" phases, each one addressing a different narrative commonplace (temporality, sociality, space).

The first listening resulted in 'tidying up' the transcripts - recording any pauses, tone changes or non-verbal cues that might offer deeper insights at a later stage. I noted down any emergent themes, or aspects that might need further clarification, and listened for connections between the various incidents and ideas that had been discussed. The second listening involved identifying short, storied sections of dialogue – accounts of distinct events, activities or reflections that could be rearranged sequentially (emplotted) into a timeline, whilst retaining the situated nature of Alex's experiences in her own words. The third listening attended to sociality and place, examining Alex's relationship with other characters (including me) and with the locations she interacted with at various points in her story. The significance of each of these characters and locations was analysed by exploring her attitudes and feelings towards them (*burrowing*), and through the addition of background or contextual information that might *broaden* understanding of these relationships. These interpretations were carefully documented and cross referenced in tabular form for easy access and review after each research conversation. After each listening, and at every stage in the analytical process, I wrote entries into my field journal reflecting on my own thoughts and responses to Alex's accounts, as well as the relational ethics of our relationship, our respective roles and the need for her voice to remain at the front and centre of any narrative we co-constructed. Ongoing reflexive inquiry into my own experiences was critical for me as a narrative researcher working within an inherently subjective, situated and relational methodology (Clandinin and Caine, 2013) .

Alex's story, as represented below, took form over a period of several months through an immersive and iterative process of bringing together the emplotted story sections, the tabulated notes, my reflections and other field texts, within the three-dimensional narrative inquiry space. As I moved in and out of the data, *burrowing* and *broadening*, I found Barkhuizen's (2016) three levels of "story" (immediate context), "Story" (organisational or local context) and "STORY" (broader governmental, socioeconomic context) a helpful framework for weaving the interpretative findings together in an evocative, congruent and holistic way.

Trustworthiness

Huberman (1995 in Webster and Mertova, 2007, p. 90) proposes the criteria of "access, honesty, verisimilitude, authenticity, familiarity and transferability" as appropriate alternatives to the concepts of validity and reliability for narrative research. Along with the twelve qualitative touchstones for Narrative Inquiry set out by Clandinin and Caine (2013), these methodological and relational commitments

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helped me to navigate the research process and to ensure the trustworthiness of my research findings. Throughout the study I consulted Alex to negotiate meaning and verify accuracy, and I sought her feedback on interim drafts of the narrative account before it was finalised, checking she felt comfortable with the reflection of her stories in the text. This prompted welcome dialogue and although she expressed overall satisfaction with the representation, further adjustments were made. I also invited comment and input on the plausibility and aesthetic quality of the final text from trusted colleagues working within my professional context, and from members of the *relational response community* I am part of. This is a small group of narrative inquirers from different disciplines and geographical contexts who meet online every couple of months to share ideas and discuss our writing. Relational response communities are considered to be a critical aspect of narrative inquiry and form the ninth touchstone (Clandinin and Caine, 2013), enriching analysis, enhancing accountability and contributing to the evolution of new qualitative criteria (Caine et al., 2022). Through participant checking, peer review, and "attending with wide-awakeness" (Clandinin et al., 2018, p. 59) to my *own* experiences of the research as well as Alex's, I have endeavoured to generate an honest, ethically responsible and credible narrative account that invites curiosity and prompts reader reflection.

ALEX'S STORY

Prologue

In September 2022, in the immediate aftermath of Covid-19, 25-year-old Alex stepped foot for the first time onto the leafy campus of a post-92 university not far from London. Accompanied by her best friend Carla and the trusty electric keyboard she had carried with her all the way from Mumbai, she entered the shared apartment she would call home for the next 12 months, excited to settle into her new environment and impatient to begin this exciting new chapter. The following morning the two women would relinquish their identities as IT professionals and become students again, this time postgraduates on the MBA programme they had travelled overseas to undertake.

Choosing the MBA

The friends had met some six years earlier whilst studying for their bachelor's degrees at a university near their family homes on the west coast of India. Alex had aced her course in computer engineering before joining a global technology solutions company as a quality assurance data tester, and Carla had accepted an entry-level

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position in a similar field. The previous three years had been challenging ones for both women and they longed to escape the isolation and exhaustion of working remotely for hierarchical organisations.

"During Covid they would call at ungodly hours, just too much pressure. So like I did not have a good work life balance there. I used to feel there that they think the more you work, the better you are as a person. You didn't get to mingle with the others or talk much either. So it was then that we were discussing going abroad and we thought like, why not? Even in our undergraduate time we both had an ambition to go abroad and have a career of our own rather than settling in India, because we had seen our cousins who were working at that point and struggling."

Whilst working for the technology company, Alex had always made a point of trying to automate processes so that repetitive tasks were eliminated. Her managers had started to notice these small-scale innovations and suggested that she apply for an MBA rather than an IT-related masters, observing she had the skills and resourceful outlook needed for leadership roles. Although this degree appealed to her, she had always imagined her future self in a 9-5 role, rising through the ranks of a corporate structure. She had never really considered enterprise or entrepreneurship as a possibility. And yet, for over a decade she had also been running her own small-scale music business alongside her day job, offering online piano and keyboard tuition to pupils of all ages.

"To be honest, I never thought that enterprise or entrepreneurship is for all. Like, I used to always think that it is only limited to some people who have family businesses, or who have extra money to invest, so not for middle class people... Like my mum is a housewife and my dad used to work in service industry. This is normal. In India it's always like, if you want to grow higher fast, you end up know you, cheating or some things you are not proud of. So, I thought that entrepreneurs, to be successful you have to do that. So, I was like no, it's not for me…"

Moving to the UK and participating in an enterprise competition alongside her MBA studies appeared to shift that outlook:

"But then it's not always that. You can be the change you want to see right? Yeah, trying to provide positive change, why not start through that? It can be in anyway you like. You can either volunteer or be an entrepreneur, but in whichever aspect you can, try to bring about positive change."

Starting Start Up

Young Enterprise Start-Up was a 10-month long voluntary project run by the university in conjunction with an external organisation, that launched at the start of the MBA and culminated in a Dragon's Den style competition. Every student was

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encouraged to participate and was randomly allocated to a "company" with 14 or so others, and assigned a local entrepreneurial mentor to help them develop and run a business or social enterprise. Realising that this opportunity might ultimately help her to find work and make connections, Alex immediately embraced the challenge and threw herself into the project, looking for a worthwhile idea to pursue. Before long though, her teammates, like so many other MBA students stopped attending meetings, unable to see the benefit of adding another stressor into an already demanding mix of studies and necessary part-time employment. Although disappointed by their comparative lack of enthusiasm, Alex completely understood the financial realities of being an international student - the high costs of living and commuting, the course fees, the student loan repayments, the burden of responsibility for relatives back home, and she bore no judgment. Although she juggled similar concerns, which at times felt somewhat overwhelming, she was grateful for her own circumstances which afforded her more flexibility and scope to pursue other interests.

Three years' worth of savings, a partial loan from her parents and an additional credit agreement meant that she could survive on the income from only a few hours work a week and could therefore pursue other interests. A long commute from home to university in India had precluded extracurricular activities during her undergraduate degree and she was therefore determined to join societies, network and learn new skills whilst in the UK. Her shifts as an on-campus kitchen porter, and her student ambassador work, were sufficiently flexible to allow her to attend Wednesday afternoon Start-Up project meetings, a luxury many of her classmates did not have. For the majority of students this mid-week break from lectures provided a crucial opportunity for paid work, to take advantage of their 20 permitted hours of employment. For Alex, it was an important time to explore new avenues. The Catholic society offered her community, familiarity and new ways to express her faith through music and prayer, and the Enactus society introduced her to the SDGs (sustainable development goals), to likeminded socially conscious students and to networking events at multinational companies. Curiosity and the promise of free pizza had drawn her to the society's launch event with no idea how pivotal this group would be to the development of her Start-Up project.

Finding a focus

Alex was inspired by the sustainability focus of Enactus, and encouraged by Tom, her assigned Start-Up mentor, to identify avenues for meaningful impact in the world around her. Her first thought had been to investigate redistributing the excess food left over at the end of her catering shifts to the local homeless population. Rather than watch it all go to waste, she would often bring surplus food home for her and Carla to eat for their dinner, and she had witnessed similar food

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reallocation schemes in action back in Mumbai. Her idea was quickly thwarted by "red tape" however, and the realisation that the UK's comparatively stringent health and safety regulations would likely prove prohibitive. Combatting unnecessary waste remained an important focus for Alex though, and, noticing how many of her flatmates regularly consumed bottled water and threw away the plastic without recycling it, she was motivated to address this issue. The project involved collecting used plastic bottles on campus, converting them into fabric via a third party, manufacturing university-branded sports apparel, then selling it to students in campus outlets. Alex loved the idea of creating a circular economy within the university and, with Tom's support, she led what remained of her Start-Up team to develop a project pitch and presentation which won at university level and led them to the national finals of this enterprise competition.

Although her project did not win any awards at the national event and the original team disbanded shortly after, the thrill of participating in the finals and the positive feedback that had been received, convinced Alex to continue working on the project along with Carla and another Enactus friend. Together they went on to win a project incubator of £200, mentorship from a global insurance firm, and a place in the final eight of another national entrepreneurship challenge. In spite of the many successes that the project achieved, Alex couldn't help feeling frustrated that this investment had not been available to her team earlier on in the Start-Up competition process because it might have levelled the playing field at the national finals.

"We couldn't go past the ideation stage like the other teams because we didn't have funds. As international students we are living paycheck to paycheck and we ourselves don't have any extra money to invest into anything."

Identifying Impact

Alongside working on the project, Alex continued to manage her academic assignments, part-time work, volunteering at the local church and running her weekly online music classes. She finished in the top ten of her class on a couple of modules, eventually earning her an overall distinction and a Dean's Award for Enterprise Activity. She attributed some of this academic success to her involvement in the enterprise competition where she was starting to put into practice a lot of the theoretical concepts she was learning in the classroom.

"Initially, I used to think, OK, what is Operations Management? What is Strategic Marketing? There were the names of the MBA modules. These terms were too big and fancy for me. When they actually started, I realised, OK, this is something which we already do [in Start-Up], this is just the name of it!"

In spite of her enthusiasm and belief in the value of everything she was doing though, life was not always easy for Alex.

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"There were times when I used to feel very low being away from my family. There were times when I was so exhausted, like I used to think is it necessary to take this extra tension, I mean extra activities. Is it necessary? But then I thought, this will help me connect. Because as an international student I don't know much about how UK work culture is here and this is a way to start the conversation."

Eventually, exactly as she had hoped, her enthusiasm for the enterprise project and her ability to articulate the opportunities, business acumen and insights this experience had provided her with, contributed to her securing a graduate management job in a global telecoms company. After finishing their MBA studies, Alex and Carla had immediately relocated to West London and embarked upon their biggest challenge yet – finding employment appropriate to their new qualification and skillsets. Like their classmates, both women applied for hundreds of jobs and were initially beset by rejection upon rejection in spite of their exemplary degrees and previous corporate work experience in India. They quickly realised this was most likely due to their Post-Study work visas which would only last two years and therefore served as somewhat of a deterrent to prospective employers. To keep them employed for any longer than these two years would require corporate sponsorship, a costly, relatively complex and therefore unappealing process.

Alex felt certain that her involvement in Start-Up and the confidence she had developed through pitch presentations and networking events had eventually given her the edge over other applicants in spite of her visa status. Her new employer had never taken on a graduate trainee before and was keen to co-design an interesting portfolio of work for her. The organisation seemed to welcome her input and to value her prior work experience and creative commitment to sustainability. They also offered to help her gain her UK driving license.

Life beyond the MBA

Although, disappointingly, the starting salary barely covered her living expenses, loan repayments or the cost of converting her student visa to a graduate one, the company's dynamic culture, horizontal management structure and collaborative approach offered Alex the change she didn't even realise she had been looking for. Employees were trusted to manage their own workload, and the senior executives operated an open-door policy, inviting her to ask questions, seek counsel and make suggestions. Innovation was encouraged, long-term visa sponsorship was not entirely off the table, and Alex could see herself building a future with this organisation. She remained heartbroken for Carla and her other MBA friends though, who continued to search for interesting and decently paid work long after graduation. Some classmates with similar experiences and accolades had resorted to taking healthcare

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jobs which promised skilled worker visas, others had expanded their quest for work well beyond their own areas of expertise.

Although the recycling project hit a roadblock shortly after Alex moved away from campus, she aspires to explore it again, or at least a version of it, in the future. After lengthy discussions, she discovered that the university's waste management contractor actually owned all the waste deposited on campus and the only way to collect the discarded plastic would be to buy it back from the contractor. Without significant financial investment or time to explore the installation of alternative collection points outside of campus, the team decided to place the project on hold whilst they concentrated on finding full-time jobs. They discussed the possibility of one day shifting the focus to another location, perhaps a country with less restrictive rules and regulations.

Although Alex is happy with her current situation, her future remains uncertain and her decision to remain in the UK will likely rest on more than just her career progression. As an only child she has the wellbeing of her parents to consider too and she recognises that supporting them might prove difficult under current UK visa restrictions. She yearns for financial stability, she hopes she can maintain a healthy work life balance, and she wishes similar successes for Carla as well. She imagines a future for herself that involves some form of enterprise activity.

> *"I don't want to stick to this 9 to 5 job, like I want to have something, even if not this project. I was thinking like, if I do a corporate job for another 10 years or so, but then later I want to have something else. If not the plastics project I would like to go ahead with like, you know, a music academy, something for myself."*

DISCUSSION

Resonant Responses

As I shared a draft of Alex's story with several of my business school colleagues and my response community, I asked them to consider the following questions.

1. What resonates with you in this story?
2. What do you find interesting?
3. Does anything about this story surprise you?

These were the same questions I had asked myself as I put together the final narrative text, and which had helped me to identify the personal, practical and social implications of Alex's story that might shed some light on the research puzzle. I was keen to hear how the narrative construction of Alex's experiences might be received

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by others – would it have the resonant quality I was aiming for? Would it invite reflection and prompt curiosity? The ensuing conversations with colleagues and fellow researchers were thoughtful and incisive, suggesting some level of engagement and connection with the text had been reached. Several people remarked on Alex's grit and determination, others commented that they had been aware of the burden of financial responsibilities carried by many of their international students but had never really considered what the impact of this might be on their day to day lives or their academic studies. A couple of colleagues said the story left them wondering why Alex was so determined to stay in the UK rather than to return home to India, and one lecturer remarked "I'm a quants guy and you're asking me to share how I *felt* about the story?!" Although exclaimed partly in jest, his comment prompted interesting discussion about the role and potential application of narrative-based methodology within the context of business research. This exchange, along with the other relational responses, reassured me that the story possessed some degree of invitational quality, and it helped me to further deepen my analysis and refine my final draft. Reading the re-storied account of her own experiences inspired contemplation for Alex as well, "It took me back in time and made me reflect on everything I've been through to get to where I am today. It's made me feel even more grateful for how things are currently."

Circles of justification

Embracing the intrinsic pragmatism of this methodology, I tried to approach the analytical process with what Greene (1995, p. 35) refers to as "wide-awakeness", openness to travelling to the places where Alex's story might take me and to the meanings that might emerge. At the same time, I remained conscious of my original motivations for this inquiry, for the inquiry puzzle that had led me to Alex. What did her participation in the Young Enterprise Start-Up mean to her? Why had she chosen to embrace this voluntary entrepreneurial programme alongside her MBA studies and what impact did she consider these experiences to have had on her life? What insights could be gleaned from her narrative reflections that might inform personal, pedagogic and institutional practice in relation to supporting postgraduate international students? I found it helpful to address these questions holistically using Lindsay and Schwind's (2016) concentric circles of personal, practical and social justification. Their framework is based on Clandinin and Caine's (2013) tenth touchstone and involves three mutually informing cycles of elucidation, not dissimilar to Barkhuizen's (2016) levels of story, Story and STORY which deepen understanding of the phenomenon under investigation.

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Personal justification

Lugones' (1987) metaphor of 'world travelling' helps to explain my overarching response to Alex's story, and my "coming alongside [her] in the midst" of its telling, re-telling and reconstruction (Clandinin and Caine, 2013, p. 34). Lugones (1987, p.18) argues that "without knowing the other's world, one does not know the other" and entering into Alex's world was a deeply reflective process through which I came to know more about Alex and simultaneously to better understand myself. Piecing together what really mattered to Alex – her relationships, her identity, financial security and professional opportunity – prompted me to challenge my own assumptions, and to appreciate how little I really knew about the realities of my students' lives. Forging and fostering connections with, and between, students had always been key to the way I facilitated learning, but in recent years, swelling class sizes and remote Covid learning formats had made this difficult to put into practice. Spending time in conversation with Alex reminded me how much I missed having time and space in the classroom to get to know my students better as individuals with distinctive experiences, preferences and needs that might be addressed through differentiated pedagogic approaches.

I found Alex's determination, resilience and commitment to achieving financial stability and a good work-life balance, both at university and in future employment, to be particularly impressive and eye-opening. I had not appreciated the myriad of monetary, academic, familial, voluntary and paid responsibilities learners might have to juggle whilst at university, and I was in awe of Alex's consistent openness and awakeness to new experiences and opportunities in spite of this. Unlike so many of her classmates, she recognises the potential long-term value of participation in the Young Enterprise Start-Up competition from its outset, further extending her focus on this project through membership of the Enactus social enterprise group . She links securing a competitive graduate management job to the practical skills, business knowledge, professional experience and confidence she developed through her involvement in these activities, and she is proud of her achievements and her personal development. These successes are marred only by the disappointment that her friend, who she considers equally capable and deserving, has not yet reached comparable stability. This compassion particularly resonated with me, and with my conviction that "through one's knowing efforts, one's being may be enhanced" (Barnett, 2009, p.12) - the hope that integrating Young Enterprise Start-Up into the MBA might offer space for students to reflect on who they are as people, what they value and who they might want to become.

What surprised me about Alex's story is how reluctant she is to identify herself as an entrepreneur even though she engages in enterprising activity (e.g. innovations at work, her music business) from very early on. Initially I was baffled by her belief

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that "[she] never thought that enterprise or entrepreneurship is for all" because I had not properly considered the reality that access to entrepreneurial careers might be limited to certain demographic groups. I had been given the opportunity to participate in Young Enterprise's Company programme for secondary school pupils when I was in my late teens, and I came into contact with enough start-up business owners and enterprising relatives whilst growing up in suburban UK to have taken these opportunities completely for granted. Through making sense of Alex's comment, I came to realise that in India, similar to other lower-middle income countries, entrepreneurial activity is significantly higher amongst men than women, and amongst better educated populations (Shukla et al., 2025). I had not fully appreciated either that these inequalities might exist in the UK on a similar scale, and that female entrepreneurs, particularly those from ethnic minority communities, face disproportionate challenges as a result of systemic bias and a lack of diversity amongst investment decision makers (Women and Equalities Committee, 2025). "Travelling" to Alex's world prompted me to take a more reflexive stance within my own, and to consider more fully the implications of addressing these disparities for pedagogical practice, .

Practical justification

Lindsay and Schwind (2016) suggest that the three circles of justification are iterative and mutually informing, so moving on to practical justification invariably uncovers overlapping concerns and interweaving threads with the previous section. Although Alex's story is intended to generate reflective response rather than definitive conclusions, it does offer considerations for HE professionals working with international learners on postgraduate business programmes. It highlights some potential benefits of including experiential enterprise activity on a pre-experience MBA programme as well as ways in which it might be implemented even more effectively.

Before coming to the UK to begin her studies, Alex had worked in a graduate IT role but had limited experience of leadership or management. The majority of her classmates were in a similar position and their MBA programme had been designed with this level of executive expertise in mind. Without personal examples of leadership practice to illustrate or contextualise the theory being taught, "Initially I used to think OK what is Operations Management?" the Young Enterprise Start-Up programme offered Alex real-life application of abstract concepts leading to clear comprehension, "OK this is something we already do in Start-Up." Kolb's (1984) experiential learning theory underpins this integration of entrepreneurial activity with academic theory and helps to explain the pedagogic design (Greenley, 2023). Drawing heavily on Dewey's (1938) philosophy of experience, Kolb emphasises the

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transformative potential of learning by "doing" and reflecting, rather than simply engaging with conceptual knowledge in an isolated abstract way.

Additionally, Alex feels certain that her employability was enhanced by the professional skills and the confidence she developed through her social enterprise project combined with the insights it gave her into UK business culture. Although she is initially hesitant to identify herself as an entrepreneur, the project plays a pivotal role in her story, and through this activity she comes to imagine entrepreneurial practice as a possible part of her future. Beyond the "encounter with knowledge" (Barnett, 2009) and the practical competencies that have readied her for graduate employment, it appears that "coming to know" through planning and realising a sustainability-focussed project has heightened her awareness of "other ways of living and being in the world" (Huber et al., 2013, p. 221) along with her self-perception. In a similar way, for other international learners, entrepreneurial experiences might also prove transformational.

Not all students recognised this potential though, and most of Alex's teammates stopped engaging with the enterprise competition quite early on. The programme was voluntary and non-credit bearing, and with other more pressing demands on their time there was little motivation for them to participate. The timing of planning meetings was also prohibitive for many learners, interfering with their part-time jobs. Although students were given the opportunity to incorporate elements of their Young Enterprise project work into graded assessments on two out of six MBA modules, this too was optional, reducing incentive to engage or commit to the activities (Greenley, 2023). Integrating Young Enterprise Start-Up more fully into the MBA curriculum, making it compulsory and scaffolding project activities with learning from relevant academic modules, would likely increase student engagement and enhance the overall learning experience.

Social justifications

This third circle of analysis, the layer Barkhuizen (2016, p. 663) refers to as "STORY", addresses the wider social and political contexts in which teaching and learning takes place. Alex's story draws our attention to the realities of life as an overseas student in the UK both during her academic course and afterwards, and prompts us to consider the extent to which UK immigration policies and the global marketisation of HE might actually shape these experiences.

Although she planned carefully for her studies overseas, and is confident that her loan, her savings and her part time jobs will see her through to graduation, Alex still feels the daily impact of high tuition fees and immigration costs on her life. She is frustrated that unlike the national Young Enterprise Start-Up winers who were mostly UK home students she is unable to move her project along to the next stage

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in its development because, "as international students we are living paycheck to paycheck and we ourselves don't have any extra money to invest". She also recognises how challenging it is for many of her classmates to persist with the enterprise project whilst keeping up with their academic studies and trying to make ends meet. The UK relies heavily on income from international student tuition fees at both a national and institutional level (Bolton et al., 2025) and in 2022/23 these accounted for 23% of the income of British Universities (HESA, 2025b). There is no upper limit on what universities can charge international students and in 2022 the average cost of an MBA programme for non-UK learners was £21300 (Complete University Guide Limited, 2025). Student visa holders are permitted to take on up to 20 hours a week of part-time employment during term-time, but for many international students this is barely sufficient to cover their tuition and living costs let alone investment in enterprise projects. To make experiential enterprise activity more accessible for international students, further attention needs to be paid to these financial realities.

Scaffolding these enterprise experiences for international learners within MBA programmes, enabling them to develop knowledge of UK business practices as well as interpersonal skills might be critical to improving their chances of graduate employment in the UK (Jackson et al., 2023). Although Alex is successful in finding a management job after graduating, Carla and their other classmates have found it near impossible to find suitable employment or work experience. Alex puts this down to the reluctance of most UK employers to take on graduates with temporary visas, and/or without significant UK-based experience and her instincts are supported by research by Atkinson and Campbell (2023) and Universities UK (2020). After the introduction of the two-year post study work visa (Graduate visa) in 2021, the UK saw a rapid increase in demand for university places from international learners like Alex, hoping to enhance their employability skills and further their professional development (Shutt, 2022). In 2022, more learners entered UK HEIs from India than any other countries (Bolton et al., 2025) attracted by opportunities for international work experience after graduation, ill-prepared for an already saturated graduate job market. In order to meet these high expectations, universities will need to start addressing the employability needs of their international students and paying urgent attention to developing their professional competences (Universities UK International, 2024). Integrating entrepreneurial experiences into business and management curricula might well be a good place to start.

NARRATIVE ENDINGS

By re-storying and presenting Alex's account in this chapter I have attempted to foreground the realities of her life as an international MBA student in UK whilst

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challenging prevailing deficit narratives by humanising her experiences. I hope to have simultaneously provided a useful introduction to Narrative Inquiry, demonstrating its potential as a strategy for investigating the personal, professional and wider social implications of particular educational experiences, to infer meaning and to invite resonant reflections.

Alex's story is driven by her grit and determination to successfully complete the Young Enterprise Start-Up programme in the face of material challenges, along with the impact she feels this has on her academic learning, her employability and her self-perception. Analysing her experiences holistically through the narrative dimensions of temporality, sociality and space has generated helpful insights for my own practice with international business students, as well as broader considerations for the future design and facilitation of entrepreneurial learning for this heterogenous cohort.

Alex is one of five MBA students who joined me on this doctoral adventure to share their experiences of participating in Young Enterprise Start-Up alongside their academic programme. The next analytical phase will look for resonant threads across all of their re-storied narratives and hopes to stimulate further thinking about the needs of international MBA learners, the integration of experiential enterprise activity into their courses and my own professional practice.

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Keywords/definitions

Narrative Inquiry: A qualitative research methodology that involves studying experiences through the stories that individuals create to make sense of their lives and derive meaning from them.

Story: A raw chronological sequence of events or actions that depicts an event or experience.

Narrative: A story that has been constructed by its teller to derive meaning from a lived experience through the way in which it is told e.g. through the portayal of characters, places and the sequence of events.

Field Texts: Data sources for Narrative Inquiry such as interview transcripts, researcher notes and other artifacts. The term emphasises the relational and situated nature of the research data and the co-construction of meaning between inquirer and participant.

Broadening: One of three analytical processes proposed by Clandinin and Connelly (2000). It involves the exploring the wider social, cultural and political contexts within which a particular (set of) experience(s) takes place.

Burrowing: One of three analytical processes proposed by Clandinin and Connelly (2000). It involves an in-depth exploration of the specific details and nuances of a participant's narrative in order to infer meaning from their experiences.

Re-storying: One of three analytical processes proposed by Clandinin and Connelly (2000). Following *burrowing* and *broadening*, researchers re-organise the component parts of participant's stories in new ways to form a coherent narrative and co-construct shared understanding and deeper meanings.

Relational Response Communities: A trusted group of colleagues, researchers, supervisors with whom a narrative inquirer can share works of writing in progress and obtain honest, critical feedback for further refinement and development.

Experiential Learning: A process of learning by doing which begins with hands-on experience, then involves critical reflection, discussion and connection to academic theories and concepts to foster and deepen understanding.

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Chapter 6
Developing Innovative and Enterprising Mindsets in Third Year Medical Students

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EXECUTIVE SUMMARY

The chapter details the development, implementation & evolution of a Student Selected Component (SSC) in Clinical Innovation & Enterprise for the University of Buckingham third-year medical students. Amid healthcare shifts, including AI, robotics, demographics, the Topol Review (2019) & NHS Long-Term Workforce Plan (2023), traditional education lacks innovation, enterprise, systems thinking & interdisciplinary skills. Launched in 2023 as a two-week experiential module using adapted Design Sprint methodology, the SSC immerses small teams in real NHS challenges at Stoke Mandeville Hospital. Pitching to Buckingham Angels. Assessment emphasises process, reflection and feasibility; multidisciplinary mentors provide guidance. Refinements over three years scaled cohorts, integrated school pupils, resolved conflicts and improved guidance. Outcomes: £1000 funding for student

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apps, RSMedicine prize, NHS workshops & BHT collaborations. Students gained resilience, creative confidence & agency, bridging education to system growth. A replicable model enables scalable clinician innovation training.

WHY INNOVATION HAS BECOME ESSENTIAL IN HEALTHCARE

Healthcare is undergoing a structural shift that is reshaping how care is delivered, organised, and evaluated. Advances in artificial intelligence, digital diagnostics, robotics, and data-driven decision support are beginning to influence clinical practice at scale. At the same time, demographic pressures, rising multi-morbidity, widening inequalities, and persistent workforce shortages are stretching existing models of care; far beyond what they were designed to support. These pressures create a dual reality. On one hand, the need for innovation has never been more urgent. On the other, the workforce is not yet equipped with the skills, confidence, or mindset needed to lead and shape this transformation.

The medical profession sits at the centre of this tension. Clinicians will increasingly be asked to adopt, evaluate, and co-develop new technologies. They will need to understand the strengths and limitations of emerging tools, anticipate risks, navigate ethical questions, and redesign pathways to integrate them safely. Yet most doctors are trained primarily to deliver care within established systems rather than to question those systems or imagine viable alternatives (McLaughlin et al, 2019; Sandars & Goh, 2020). This results in a core mismatch between the demands placed upon the profession and the preparation provided through traditional medical education.

National policy documents in the United Kingdom have highlighted this gap repeatedly. For instance, the Topol Review in 2019 emphasised the need for the healthcare workforce to gain digital and innovation literacy, to ensure that emerging technologies such as genomics, digital medicine, artificial intelligence, and robotics can be safely, effectively, and ethically adopted within the health service (Oxford Health NHS Foundation Trust. (n.d.))

More recently, the NHS Long Term Workforce Plan (2023) set out a vision for workforce development that goes beyond simply increasing headcount. It calls for reforms to training and career pathways, greater use of new technologies, and enhanced productivity to meet future demand (NHS England, 2023).

These signals converge on a clear conclusion. Innovation capability is no longer peripheral or optional. It is a core competence for the next generation of clinicians and a prerequisite for a health system that seeks to remain sustainable. If this capability is not built early, the system risks creating a widening gap between what technology can offer and what the workforce can safely absorb. Future healthcare challenges will require clinicians who can work across disciplines, navigate complexity, and

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design solutions for evolving patient needs. Medical education therefore has a responsibility to develop enterprising, creative, and systems-minded clinicians who can lead in this new environment.

WHY TRADITIONAL MEDICAL EDUCATION FALLS SHORT

Despite these strategic imperatives, most undergraduate medical education continues to prioritise the acquisition of clinical knowledge, procedural skills, and professional behaviours. These remain essential foundations of practice, yet they do not develop the creative, enterprising, or systems-oriented thinking required to solve complex problems or to navigate organisational change. The traditional curriculum does not routinely provide opportunities for students to engage with real-world challenges, work in interdisciplinary teams, learn design methods, develop prototypes, or test ideas in situ.

Students graduate with a strong understanding of clinical protocols, but limited experience in identifying inefficiencies, designing interventions, or leading improvement efforts. They can describe the clinical manifestations of a disease, but rarely the system factors that shape a patient's journey. They can interpret investigations, but are less familiar with concepts such as user testing, behavioural design, implementation science, product development, or economic feasibility.

This gap matters for two reasons:

First, without innovation capability clinicians risk becoming passive recipients of technology, rather than active participants in shaping it. This weakens the safety and quality of future innovations, because the most valuable insights come from those who understand patient needs and service realities. Technologies created without clinician input often fail to understand the needs of the patient, integrate smoothly into workflow, create new burdens, or underperform in real settings.

Second, the absence of experiential innovation training constrains the growth of personal agency, creative confidence, and entrepreneurial capability. These attributes underpin the enterprising mindset that universities, health systems, and industry increasingly value. They also correlate strongly with adaptability, resilience, openness, and professional growth. A student who has learned to identify a problem, design a solution, and take it through a structured process develops a sense of creative capability that will serve them throughout their career.

By 2022, it had become clear that medical students needed structured opportunities to build these capabilities earlier in their training. The question was how to design an intervention that would be meaningful, accessible, and aligned to both individual learning needs and system demands. The answer became the Student

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Selected Component (SSC) in Clinical Innovation and Enterprise at the University of Buckingham.

RESPONDING TO A STRATEGIC AND EDUCATIONAL NEED

The SSC in Clinical Innovation and Enterprise was proposed in May 2022 in response to this challenge. The driving motivation was twofold. First, to create an experiential learning environment in which students could work on real healthcare problems and develop practical innovation skills. Second, to foster the growth of an enterprising mindset that would equip them for a future, where clinicians will increasingly operate as problem-solvers, collaborators, and system navigators.

The idea emerged from collaboration between Buckinghamshire Healthcare NHS Trust, the Buckingham Enterprise and Innovation Unit at the University of Buckingham, and the University of Buckingham Medical School. Across these settings it was evident that students were keen to engage with new technologies, but lacked exposure to innovation methodologies. Equally, industry partners frequently commented that the healthcare workforce needed earlier training in design thinking, user needs assessment, data literacy, and iterative development (Health Education England. (2019). These insights helped clarify the opportunity for a focused, intensive module that would bridge this gap for undergraduate medical students.

The strategic intent was deliberately modest in scale, but ambitious in impact. Rather than attempting to cover the entire innovation landscape, the module was designed to give students hands-on experience, with a structured and repeatable method, rooted in the principles of Design Sprints and accelerated problem solving. The aim was to let students experience the full innovation cycle at a pace, that encouraged experimentation and creativity, while remaining grounded in clinical realities.

A key consideration was the link to growth. The module sought to support growth at three levels. It supported growth for students, who developed new capabilities, outside their comfort zone, and mindsets. It supported growth for the University, which could begin to position itself as a leader in healthcare innovation education. It also supported growth for the wider health system, because student projects aligned with real organisational challenges and provided new insights or prototypes that could inform service improvement.

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WHY WAS 2022 THE RIGHT MOMENT TO LAUNCH?

Several contextual factors made 2022 a particularly appropriate moment to introduce the SSC.

First, the rise of artificial intelligence in clinical diagnostics had moved from speculative potential to practical implementation. In many parts of the UK, AI-supported diagnostic tools, particularly in radiology and triage pathways, were being piloted or deployed, demonstrating tangible pathway efficiencies and workflow change. This shift gave students an immediate and relatable example of technological innovation, embedded in the health system. Such real-world relevance helped bridge abstract theory and concrete practice, making innovation accessible rather than remote.

Second, the COVID-19 pandemic had exposed deep structural weaknesses in the flexibility of healthcare services. It also accelerated the adoption of digital tools, such as remote monitoring, virtual wards, and telemedicine (Greenhalgh et al., 2020; Legido-Quigley et al., 2020; NHS England, 2021). Students who experienced their medical training amid these changes witnessed first-hand how innovation could respond to crisis, deliver value, and reshape care delivery (Rose, 2020). This created a receptive mindset for learning about innovation systematically.

Third, universities across the UK were beginning to explore micro credentials, short courses, and more flexible learning structures (Quality Assurance Agency for Higher Education, 2022). This shift created the educational infrastructure to support modules that bridge academic, professional, and applied learning. The SSC could therefore be developed with an eye towards future growth into a short course or a stackable credential.

Fourth, the University of Buckingham had a strong medical school culture of small group teaching, agility, student-centred learning, and an acceptance of innovative teaching methods in the Buckingham Enterprise and Innovation Unit. Such a culture made it possible to pilot a module requiring active participation, teamwork, and direct engagement with a wide range of external partners. The educational environment was therefore conducive to experimentation and rapid iteration.

These contextual factors made 2022 not only an appropriate moment, but an ideal one. Students were ready, institutional conditions were favourable, and the external environment was demanding a more proactive approach to innovation capability.

PRINCIPLES THAT GUIDED THE DEVELOPMENT OF THE SSC

From the outset there were several design principles that shaped how the module was constructed.

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It needed to be experiential, rather than just theoretical.

Students learned by working on real problems, engaging directly with clinicians and other types of experienced practitioners or patient-facing challenges, and developing tangible outputs. The intention was to expose students to the discomfort and uncertainty that accompanies innovation and to help them develop confidence in navigating ambiguity and complexity.

This approach is supported by Kovaric and Gingell (2024) who found that in a mixed-methods study of 30 medical residents, a 3-hour quality improvement workshop based on Kolb's cycle experiential learning theory led to a significant increase in self-reported confidence in systems thinking behaviours.

It had to be methodologically structured.

Innovation can appear abstract or unpredictable. To counter this, the module was built around a clear process model, adapted from Design Sprint methodology. Students learned how to understand a problem, map the system, generate ideas, prototype a solution, and present a compelling case. The structured methodology gave innovation a sense of discipline and repeatability, but also the course showed the importance of flexibility when solving problems and developing a "can do" mindset in the students.

It needed to encourage growth in mindset as well as skill.

The intention was not only to teach techniques such as problem mapping or prototyping, but also to foster curiosity, resilience, open mindedness, and the ability to work creatively with uncertainty. Students reflected on their own thinking styles, decision-making processes, and team dynamics. This helped build the enterprising mindset that the module sought to cultivate.

It had to link educational growth with system growth.

This was central to alignment with the theme of this book. Students were encouraged to see their work not only as an academic exercise, but as contributing to wider organisational improvement. Projects were chosen in collaboration with NHS partners to ensure relevance and authenticity. The experience demonstrated to students that innovation is not separate from clinical practice, it should be embedded within it.

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Finally, it had to be scalable.

The SSC was designed with the future in mind. If successful, it could evolve into a short course, a micro credential, or a multi-professional programme. The methods and frameworks were therefore chosen to be adaptable across professional groups and educational formats. This created a pathway for institutional growth and the broader development of innovation capability.

These principles gave the SSC a clear identity and positioned it at the intersection of experiential learning, innovation education, and healthcare workforce development.

DESIGNING A REPLICABLE MODEL FOR EXPERIENTIAL INNOVATION

Although the Student Selected Component (SSC) in Clinical Innovation and Enterprise evolved iteratively over its first three years, its underlying structure was deliberately designed to be reproducible. The intention was not to create a one-off educational experience dependent on exceptional individuals, but to develop a programme model that could be adopted, adapted, and scaled by other medical schools and healthcare education providers.

This section describes the SSC's design in sufficient detail to allow replication elsewhere. It outlines the programme's aims, learning outcomes, delivery structure, assessment approach, staffing model, and practical considerations for implementation within an NHS environment.

Programme Overview

The SSC in Clinical Innovation and Enterprise is an intensive, two-week experiential module delivered to third-year medical students. It combines structured problem discovery in clinical environments with guided solution design, rapid prototyping, and enterprise-focused communication. The programme is delivered collaboratively by the University of Buckingham Medical School, the Buckingham Enterprise and Innovation Unit (BEIU), and NHS clinical partners at Buckinghamshire Healthcare NHS Trust.

The pedagogical approach draws on Design Sprint methodology, adapted for healthcare contexts and undergraduate learners. This is supplemented with targeted teaching on entrepreneurship, regulation, intellectual property, and health system constraints. The overarching design intent is that students experience the full innovation cycle at pace, in a psychologically safe environment, while remaining grounded in the realities of clinical service delivery.

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Educational Aims

The SSC was designed around four core educational aims.

First, it sought to develop innovation capability by equipping students with a structured method for identifying unmet needs, framing problems, and designing feasible solutions within complex systems.

Second, it aimed to build an enterprising mindset and personal confidence through exposure to ambiguity, rapid iteration, and entrepreneurial modes of thinking.

Third, it aimed to strengthen systems thinking by requiring students to engage with pathways, stakeholders, constraints, and unintended consequences rather than isolated clinical problems.

Finally, it aimed to connect learning directly to service improvement and growth, ensuring that student work aligned with real NHS challenges and produced outputs that could be meaningfully handed forward to institutional partners.

Intended Learning Outcomes

By the end of the SSC, students were expected to demonstrate capability across four domains.

In relation to problem discovery and systems thinking, students should be able to conduct structured interviews and observations to identify unmet needs in healthcare delivery, synthesise qualitative data into themes, define a bounded problem statement, and map relevant stakeholders and workflows.

In relation to solution design and iteration, students should be able to generate multiple solution concepts, justify selection using feasibility and desirability criteria, create a low-fidelity prototype, and anticipate practical considerations relating to clinical safety, workflow integration, and adoption.

In relation to enterprise and growth, students should be able to articulate a clear value proposition, describe a plausible route to implementation and scaling within a health system, and demonstrate awareness of regulatory and governance considerations at an appropriate undergraduate level.

Finally, in relation to professional capability, students should be able to work effectively in teams under time pressure, communicate ideas clearly to mixed audiences, and demonstrate reflective insight into their own learning, decision-making, and professional development.

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Programme Structure and Sequencing

The SSC is delivered over a two-week period, typically comprising nine working days. While the exact timetable may vary between institutions, the sequencing of activities is critical to the programme's effectiveness.

The first phase of the SSC focuses on discovery and definition. Students are introduced to the principles of innovation in healthcare and the rationale for structured problem discovery. They receive practical training in qualitative interviewing and are supported to engage directly with NHS staff to explore day-to-day challenges in care delivery. Interview findings are synthesised into themes, followed by stakeholder and pathway mapping to ensure students understand the wider system context. Each team then selects a single problem to pursue, framed through a clearly articulated problem statement and success criteria.

The second phase focuses on design, iteration, and communication. Students generate and refine solution concepts, develop low-fidelity prototypes, and seek feedback from mentors and potential users. Teaching sessions introduce core enterprise concepts, including value propositions, routes to adoption in the NHS, and basic governance considerations. The module culminates in a formal pitch event in which teams present their work to a mixed panel of clinicians, academics, and entrepreneurs.

Throughout both phases, structured reflection is encouraged, both informally through facilitated discussion and formally through reflective submissions.

Learning Activities and Outputs

The SSC is organised around a small number of repeatable learning activities that produce assessable and transferable outputs.

Key activities include qualitative interviewing, thematic synthesis, stakeholder mapping, structured ideation, rapid prototyping, and professional pitching. These are complemented by individual and team reflection focused on learning, teamwork, and professional growth.

Core outputs typically include interview summaries, a documented evidence base for problem selection, a problem statement and system map, prototype artefacts, a pitch deck, and an individual reflective account. These outputs are designed to evidence both process and learning, rather than simply the quality of the final idea.

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Faculty, Mentors, and Resource Requirements

One of the SSC's design principles was that it should not be dependent on a large or highly specialised faculty. Instead, it uses a distributed mentorship model that draws on a small core teaching team supported by rotating specialist input.

At minimum, the programme requires an academic lead responsible for educational oversight and assessment, an enterprise and innovation lead responsible for delivery of the Design Sprint methodology, and a clinical lead who facilitates access to NHS environments and ensures clinical realism. Additional mentors may include clinicians, entrepreneurs, digital specialists, engineers, or legal and governance experts, each contributing time-limited input aligned to their expertise.

Physical resources are modest and include access to a clinical environment for interviews, a collaborative workspace, simple prototyping tools, and standardised templates for interviews, mapping, and pitching.

Assessment Approach

Assessment within the SSC is designed to reinforce learning outcomes and encourage iteration rather than reward superficial polish. A mixed assessment model has proven effective.

Assessment typically includes evaluation of the project evidence base and problem framing, the appropriateness and iteration of the proposed solution, the clarity and realism of the final pitch, and an individual reflective account. Rubrics emphasise systems thinking, evidence use, feasibility, professionalism, and reflective insight.

This approach ensures that students are rewarded for learning and development rather than for producing a technically perfect solution within a constrained timeframe.

Governance, Ethics, and Boundaries

Clear governance boundaries are essential for safe and replicable delivery, particularly within NHS settings. Students do not access identifiable patient data, and interviews are conducted with staff under informed consent. Observation is non-intrusive and aligned with site policy. Where minors or school pupils are involved in parallel activities, safeguarding procedures are explicit and separate from clinical engagement.

By defining these boundaries clearly, the SSC enables authentic engagement without exposing students, staff, or organisations to undue risk.

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Transferability and Scalability

Although initially designed for medical students, the SSC model is inherently transferable. The same structure has relevance for nursing, allied health professionals, managers, and mixed multi-professional cohorts. The core requirement is access to real service challenges and a structured method for discovery, design, and iteration.

For institutions seeking replication, experience suggests that starting with a small cohort and refining mentorship and assessment models before scaling is critical. The strength of the programme lies not in cohort size, but in the repeatability of its method and the authenticity of its engagement with real healthcare problems.

The only implementation challenges faced with this SSC since it was started has been the Medical School reducing the number of days for the SSC. It started in 2023 with 10 working days, reducing to 9 days in 2024, 8 days in 2025 and only 5 days in 2026.

An Illustrative Two-Week Timetable

To support replication, the below provides an illustrative overview of how the SSC is delivered across a two-week period. While the precise sequencing can be adapted to local constraints, the structure reflects the minimum viable design required to achieve the intended learning outcomes. The emphasis throughout is on protected time, structured progression, and repeated cycles of action and reflection.

Week One focuses on discovery, sense-making, and problem definition.

Week Two focuses on solution design, iteration, and communication.

WEEK ONE: DISCOVERY AND PROBLEM DEFINITION

Day 1 – Orientation and Foundations

The SSC begins with an introduction to innovation in healthcare, positioning it within current NHS challenges and workforce expectations. Students are introduced to the overall structure of the module, the principles of experiential learning, and the adapted Design Sprint methodology that will guide their work. Teams are formed, roles agreed, and students receive practical training in qualitative interviewing and ethical engagement within clinical environments.

Outputs: interview plan, team roles, initial hypotheses.

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Day 2 – Problem Hunting in the Clinical Environment

Students spend the majority of the day embedded within the clinical environment, conducting structured interviews with healthcare staff and, where appropriate, observing workflows. Faculty support focuses on helping students listen for underlying needs rather than jumping prematurely to solutions.

Outputs: interview summaries, raw insight notes.

Day 3 – Synthesis and Systems Mapping

Interview data are synthesised using affinity mapping techniques. Students identify recurring themes, pain points, and system-level constraints. Stakeholder and pathway mapping exercises are introduced to ensure problems are understood within their wider organisational context.

Outputs: thematic synthesis, stakeholder map, pathway overview.

Day 4 – Problem Selection and Framing

Each team selects a single problem to pursue, using explicit criteria including impact, feasibility, scope, and accessibility. Teams develop a clear problem statement and define success criteria. Faculty input at this stage is deliberately challenging, pushing students to narrow scope and articulate assumptions.

Outputs: final problem statement, success metrics, project brief.

Day 5 – Ideation and Concept Selection

Students generate a wide range of potential solutions before converging on one concept. Early consideration is given to clinical safety, workflow integration, equity implications, and unintended consequences. The week concludes with informal concept reviews with mentors.

Outputs: selected solution concept, early risk assessment.

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WEEK TWO: PROTOTYPING, ITERATION, AND COMMUNICATION

Day 6 – Prototyping

Teams develop low-fidelity prototypes appropriate to their chosen solution, for example digital wireframes, service blueprints, or workflow redesigns. Specialist mentors provide focused input aligned to the nature of each project.

Outputs: prototype version one.

Day 7 – Testing and Iteration

Prototypes are tested informally with potential users, mentors, or peers. Feedback is synthesised and used to refine the solution. Students are encouraged to document what changed and why, reinforcing learning through iteration rather than perfection.

Outputs: prototype version two, iteration log.

Day 8 – Enterprise, Governance, and Pitch Preparation

Teaching sessions introduce enterprise fundamentals, including value propositions, routes to adoption within the NHS, basic costing considerations, and governance boundaries such as information governance and regulatory awareness. Teams build a concise pitch deck that integrates clinical, system, and enterprise perspectives.

Outputs: pitch deck draft, one-page executive summary.

Day 9 – Pitch Event and Reflection

The SSC culminates in a formal pitch event, with teams presenting to a mixed panel of clinicians, academics, and entrepreneurs. Structured feedback is provided. The day concludes with guided reflection, both individually and as teams, focusing on learning, professional growth, and system insight rather than commercial success.

Outputs: final pitch deck, prototype artefacts, individual reflective submission.

Pedagogical Rationale for the Timetable

The sequencing of the timetable is intentional. The first week prioritises immersion and sense-making, delaying solution development to counter the common tendency for novice innovators to fixate on ideas prematurely. The second week

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accelerates design and communication, allowing students to experience the pressure and uncertainty inherent in real innovation work.

Across both weeks, protected time and structured milestones are critical. Without these, experiential innovation learning risks becoming superficial or dominated by confident individuals. The timetable therefore acts as a scaffold that balances freedom with discipline, enabling students to operate productively outside their comfort zone while maintaining psychological safety.

HOW THE SSC EVOLVED ACROSS ITS FIRST THREE YEARS

Background

Although launched as a pilot in August 2023, the SSC developed rapidly through iterative refinement. The first cohort of eleven medical students provided valuable insight into what worked well and what required adjustment.

This SSC was a combination of theory and its practical application, guiding students through the principles of clinical innovation and enterprise, including the gathering of high impact problem hunting and innovative solution development through a fast-paced research activity interviewing staff at Stoke Mandeville Hospital.

The students were split into two groups. They started by designing a questionnaire and using it to perform research with Stoke Mandeville Hospital staff, each group identified important problems faced by the staff in the delivery of care. Each group then decided to work on one problem and were taught and supported in how to use Design Sprint to work out an innovative solution and a prototype to resolve the problem they had selected.

Each team developed an innovative solution, and an early prototype was then prepared for first stage of commercialisation. The students then pitched their product or service to established local entrepreneurs and senior clinicians who were "Buckingham Angels" on the last day of the SSC. The students were therefore learning how to develop a business plan and how to pitch to providers of finance to enable them to develop the innovative solution they had identified.

The students were taught and mentored by lecturers, doctors, surgeons, engineers, scientists, lawyers, computing and other specialists, who were experienced in all the fields they needed to complete this SSC successfully and who wanted to pass on their theoretical and practical knowledge to the next generation of clinicians.

The aim of the SSC was to teach the students a framework in how to challenge common pain-points in their future careers and to work as a team to develop novel solutions to answer difficulties.

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Methods

The first week was focused on cleared defining the problem the team would challenge. This was done through interviews and mentoring with faculty and invited external "subject matter experts".

The Design Sprint methodology was used to work out an innovative solution and a prototype to resolve the problem they had selected.

During the latter part of the first week and early second week, the medical students prepared for the first stage of commercialisation and funding. They learned how to work on all aspects of Marketing, Finance, Operations and Regulations/IP to develop a business plan & pitch deck.

During the last but one day they learned how to pitch and on the final day of the SSC, they pitched to "Buckingham Angels" to see if they could get the finance needed to continue to develop the innovative solution they had identified.

They were taught, encouraged, mentored and supported by lecturers, doctors, surgeons, engineers, scientists, lawyers and a range of other specialists experienced in all the fields they needed to complete the SSC successfully.

Results

On the last day of the SSC the two groups of students pitched to "Buckingham Angels" at BHT Research & Innovation Centre with an audience of nurses, doctors, other staff and Buckinghamshire Healthcare NHS Trust CEO.

The students only expected to get chocolates as a prize, however due to the quality of the proposed project and pitch, one of the Angels personally awarded both teams £1000. This award was to encourage the students to work with Buckingham Enterprise and Innovation Unit and BHT Research BHT Research Centre to develop and commercialise both Apps.

Collaboration

Seven academic, medical, entrepreneurial, and professional people, an undergraduate student from the university and from three Hospitals collaborated on this SSC. To create the Apps to resolve the problems identified, the students were taught and could question academics, consultant surgeons, doctors, and other health professionals.

As the SSC covered many topics, there had to be good collaboration between the Buckingham Enterprise & Innovation Unit (BEIU), the Medical School and the NHS Hospitals. Evidence of the success of the SSC can be seen, as the students

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have been requested to continue developing the Apps with the BHT Research and Innovation Centre and BEIU.

Collaboration between the University and BHT has continued since the SSC with the Medical School, the School of Computing, BEIU and BHT Research and Innovation Centre, working together with the objective of increasing the amount of clinical innovation and enterprise in the hospital.

Impact

The medical students recognised that the SSC had put them "outside their comfort zone" and then by learning how to: use Google "Design Sprint", commercialise an idea and pitch for finance, showed them that in just nine days they could achieve unexpected, positive results that amazed them. See the video of the first SSC (University of Buckingham, 2023).

In November 2023 the Director of the Buckingham Enterprise and Innovation Unit (BEIU) was asked to run workshops on Google "Design Sprint" to doctors and other health professionals who were participating on the Trusts' "Leadership Training Board". This resulted in two more clinical innovation projects being started in Stoke Mandeville Hospital in liaison with BEIU, but due to other priorities, the NHS staff involved did not have time to continue to develop the potential solutions they had identified.

Following the SSC, one of the teams of medical students (Med Lingual) prepared and submitted a poster to a competition in a "Tackling Inequalities: Through Innovation and Entrepreneurship" Conference run by the Royal Society of Medicine and won first prize in January 2024 (Royal Society of Medicine, 2024).

REFLECTIONS FROM YEAR ONE (2023)

The students developed as individuals and within their teams during the SSC, as a result they learned more about:

- Themselves and what can be achieved by an individual and a team in a very short time.
- Working in and achieving success in a team of diverse individuals. As shown by the "ImaHigh" (Knight, J., (n.d.)) online questionnaire that they all took.
- Working under pressure outside their "comfort zone".
- Working in areas that they have not been trained in, for example developing an App, understanding regulations that will affect the App, market research,

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finance to develop their business, preparing a business plan and pitching successfully for funding.

- The importance of innovation and enterprise in aiming to improve the work, reduce stress, improve patient outcomes, and reduce the costs of the NHS.

The initial year revealed that 10 students in two teams were highly engaged with real-world problems. They valued the opportunity to meet clinicians, observe service challenges, and explore unmet needs. The Design Sprint structure provided clarity and kept the work focused. However, feedback indicated that students needed more early guidance on problem selection and scoping.

The first-year pilot demonstrated that innovation capability develops most strongly when students work on problems that are neither trivial, nor overwhelming.

There was also a serious conflict between to "High Red" personality students in one of the teams. This could have led to one of the team members quitting the module, but the experience and skilled mediation of the BHT Clinical Innovation Fellow prevented this happening.

At the end of the SSC, both students agreed that they had learned a lot about themselves and how to remain professional in a team, even if they disagree with other members of the team. They also recognised how vital this skill will be in their careers, working in multi-disciplinary teams (MDTs).

REFLECTIONS FROM YEAR TWO (2024)

In the second year the number of medical students participating was more than doubled to twenty-two in five teams, not just two teams.

During the two-week SSC, in addition to the twenty-two medical students identifying and working to resolve problems at Stoke Mandeville Hospital, eight 14- and 15-year-old students from Milton Keynes Academy were invited to take part in a two-week innovation and enterprise work placement project. They had to identify problems that staff had at Milton Keynes Hospital and suggest potential solutions, using Design Sprint. The school students were, like the medical students, taught, advised and mentored by the same lecturers, doctors, surgeons, engineers, scientists, lawyers and a range of other specialists experienced in all the fields they needed to complete their work placement successfully.

This change added more complexity to the module, but it did work quite well with a larger cohort of medical students and much younger school students.

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Improvements Made for Year Two (April 2024)

The second year incorporated several refinements:

- More time was allocated to problem identification and system mapping to ensure that students understood the context of their chosen challenge.
- More industry mentors were added to support teams and introduce perspectives.
- A mid-sprint review was introduced to help students refine ideas and correct misalignment earlier.
- The final showcase was expanded to include academic staff, NHS partners, and industry guests, giving students a broader audience and a more authentic experience of presenting ideas professionally.

These refinements strengthened the educational value of the module and increased the quality of student outputs.

Year Two demonstrated that the SSC could be scaled gradually and that the underlying pedagogy was robust.

Changes Made for Year Three (April 2025)

In the third year the Medical School requested BEIU to run the module with fewer students, so only there were only ten medical students, in two teams, without any work experience school students.

This worked very well and three of the students from the business *Switchscope* were so impressed by what they had experienced and learned that they decided to run a one-day sample SSC in Innovation and Enterprise for other medical students who could not join the original SSC. This one-day sample module was run all day on a Saturday in September 2025, with the help of the Buckingham Enterprise and Innovation Unit (BEIU), Buckinghamshire NHS Health Trust Research and Innovation Centre and several of the professionals involved in the original SSC. It attracted 25 medical students and resulted in another interesting problem and a potential solution being identified by one of the students.

CASE EXAMPLE: "SWITCHSCOPE": ADDRESSING STETHOSCOPE HYGIENE AND EQUIPMENT ACCESSIBILITY

One SSC team identified a problem reflecting both clinical experience and the systemic risk of poor hygiene. Early fieldwork with FY1 doctors and Core Med-

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ical Trainees at Stoke Mandeville Hospital found that frequently used tools, such as stethoscopes, were difficult to keep clean during ward work and on-call shifts. Clinicians described using stethoscopes multiple times daily without adequate opportunity or materials for cleaning between patients. This aligns with evidence that stethoscopes often harbour pathogenic microorganisms and are infrequently disinfected between uses (Ali, m. et al, 2025)

To explore this further, students interviewed clinicians before and after prototyping. Initially, four resident doctors described the practical challenges and infection control concerns associated with cleaning small tools in busy environments. A recurring theme emerged: although stethoscopes were worn or clipped for convenience, cleaning materials were not always available at the point of care, leading to inconsistent hygiene practices.

The team then adopted a structured innovation approach, framing the challenge as making hygiene materials and essential tools immediately accessible without adding burden. Through mentored ideation sessions, they developed "Switchscope," a modular 3D-printed clip attaching to a stethoscope and holding a small alcohol-based cleaner, with potential to carry other lightweight tools.

The design process was iterative. Working with engineers and product designers and other contacts known to the two leaders of the SSC, the team produced a prototype using 3D printing. The design prioritised usability, manufacturability, and safety, while sustainability leads advised on environmentally responsible materials and processes. This interdisciplinary collaboration exemplified experiential learning through cross-disciplinary engagement and real-world testing.

Following development, the team conducted seven further interviews with doctors, including new participants. These explored usability, unintended consequences, and behavioural impact. Feedback was largely positive: attaching cleaner directly to the stethoscope improved accessibility and supported hygiene practices. Customisable clips for tools like pen torches or pulse oximeter probes were also seen as beneficial. Some participants noted the need to refine clip tension and durability, highlighting the importance of iterative feedback.

Educationally, the project yielded broader learning. Students recognised the value of evidence-informed problem identification, consistent with documented stethoscope contamination and cleaning gaps (Aldossary et al., 2019). Collaboration with engineers and sustainability specialists expanded their understanding of design, manufacturing, and environmental considerations. They also reported increased confidence in engaging stakeholders, synthesising feedback, and iterating solutions.

From a systems perspective, "Switchscope" highlights how small innovations can reveal wider organisational issues. It draws attention to mismatches between infection control expectations and workflow design and shows how targeted solutions can improve compliance through accessibility rather than enforcement. It also

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demonstrates the potential of early innovation education to connect student insights with service improvement.

The "Switchscope" example exemplifies how structured experiential learning can generate practical, context-responsive prototypes, grounded in frontline clinical insights, enriched by interdisciplinary collaboration, and informed by both qualitative evidence and iterative feedback. It reinforces the chapter's broader argument that innovation education can produce both learner growth and actionable contributions to healthcare improvement.

During the 2025 SSC a video of an overview of the third SSC was produced and recorded by a first year Media Student and a Foundation Year Law Student (University of Buckingham, 2025)

The growth of mindset, capability and confidence to innovate

Across all three years, students have consistently reported that the module changed how they saw clinical practice. They realised that, with support, they could successfully work outside their comfort zone. They developed a greater appreciation of service complexity, a clearer understanding of user needs, and a stronger sense of personal agency. Many noted that the module gave them confidence to speak up about improvements and to view themselves as contributors to change. The authors believe that this represents meaningful educational growth and should also encourage more NHS staff to understand that they can identify and develop innovative solutions to their day-to-day problems.

THE STUDENT VOICE IN INNOVATION EDUCATION

The iterative development of the Clinical Innovation and Enterprise SSC has been accompanied by a growing body of student feedback that offers valuable insight into how innovation education is experienced within a medical curriculum, what forms of learning it appears to enable, and where tensions arise when novel pedagogical approaches are introduced into established educational structures. Taken together, the quantitative outcomes and qualitative comments across three years of delivery provide more than a measure of satisfaction; they offer a rich, longitudinal account of how learners engage with innovation as a set of skills, mindsets, and professional practices. This feedback has become a critical source of evidence informing thinking about future expansion, helping to shape emerging plans for

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broader, multi-professional offerings, while retaining the core principles that have underpinned the SSC's success.

Across the cohorts overall quantitative scores indicate consistently strong endorsement of the SSC, with a clear upward trajectory as the model matured. In its first iteration, the SSC achieved an overall classification of excellent, with particularly high scores for organiser expertise, opportunities for dialogue, perspective broadening, and the quality of feedback provided to students. By the third iteration, the SSC achieved one of the highest overall scores across all SSC offerings, with near universal agreement that the course was well focused, intellectually stretching, and worthy of recommendation. This pattern suggests not only that students value innovation learning, but that clarity of framing, structure, and support plays a decisive role in how such learning is received.

A central theme emerging consistently from student feedback is the value placed on innovation as an active, experiential process. Students repeatedly describe the SSC as distinct from other components of the curriculum in its emphasis on participation, collaboration, and real-world problem solving. Rather than passively absorbing content, learners are required to engage directly with ambiguity, work intensively in teams, and move iteratively from problem identification to solution development. One student from the 3rd iteration captured this experience succinctly, describing the SSC as *"a truly amazing experience...every single day was valuable and exciting,"* and noting that from the outset they were challenged *"to step out of our comfort zones, collaborate effectively, and think creatively"*. Such reflections suggest that innovation learning is experienced not simply as content acquisition, but as a fundamentally different mode of engagement, that reshapes how students understand learning itself.

Closely connected to this experiential emphasis is a strong perception of skills development beyond traditional clinical competencies. Across cohorts, students consistently identify gains in teamwork, communication, pitching, stakeholder engagement, and an understanding of organisational and commercial considerations in healthcare. Importantly, these skills are not framed as tangential to medicine, but as integral to becoming a more capable and adaptable clinician. One student reflected that the SSC provided insight *"not just into healthcare innovation, but also business principles, marketing, teamwork, and pitching skills,"* concluding that they felt *"a better and more well-rounded student"* as a result. This language is notable for how it positions innovation skills as additive to professional identity, rather than competing with clinical aspirations.

Another dominant theme is the fostering of systems thinking and perspective broadening. Students have frequently described gaining new ways of seeing healthcare, moving beyond individual patient encounters to consider pathways, processes, and organisational constraints. Quantitatively, items related to perspective broad-

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ening consistently score highly across all three years, while qualitative comments describe the course as *"eye-opening"* and *"mind-opening."* Exposure to real service challenges, combined with structured methods such as Design Sprints, appears to support learners in recognising healthcare as a complex, interconnected system rather than a collection of isolated clinical tasks. This shift in perspective of students is particularly significant in the context of leadership and innovation capability.

Students also place considerable value on interdisciplinary and external engagement, repeatedly highlighting the contribution of guest speakers, mentors, and partners from across healthcare and related sectors. One student emphasised how learning from a range of professionals helped them *"see our potential in such a short time and [feel] encouraged,"* while another noted that the collaboration between academic, NHS, and innovation partners was *"unlike any other"* educational course they had encountered. Such comments suggest that authenticity and exposure to real-world innovation ecosystems play a key role in legitimising innovation as a credible and relevant activity within medicine.

Related to this is a recurring theme of discomfort, with ambiguity, particularly in the early stages of the course. A small number of students expressed strong dissatisfaction with the open-ended nature of problem identification and the perceived lack of early direction. One student described the expectation to identify and solve a healthcare problem within two weeks as "impossible and ludicrous," particularly without more initial guidance. However, even within critical feedback, there is evidence that students recognised learning value retrospectively. Some noted that productivity and effective teamwork emerged later once roles became clearer and the process gained momentum. This tension illustrates a central challenge in innovation pedagogy: how to preserve authentic uncertainty while providing sufficient scaffolding for novice learners. Handling discomfort and ambiguity are central skills for clinical practice and a growth mindset and thus aligning them in innovation practice allows a different context for these competencies to develop in medical students.

The authentic uncertainty aspect of the feedback couples with the thoughts around the intensity of the learning experience. For some students, this intensity was initially unsettling; for others, it was framed as an inherent and valuable feature of the learning. Such reflections suggest that innovation education engages affective, as well as cognitive dimensions of learning, potentially supporting the development of resilience, adaptability, and tolerance of uncertainty, qualities that are increasingly recognised as essential for leadership and system change roles.

Across all three years, students consistently comment on the quality of teaching and support as a defining strength of the SSC. Teaching teams are described as approachable, knowledgeable, passionate, and genuinely invested in student development. Phrases such as "guided us at every turn" and "incredibly supportive and knowledgeable" recur across feedback reports. This appears to be particularly

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important in innovation education, where learners are asked to take risks, work with uncertainty, and engage in unfamiliar modes of thinking. The feedback suggests that supportive facilitation mitigates anxiety and enables students to engage more fully with challenging material.

Underlying many of these comments is a strong sense that the SSC offers something distinctive and scarce within the wider curriculum. Several students explicitly stated that every student should have access to this kind of learning, recognising its value in developing broader skills and perspectives.

Taken together, the longitudinal feedback offers a nuanced and credible evidence base for the next phase of development. It demonstrates that innovation education can be deeply engaging, skills rich, and professionally formative, while also highlighting the need for clarity, support, and choice. The themes that emerged: active learning, transferable skills, systems thinking, interdisciplinary engagement, productive discomfort, and the importance of facilitative teaching, are not unique to medicine and therefore lend themselves to broader, multi-professional application. In this sense, the SSC has functioned as both an educational offering and a living laboratory for innovation pedagogy.

LINKING INNOVATION EDUCATION TO GROWTH IN THE HEALTH SYSTEM

A core aim of the SSC was to link student learning to wider system growth. This occurred in several ways.

Growth in student capability

Students developed skills in problem solving, creativity, teamwork, communication, and structured innovation methods. They also developed attributes associated with enterprising behaviour, such as curiosity, initiative, and resilience. These capabilities support personal and professional growth.

Growth in organisational capability

The University benefited from establishing a distinctive educational offering that aligned with national policy priorities and the developmental needs of healthcare professions. The SSC acted as a test bed for future educational programmes that could attract new learners and support institutional growth.

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Growth in system improvement

Many student projects provided insights that contributed to service improvement work within NHS partner organisations. Even when projects did not lead to immediate implementation, they offered new perspectives on patient experience, workflow challenges, or potential solutions. This link between education and service development created mutual value and reinforced the role of universities as partners in health system innovation.

HOW THIS WORK CONTRIBUTED TO THE WIDER CONVERSATION ON INNOVATION IN MEDICAL EDUCATION

The Student Selected Component (SSC) in Clinical Innovation and Enterprise did not exist in isolation. It aligned with national policy priorities that call for the development of innovation capability across the healthcare workforce. It also contributed to wider discussions within institutions such as the Royal College of Surgeons Innovation Hub, the NHS InSites Programme, and other collaborative networks exploring workforce transformation.

This shift in thinking is taking place alongside wider pedagogical and policy trends at regional and national levels. One of the most influential developments has been the work lead by the University of Buckingham, funded by NHS England to explore the design of a four-year undergraduate medical degree (Crown Commercial Service, 2023). Although this framework remains unpublished, the process itself created space for wide-ranging conversations about the knowledge, skills and behaviours that future clinicians will require. These discussions suggested that innovation capability should not be positioned as an optional enhancement available only to interested individuals. Instead, it should be recognised as a foundational competence underpinning the agility, creativity, and system-awareness that the NHS increasingly requires. The call for innovation skills to be integrated into medical education has been present for years, reflected clearly in the Faculty of Medical Leadership and Management (FMLM) Leadership Standards (Faculty of Medical Leadership and Management, 2015).

The FMLM framework emphasises competencies that resonate strongly with innovation education: self-awareness collaborative working, understanding organisations, and leading within systems. Innovation capability is not an adjunct to these competencies but a mechanism through which they can be operationalised. Design thinking, for example, encourages the kind of empathy-driven inquiry that supports reflective practice and psychologically safe teamwork. Rapid prototyping and iterative testing mirror the principles of improvement science embedded within

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organisational leadership. Understanding system constraints and mapping interdependencies reflect domains of system-wide leadership.

What has been missing is a concrete method for developing these skills in practice. Our approach provides an actionable pathway, translating the standards into real behaviours through applied innovation learning. Thus, our programme does not introduce a new set of expectations; it provides the methods, tools, and mindsets through which existing leadership standards can be enacted.

The SSC provided a practical example of how universities can integrate innovation capability into medical education in a structured and credible way. It demonstrates that innovation learning is not an optional enhancement, but a fundamental component of preparing clinicians for modern practice. The SSC's success offers a model that can be adapted by other institutions.

The follow up of the first SSC when the Director of BEIU was asked to run workshops on Google "Design Sprint" to doctors and other health professionals who were participating on the Trusts' "Leadership Training Board" showed that although all types of health professionals, not just doctors, had ideas on how to resolve day-to-day problems, they did not have enough time to develop their ideas to actually solve the problems they had identified.

This showed that if the NHS and its leadership want to encourage more innovation, new procedures must be developed and introduced to identify staff ideas for innovation projects that are worth pursuing and then give the staff involved leave of absence to concentrate on working on developing the solution. The staff who have proposed innovation projects that are identified as being potentially successful could either work with the NHS National Lead for Innovation, Professor Tony Young, or with regional NHS Research and Innovation Centres, such as the one run by the Buckinghamshire NHS Health Trust at Stoke Mandeville Hospital.

SETTING THE STAGE FOR FUTURE EXPANSION

While this section focuses on the origins and development of the SSC, it also introduces the next phase of growth. Extending the model into a short course and a micro-credential represents a natural evolution of its principles. Broadening access beyond medical students to all healthcare professionals reflects the multi-professional nature of innovation, with SSC momentum providing a strong foundation for expansion.

The SSC in Innovation and Enterprise demonstrates how creativity, design thinking, and systems-focused problem-solving can be meaningfully integrated into a medical curriculum. Over three years, it has shown that medical students are not

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only eager to engage with innovation but capable of applying it with sophistication when supported by appropriate structures.

As outlined earlier, the SSC emerged in response to aligned internal and external drivers, with its pedagogy refined each year. It was never intended as an endpoint, but as a precursor to a broader programme in Clinical Innovation and Enterprise, designed to meet evolving NHS workforce needs.

The momentum generated by the SSC has made its expansion not simply desirable, but necessary. What began as a different type of learning opportunity selected by a number of medical students, has become a reference point for discussions about the capabilities required of tomorrow's clinicians.

The enthusiasm of successive student cohorts, combined with the visible impact of their project work, has highlighted an ongoing appetite for innovation capability-building at every stage of professional development. Students have consistently described the SSC as one of the key experiences in their medical degree programme, that allowed them to think deeply about health systems, rather than solely about disease, to engage with genuine service challenges, and to develop a sense of agency in improving care, rather than simply observing its constraints. These reflections create a strong rationale for considering how innovation learning might be made more widely accessible.

Interest beyond the medical programme reinforces this demand. Healthcare professionals in other educational pathways increasingly seek similar opportunities, recognising the relevance of structured innovation learning across the sector. Challenges such as patient flow, digital adoption, sustainability, and integrated care require collaborative, cross-professional approaches, suggesting the SSC model, while valuable, is currently limited to medical students.

This has encouraged a transition from a small-scale SSC for medical students to a scalable, multi-professional programme capable of supporting larger cohorts. The expanded model retains core principles, user-centred inquiry, collaborative creativity, and reflective practice, while emphasising accessibility, scalability, and alignment with NHS workforce priorities.

At the heart of this expansion is the development of a short course in Clinical Innovation and Enterprise. Unlike the SSC, which was necessarily selective and intensive, the short course is conceived as an accessible entry point for healthcare professionals at any stage of their career. Participants are introduced to foundational concepts such as problem framing, stakeholder mapping, rapid experimentation, and systems thinking. They learn to view services through the eyes of patients and colleagues, identify areas of friction or unmet need, and generate feasible, proportionate responses. The course is designed to be relevant whether one is a nurse working in an acute ward, a paramedic engaged in urgent care pathways, or a pharmacist redesigning medication management processes.

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The short course will be the gateway into a wider ecosystem of optional, stackable micro-credentials that will allow learners to extend their expertise in specific domains. These micro-credentials respond to emerging system priorities such as sustainable healthcare, digital transformation, med-tech innovation, implementation science, and evaluation methods. Taken individually, they support targeted skill-building and a platform for developing a growth mindset.

The micro-credential model aligns well with ongoing discussions about flexible, stackable training pathways within both universities and the NHS, supporting individual development, whilst also contributing to "organisational transformation" agendas.

Taken collectively, micro-credentials create a pathway towards more formal academic qualifications, including a Postgraduate Certificate in Clinical Innovation and Enterprise. The PG Cert represents the academic anchor of the new model. While the micro-credentials provide flexibility, the PG Cert produces depth, enabling learners to explore innovation methodologies in greater detail and apply them through structured workplace projects.

A key feature of how the programme will embed learning within real-world contexts, is the introduction of "innovation sprints" in clinical settings. These sprints are short, intensive periods (i.e. half-day programmes) of structured innovation activity that bring together multi-professional teams to address specific service challenges. They move learning from the classroom into the heart of clinical practice, allowing participants to apply tools such as ethnographic observation, stakeholder analysis, creative ideation, and prototyping to problems.

Evaluating the impact of these new components draws directly on the lessons learned from assessing the SSC. The SSC demonstrated that learners benefit most from innovation education when evaluation focuses on developmental growth, reflective insight, and the application of systems thinking rather than purely on final project outputs. The expanded programme will adopt this principle, whilst introducing additional layers of evaluation relevant to workplace settings and multi-professional participation. Metrics therefore will assess not only individual learning but also organisational outcomes, such as implementation rates, improvements in workflow or patient experience, changes in sustainability metrics, and evidence of cultural shift within teams. Over time, this evaluation data will contribute to a rich understanding of how innovation capability-building influences workforce development and service transformation.

Taken together, these planned components; the short course, micro-credentials, PG Cert, train-the-trainer pathway, and innovation sprints, represent a vision for how innovation capability could be developed more systematically across the healthcare workforce. Each component is at varying stages of design, consultation, and institutional approval, but the direction of travel is clear. The SSC has demonstrated

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what is possible. The next phase involves translating that possibility into a scalable, multi-professional model aligned with the needs of the future NHS.

CONCLUSION

The Student Selected Component in Clinical Innovation and Enterprise was created in response to a clearly articulated and increasingly urgent challenge within healthcare education: the need to prepare future clinicians not only to deliver care within existing systems, but to actively shape and improve those systems. Across its first three years, the SSC has demonstrated that undergraduate medical students are capable of engaging meaningfully with innovation when provided with appropriate structure, support, and access to real-world clinical environments.

This case study illustrates that innovation capability is not an abstract or elite skill set reserved for a small subset of clinicians. Rather, it is a learnable, developable competence that can be introduced early in medical education through carefully designed experiential learning. By combining structured problem discovery, Design Sprint methodology, rapid prototyping, and reflective practice, the SSC enabled students to develop confidence, systems awareness, and an enterprising mindset within a relatively short timeframe

The educational value of the SSC lies not in the production of commercially viable products, although some projects have progressed beyond the module, but in the growth of student capability. Participants consistently reported increased confidence in working outside their comfort zone, improved ability to collaborate within diverse teams, and a deeper understanding of the organisational and human factors that shape healthcare delivery. These outcomes align closely with NHS national workforce priorities and leadership frameworks, which increasingly emphasise adaptability, systems thinking, and collaborative problem-solving.

Importantly, the SSC also generated growth beyond the individual learner. For the University, it created a distinctive educational offering that strengthened partnerships across faculties and with NHS organisations, and that provided a platform for further programme development in clinical innovation and enterprise. For the health system, it established a pipeline through which frontline challenges could be explored, reframed, and addressed in collaboration with emerging clinicians, reinforcing the role of educational institutions as active partners in service improvement rather than passive training providers.

At the same time, the case highlights important constraints. The limited availability of NHS staff time, the challenges of sustaining projects beyond protected educational settings, and the need for clear governance boundaries all underscore that innovation education cannot exist in isolation from organisational structures

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and incentives. If healthcare systems wish to harness the innovative potential of their workforce, protected time, clear pathways, and supportive infrastructure are essential. Education can spark capability and motivation, but system-level change is essential to convert ideas into sustained impact.

The evolution of the SSC into a broader suite of programmes, including short courses, micro-credentials, and workplace-based innovation sprints, reflects a recognition that innovation capability must be developed across professional boundaries and career stages. The SSC served as a prototype, demonstrating what is possible. The next phase involves embedding these principles more widely, ensuring that innovation learning becomes an integral and equitable component of healthcare workforce development rather than an optional enrichment activity.

In conclusion, this case study contributes to the growing evidence that experiential learning approaches can play a critical role in developing innovative and enterprising mindsets within higher education. Within the context of medical training, such approaches offer a practical means of aligning educational practice with the realities of a rapidly evolving health system. As healthcare continues to confront complex, system-wide challenges, the ability of clinicians to think creatively, work collaboratively, and design solutions grounded in real-world constraints will be increasingly essential. Programmes such as the SSC in Clinical Innovation and Enterprise provide one model for how higher education institutions can respond to this challenge, supporting innovation and growth at the level of the individual, the organisation, and the wider health system.

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KEY TERMS AND DEFINITIONS

Design Sprint methodology: A structured, time-limited approach to problem-solving and innovation that progresses through stages of understanding, ideation, prototyping, and testing to rapidly develop and refine solutions (Knapp, J., Zeratsky, J. and Kowitz, B. 2016).

Enterprising mindset: A set of attitudes and behaviours characterised by curiosity, initiative, resilience, and willingness to work productively with uncertainty in order to create value and drive improvement.

Experiential learning: A pedagogical approach in which learners develop knowledge, skills, and professional insight through direct engagement with real-world activities, followed by structured reflection, conceptualisation, and application to future practice (Kolb, 2015, p48).

Innovation capability: The ability to identify unmet needs, frame complex problems, generate and test solutions, and implement change within constrained and dynamic systems such as healthcare.

Student Selected Component (SSC): An elective module within UK undergraduate medical education that allows students to pursue in-depth learning in a chosen area, often outside the core clinical curriculum, through small-group or independent study.

Systems Thinking: An approach to understanding and addressing complex problems by examining relationships between people, processes, technologies, and organisational structures rather than focusing on isolated components (von Bertalanffy, 1950).

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Chapter 7
The Biotech Boardroom Program:
Coaching Interdisciplinary Entrepreneurs for Sustainable Innovation

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EXECUTIVE SUMMARY

The Biotech Boardroom Program (BBP) exemplifies a pedagogical innovation in entrepreneurship education, uniquely designed to bridge scientific expertise with business acumen through immersive coaching, mentoring, and experiential learning. It immerses students in a simulated boardroom environment where they confront real-world sustainability challenges aligned with the United Nations' 17 Sustainable Development Goals. Unlike traditional coursework that only emphasizes theory or static business plan development, the BBP prioritizes iterative pitching, authentic stakeholder engagement, and structured mentorship from alumni, industry experts, and government partners. The culmination is a comprehensive, investor-ready biotech venture proposal. This chapter contextualizes BBP within the landscape of experiential and responsible entrepreneurship education.

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INTRODUCTION

Traditional biotech education has often prioritized technical mastery, training students in laboratory techniques, molecular biology, and data analysis, yet it frequently neglects the entrepreneurial, regulatory (cf. Cola & Mangosh, 2025) and stakeholder engagement skills necessary for responsible innovation. This narrow focus can produce graduates who excel in the lab but struggle to translate scientific breakthroughs into market-ready solutions that are socially and environmentally sustainable. Such a disconnect contributes to innovation that is detached from societal needs, creates barriers to commercialization, and risks public mistrust.

The Biotech Boardroom Program (BBP) was created in response to this gap in biotechnology education. The BBP fits into the context of a recent and broad trend to address these gaps in entrepreneurship education (cf. Simson et al., 2025). The program integrates a curriculum embedded within a Microbial Biotechnology course, as well as complementary courses. The semester-long program (15 weeks) also features three progressive pitch cycles: concept pitch, prototype validation, and final boardroom pitch. The program culminates in a 'boardroom' pitch where students present to a panel of investors, industry executives, and policy experts, simulating the high-pressure environment of strategic decision-making. Tools and resources required for the program include digital collaboration platforms (e.g. Slack, MS Teams), alumni mentorship databases, pitch rubrics, biotech labs, and prototyping facilities. Stakeholder partnerships are another important factor: alumni mentors guide student teams, industry professionals judge pitches, and government agencies provide regulatory insight.

This chapter situates the BBP within the literature on experiential learning theory (Kolb, 1984), entrepreneurial mindset development (cf. Neck & Greene, 2011), and responsible leadership (cf. Maak & Pless, 2006), showing how stakeholder-rich interdisciplinary approaches enhance entrepreneurial education. It concludes by proposing the BBP as a replicable blueprint for integrating coaching, mentoring, and experiential pedagogy across disciplines, preparing future entrepreneurs not only to innovate but to advance inclusive growth and economic resilience in a rapidly evolving global economy. Chapter objectives include: demonstrating how embedded coaching and mentoring within experiential pedagogy foster entrepreneurial mindset development, illustrating how interdisciplinary collaboration and stakeholder engagement broaden the scope of entrepreneurship education beyond traditional business schools, showing how aligning with sustainability and Corporate Social Responsibility (CSR) principles equips students to develop ventures that balance economic success with social responsibility, and offering a practical, adaptable blueprint for global educators seeking stakeholder-rich experiential learning models in diverse institutional contexts. This chapter is intended for educators, administrators,

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policymakers, and business practitioners seeking models that integrate scientific innovation with entrepreneurial practice. It offers both theoretical grounding and practical insights into how coaching, mentoring, and experiential pedagogy can be structured to prepare future entrepreneurs for global sustainability challenges.

THEORETICAL FOUNDATIONS OF THE BIOTECH BOARDROOM PROGRAM

This section articulates the theoretical foundations that shape the BBP's design. Rather than treating experiential learning, entrepreneurial mindset development, and responsible leadership as independent frameworks, the program integrates them into a coherent pedagogical model that informs both structure and assessment.

The Biotech Boardroom Program (BBP) is rooted in a rich tapestry of educational, entrepreneurial, and leadership theories. To understand its pedagogical effectiveness and potential for scaling, it is essential to unpack the foundational theories that inform its design and implementation. The conceptual framework for BBP is grounded in three core streams of Entrepreneurship theory and practice: Experiential Learning (Kolb, 1984), the Entrepreneurial Mindset (Neck & Greene, 2011), and Responsible Leadership / CSR (Maak and Pless, 2006). Together, these frameworks provide a robust foundation for a stakeholder-rich, interdisciplinary, and sustainability-oriented entrepreneurial pedagogy.

Kolb's (1984) theory of Experiential Learning conceptualizes a process where knowledge is created through the transformation of experience. The process has four stages or parts. Concrete Experience involves the student directly engaging in activities. Reflective Observation includes a student reflecting on the experience. Abstract Conceptualization is where a student develops new theories or models based on the reflection. Lastly, active Experimentation is when a student applies new ideas in practice. This cycle can foster deep learning, adaptability, and the development of new skills. The four elements of Kolb's cycle frame the BBP process. The program's three-pitch sequence embodies this cycle, enabling students to learn by doing, reflecting, and refining. For Concrete Experience students build prototypes and deliver pitches. For Reflective Observation students analyze feedback from mentors, peers, and other stakeholders. For Abstract Conceptualization students engage in refining business models and strategic approaches. Finally, for Active Experimentation students engage in re-pitching, pilot testing prototypes, and stakeholder dialoging. The iterative nature of the program ensures students internalize lessons from each cycle, fostering resilience and continuous improvement. There is evidence that iterative cycles are a useful method in entrepreneurship education (cf. Gabrielsson et al., 2025). Embedding Kolb's model into Biotech Entrepreneurship

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education fosters active engagement, promotes reflective practice, and encourages experimentation which are all crucial for navigating the uncertainties of real-world innovation.

Having established experiential learning as the structural backbone of the program, the discussion now turns to how entrepreneurial mindset theory informs student cognition and behavioral development within that structure. Neck and Greene (2011) argue for teaching Entrepreneurship as a method, not merely as a body of knowledge, emphasizing opportunity recognition, resilience and perseverance, iteration (i.e. iterative learning), proactiveness and reflection. The BBP operationalizes these principles through its process of structured pitches, stakeholder engagement, and mentorship. Opportunity recognition can mean seeing unmet societal needs. Students in the BBP engage in this by simultaneously analyzing United Nations Sustainable Development Goals (UN SDGs) and societal needs. Resilience and Perseverance can be described as being able to bounce back from failure while Iterative Learning can be defined as continual refinement based on feedback. BBP students encounter these by having to conduct multiple pitches and prototypes embodying learning from failure. Proactiveness can be referred to as anticipating future challenges. Student reflection like post-pitch debriefs can deepen understanding and help avoid negative feedback in future rounds (i.e. anticipating future challenges). Since the BBP too is a process, it aligns with the process view of Entrepreneurship (cf. Baron and Shane, 2007) which holds that Entrepreneurship is learnable, repeatable, and sustainable. Developing an entrepreneurial mindset rooted in action and reflection equips students to create ventures that are innovative, resilient, and socially responsible.

While experiential learning and mindset theory shape how students act and think, responsible leadership theory defines how they are expected to engage with stakeholders and societal impact. Leadership in biotech innovation requires building and maintaining stakeholder trust. Maak and Pless (2006) conceptualize Responsible Leadership as building and maintaining trustful stakeholder relationships. Key principles of Responsible Leadership include: Trust Building – maintaining credibility with stakeholders; Stakeholder Inclusion – engaging diverse actors in decision-making; Long-Term Orientation – prioritizing sustainability over short-term gains; and Ethical Standard Setting – leading by example in responsible conduct. The BBP operationalizes Responsible Leadership by integrating alumni, industry, and policy actors directly into the learning process, fostering authentic relationships and ethical awareness.

Some also refer to these behaviors as Corporate Social Responsibility. CSR is defined as "actions that appear to further some social good, beyond the interests of the firm and that which is required by law" (McWilliams & Siegel, 2001: 117). More recently these are being described as Environmental, Social, and Governance (ESG) issues. However, CSR and ESG can be considered interchangeable (cf.

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Darnell, 2021). CSR emphasizes that organizations should operate in ways that are socially, environmentally, and ethically sustainable and can involve: Environmental Stewardship – minimizing ecological footprints; Social Equity – promoting equitable access and benefits; Ethical Governance – ensuring transparency and accountability; and Community Engagement – creating shared value.

The BBP incorporates Responsible Leadership and CSR / ESG in a variety of ways. For example, Stakeholder Engagement is achieved by incorporating participation from alumni mentors, judges from industry, and government policymakers. Transparency and Ethics are encouraged by requiring student teams to consider societal impact(s) in pitches. A Sustainability Orientation is accomplished by having projects aligned with UN SDGs, emphasizing social and environmental benefits.

The Biotech Boardroom Program is grounded in robust educational, entrepreneurship and leadership theories that emphasize active engagement, mindset cultivation, and stakeholder trust. Its design reflects an integrated application of experiential learning, entrepreneurial viewpoints, and responsible leadership which creates a dynamic pedagogical model adaptable across a variety of disciplines and contexts. Through this foundation, BBP prepares future biotech entrepreneurs not only to innovate but to do so responsibly, ethically, and sustainably thereby contributing to a resilient, inclusive, and sustainable global economy.

PROGRAM DESCRIPTION

While the preceding section established the theoretical underpinnings of the BBP, theory alone does not demonstrate pedagogical viability. This section demonstrates how those theories are operationalized within the BBP's curriculum. The following subsections outline the program's structural design, phased sequencing, supporting infrastructure, and integration within broader coursework. This chapter offers a comprehensive exploration of the pedagogical principles that underpin the Biotech Boardroom Program (BBP). Its purpose is to serve as a detailed blueprint for educators aiming to adopt, adapt, or expand this innovative model within diverse institutional contexts. By examining the curriculum structure, instructional methods, tools, resources, and stakeholder engagement strategies, this chapter illuminates how these elements coalesce to foster experiential learning, real-world problem-solving, and meaningful stakeholder collaboration throughout the program's lifecycle. Ultimately, the goal is to provide educators with a clear understanding of how to cultivate responsible innovation, entrepreneurial resilience, and societal impact

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through a thoughtfully designed, immersive educational experience. An outline of the program and its various elements are shown in table one.

The BBP's design emphasizes active engagement, iterative development, and cross-sector collaboration, all grounded in pedagogical approaches that prepare students for the complexities of real-world entrepreneurship within social and environmental contexts. Its multi-phase structure ensures continuous learning, reflection, and skill-building, guiding students from initial concept generation to polished pitch delivery in high-pressure scenarios. Through this, the program aims to develop not only technical expertise in Biotechnology / Entrepreneurship & Innovation, but also the ethical, social, and regulatory awareness necessary for responsible leadership in biotech and related fields.

Table 1. Integrated Design Logic of the Biotech Boardroom Program

Level	Component	Operationalization in BBP	Intended Outcomes
Conceptual	Experiential Learning	Iterative pitch cycles, reflection sessions	Adaptive problem-solving
Conceptual	Entrepreneurial Mindset	Opportunity framing, iteration, failure normalization	Resilience & innovation fluency
Conceptual	Responsible Leadership	Stakeholder embedding, SDG alignment	Ethical decision-making
Structural	Phased Curriculum	Concept → Prototype → Boardroom	Progressive competence development
Structural	Stakeholder Engagement	Mentors, judges, regulators, community	Social legitimacy & feedback loops
Assessment	Rubrics & Evaluation	Multidimensional scoring	Transparent performance metrics
Outcomes	Student Development	Confidence, regulatory literacy	Entrepreneurial readiness
Outcomes	Venture Impact	Alumni startups, policy alignment	Sustainable innovation

DESIGN AND CURRICULUM

The core of the BBP is a semester-long immersive experience that integrates experiential learning and critical thinking with stakeholder engagement. The program can be embedded within existing courses or offered as a standalone module, supported by continuous mentorship from alumni and industry professionals. This

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flexible structure ensures that students develop a broad skill set ranging from technical competencies to social and environmental literacy, thus equipping them to navigate the complex landscapes of innovation responsibly. The pedagogical framework is built around four key elements that promote active learning and real-world relevance.

First Project-Based Learning: Teams confront authentic challenges that mirror real-world scenarios, requiring students to develop scientific and technical solutions that are integrated with social, ethical, and environmental considerations. This immersive approach encourages active problem-solving and critical thinking, enabling students to apply theoretical knowledge to practical situations. Second Stakeholder Co-Creation: Continuous engagement with a diverse array of stakeholders including alumni with experience in regulatory affairs, startup founders, subject matter experts, patent lawyers, and government policymakers ensures that projects remain aligned with societal needs, regulatory standards, and ethical expectations. This collaborative process involves regular feedback loops, joint problem-solving, and iterative refinement of ideas. Third Mentor-Guided Reflection: Alumni and industry mentors guide students through iterative cycles of feedback, fostering resilience, adaptability, and continuous improvement. This mentorship emphasizes the importance of learning from failure, encouraging a growth mindset and reflective practice. Fourth a Simulated Boardroom: A high-pressure environment that mimics investor pitches and regulatory decision-making processes prepares students for the realities of entrepreneurial and corporate negotiations. Students deliver pitches, respond to tough questions, and receive feedback from evaluators, simulating real-world scenarios. This pedagogical foundation supports a structured program divided into four interconnected phases, each designed to build upon the last through experiential learning, reflection, and stakeholder involvement.

With the overarching design principles established, attention now turns to the structured phases through which the BBP unfolds. These phases illustrate how iterative development, stakeholder engagement, and reflective practice are sequenced across the semester to progressively build entrepreneurial competence and responsible innovation capacity.

Program Phases

The heart of the BBP lies in its iterative, phased progression. Each stage builds upon the previous one, reinforcing experiential learning cycles while increasing stakeholder complexity and venture sophistication.

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Phase 1: Concept Development & Stakeholder Engagement (Weeks 1 – 4).

In this initial stage, students brainstorm and develop project ideas grounded in societal needs and regulatory contexts. Mentors assist in framing these challenges, emphasizing the value of experiential and iterative learning where failure is reframed as an essential learning opportunity. Students conduct stakeholder interviews, review relevant literature, and articulate initial proposals that reflect real-world relevance and social impact. Activities include: brainstorming and ideation workshops, stakeholder mapping and interviews, literature reviews on societal impacts and regulatory landscapes, and development of initial project proposals and problem statements. Specific deliverables include: a concept proposal document, stakeholder interview summaries, and reflection notes on societal and regulatory considerations. By the end of phase 1, students will be able to identify at least three relevant societal needs and challenges within the context of biotechnology and innovation through analysis of case studies or real-world scenarios. They will demonstrate effective stakeholder engagement skills by conducting and documenting at least two stakeholder interviews and facilitating collaborative discussions with diverse actors. Additionally, students will evaluate regulatory environments by analyzing at least one regulatory framework and articulating its impact on societal outcomes in written or oral format. Through participation in the biotech boardroom activity, students will successfully present their solutions, demonstrating the ability to identify societal needs, engage stakeholders effectively, and evaluate regulatory influences. Ultimately, students will be able to develop and communicate responsible, socially aware solutions that integrate technical, social, and ethical considerations, as evidenced by their project proposals and presentations.

Phase 2: Concept Refinement & Stakeholder Feedback (Weeks 5 – 9).

Building on initial ideas, teams incorporate stakeholder and mentor feedback, refining their solutions for feasibility and sustainability. This phase underscores the importance of interdisciplinary collaboration, as bringing in diverse expertise enhances socially embedded innovation. Reflection and iteration are central, fostering adaptability and continuous improvement. Activities include: iterative design sessions, stakeholder review meetings, impact and feasibility assessments, and refinement of project goals and scope. Specific deliverables: revised project proposals, stakeholder feedback reports, and updated timelines and objectives. In Phase 2, the timeline is updated by revising and refining the project schedule to incorporate stakeholder and mentor feedback, ensuring that the new objectives,

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activities, and milestones are realistic and achievable within the remaining time frame. This involves adjusting deadlines for key tasks, setting new deadlines for additional iterations or developments, and clearly documenting these updates in the project plan. The updated timeline should reflect a more accurate schedule for completing subsequent phases, aligning the project's scope and activities with the insights gained during stakeholder review and feedback sessions.

There are several potential learning outcomes in this phase. Students will perform at least three iterative design cycles, incorporating stakeholder feedback into each version. They will demonstrate improved stakeholder communication skills by conducting and documenting at least two stakeholder engagement sessions and effectively addressing feedback received. Additionally, students will critically assess societal and environmental impacts by completing a written analysis or presentation that identifies and evaluates at least three potential impacts, achieving a score of at least 80% on the assessment rubric. See the appendix for a copy of the assessment rubric.

Phase 3: Prototype Development & Validation (Weeks 10 – 13).

Students focus on developing a minimum viable product (MVP), emphasizing rapid prototyping aligned with societal needs and ethical standards. Field testing with stakeholders provides critical insights into usability, social acceptance, and regulatory compliance. Ethical and environmental considerations are embedded early to ensure solutions are responsible and sustainable. Activities include: developing an MVP or digital model that captures the essential features of the proposed solution, conducting field testing sessions with stakeholders to observe interactions and collect feedback, gathering insights on usability, social acceptance, environmental impact, and regulatory compliance, and reflecting on ethical, environmental, and social implications based on testing outcomes. Specific deliverables include: an MVP demonstrating core functionalities, field testing reports summarizing stakeholder feedback and observations, and reflection documentation on social, ethical, and environmental considerations. Learning outcomes can include the ability to demonstrate rapid prototyping skills by developing at least two functional prototypes focused on core value delivery within specified time frames. Students will be able to gather and incorporate stakeholder feedback by conducting at least one stakeholder interview or user testing session and integrating the feedback into iterative prototype revisions. Additionally, students will demonstrate increased awareness of ethical, environmental, and societal impacts by completing a reflection or assessment where they identify and analyze at least three considerations relevant to early development stages, achieving a score of at least 80% on the evaluation rubric.

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Phase 4: Final Boardroom Pitch and Presentation (Week 14).

The culmination of the program involves preparing and delivering comprehensive pitches that incorporate scientific, technical, market, financial, regulatory, and sustainability considerations. The pitches are presented by students before a panel consisting of investors, regulators, community members, and industry leaders. Using this approach helps students to foster skills in strategic communication, stakeholder engagement, and responsible innovation. Activities include: pitch preparation and rehearsals, peer reviews, and a final presentation at a simulated or real 'boardroom.'

Specific deliverables include: formal pitch decks, executive summaries, and revised venture proposals based on panel feedback. Learning outcomes include the ability to deliver clear and professional presentations by effectively communicating technical information to diverse audiences, demonstrated through at least two presentations evaluated with a score of 80% or higher. Students will synthesize complex information into compelling narratives by preparing and presenting at least one integrated story or pitch that combines scientific, technical, and contextual aspects. They will address diverse stakeholder concerns by conducting and documenting at least two stakeholder engagement sessions, responding to feedback on subsequent design iterations. Students will incorporate stakeholder feedback into their iterative design process by updating their prototypes or proposals based on feedback from at least one stakeholder session. Additionally, students will demonstrate awareness of ethical and social considerations by completing a written analysis that identifies and discusses at least three ethical or social factors relevant to their technological solution, achieving at least 80% on the assessment rubric. Finally, students will prepare comprehensive pitches that include scientific, technical, market, financial, regulatory, and sustainability attributes, evaluated through a formal presentation or report scored at 80% or higher.

Phase 5: Reflection & Evaluation (Week 15).

This final phase emphasizes reflection on the entire project journey, including stakeholder engagement, regulatory analysis, ethical considerations, and personal learning growth. Students critically assess their experiences, challenges faced, and insights gained throughout the program, fostering a mindset of continuous improvement and responsible innovation. They will articulate at least three key insights or lessons learned from their project experience in a reflective essay, demonstrating depth of understanding and personal growth, with each insight supported by a minimum of two hundred words. They will identify and explain at least two specific challenges encountered during stakeholder engagement or regulatory analysis, including how these challenges were addressed, supported by concrete examples from their work.

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Students will evaluate their own contributions by completing a self-assessment rubric, achieving a score of at least four out of five in categories such as teamwork, communication, ethical awareness, and project management. Additionally, they will analyze the ethical, social, and regulatory considerations relevant to their project by writing a reflection that explicitly links at least three project decisions to these considerations, each supported by specific examples. Finally, students will propose at least two actionable areas for future improvement or next steps based on their reflection, supported by evidence from their project experiences.

Effective implementation of this phased experiential model depends on intentional infrastructural support. The following section outlines the digital platforms, mentorship networks, prototyping facilities, and assessment frameworks that enable the BBP's iterative and stakeholder-rich learning environment sustaining the program's experiential rigor.

Tools and Resources

To effectively support the experiential, iterative, and stakeholder-driven nature of the BBP, a diverse set of tools and resources are employed throughout the program's lifecycle. These resources are designed to facilitate collaboration, foster rapid prototyping, enable effective stakeholder engagement, and support continuous reflection and assessment. They are integral to creating an immersive learning environment where students can experiment, receive real-time feedback, and refine their solutions responsibly.

Digital Collaboration Platforms

Tools such as Slack, Microsoft Teams, Google Drive, or similar digital platforms serve as central hubs for communication, document sharing, and project coordination. These platforms enable seamless collaboration among student teams, mentors, stakeholders, and faculty, ensuring that all participants stay connected regardless of physical location. They support real-time discussions, file exchanges, and asynchronous feedback, fostering a dynamic and flexible learning environment aligned with the program's iterative approach.

Mentor and Judge Database

A curated database of alumni, industry professionals, government officials, and community leaders provides vital mentorship and evaluation support. This network facilitates ongoing coaching, expert feedback, and assessment of student projects at each phase. By engaging mentors from diverse sectors, students gain multifaceted

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insights ranging from technical feasibility to social acceptability and regulatory compliance all embedded within real-world contexts.

Prototyping Facilities and Digital Tools

Access to biotech laboratories, maker spaces and or digital modeling software facilitates the rapid prototyping process. These resources allow students to translate their ideas into tangible solutions which they can use to efficiently test core hypotheses and then easily iterate designs based on stakeholder feedback. The availability of advanced tools supports the development of MVPs, digital simulations, and environmental impact assessments, reinforcing the program's emphasis on responsible innovation.

Assessment Rubrics and Evaluation Frameworks

Clear, transparent assessment rubrics are employed to evaluate pitch quality, stakeholder engagement, sustainability considerations, and regulatory compliance. These frameworks guide students in understanding expectations and provide consistent metrics for feedback. They also help faculty and mentors identify areas for improvement, ensuring that evaluation remains aligned with the program's pedagogical goals of fostering responsible, socially embedded innovation. See an example in the appendix. The first two rows of criteria can be used for an early-stage pitch, while all four rows can be used for a later stage.

Learning Analytics and Reflection Tools

Digital portfolios, reflection journals, and assessment tools such as Kahoot!, Quizlet, Turnitin, Google Forms, and Rubrics support continuous learning and reflection by providing platforms for students to document their progress, critically evaluate their work, and receive formative feedback. These resources enable students to record their iterative design process, ethical considerations, and stakeholder interactions, thereby deepening their understanding of social impacts and responsible leadership. For example, digital portfolios allow learners to compile and showcase their evolving work, while reflection journals facilitate ongoing self-assessment of their experiences. Commercial tools like Kahoot! and Quizlet promote active review and engagement, whereas platforms such as Turnitin help ensure academic integrity and provide feedback on originality. Additionally, Google Forms and rubrics support self and peer assessments, fostering reflective practice and continuous improvement. Faculty can utilize these insights to tailor mentorship, offer targeted

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support, and reinforce the importance of responsible innovation and leadership throughout the project.

Resource Libraries and Knowledge Repositories

A comprehensive collection of resource libraries and knowledge repositories supports student learning and project development. These include traditional academic journals, industry reports, regulatory guidelines, and community resources. Additionally, AI-powered tools like ChatGPT Deep Research play a crucial role by enabling real-time web searches for current information, extracting insights from extensive knowledge bases, and assisting with research and idea generation. These AI tools facilitate rapid access to relevant data, enhance critical thinking, and support responsible innovation by providing up-to-date knowledge and context-aware assistance. The integration of AI tools ensures students can leverage advanced research capabilities, stay informed about industry trends, and deepen their understanding of social, technical, and regulatory dimensions of their projects.

Beyond individual tools and platforms, the BBP's effectiveness rests on its integration within the broader curriculum. The next section explains how these resources are embedded within foundational coursework to ensure alignment between theoretical knowledge and experiential application.

Integration with the Curriculum

The Biotech Boardroom Program (BBP) is integrated into the broader course or program curriculum through a strategic combination of tools and resources that support activities across all phases—from initial ideation to final presentation. These tools include collaboration platforms for stakeholder interviews and team discussions during early phases, prototyping facilities for creating MVPs, mentorship databases for ongoing expert guidance, and assessment frameworks to clarify expectations at each stage.

This integrated approach is complemented by foundational coursework in the theory and application of biotech, which provides students with essential knowledge of biotech principles, technologies, ethics, regulatory landscapes, and societal impacts. These theoretical foundations underpin experiential activities, such as stakeholder co-creation, simulated boardroom pitches, and reflective exercises, which are designed to develop key skills in communication, stakeholder engagement, leadership, and career readiness.

By embedding these tools, resources, and activities within the broader curriculum, the BBP creates a rich, interactive learning environment. Students are empowered to experiment responsibly, learn from real-world feedback, and internalize core

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principles such as resilience, stakeholder engagement, sustainability, and ethical leadership. This integrated curriculum approach transforms theoretical knowledge into tangible, socially impactful solutions and prepares students for successful careers in the biotech industry.

While curricular integration provides structural coherence, the distinguishing feature of the BBP lies in its sustained stakeholder engagement. The following section examines how authentic interaction with alumni, industry professionals, regulators, and communities functions not merely as enrichment, but as a central pedagogical mechanism.

Stakeholder Engagement and Pedagogy

While program structure provides scaffolding, stakeholder engagement provides depth and legitimacy. This section examines how stakeholders are embedded as pedagogical actors rather than peripheral evaluators, shaping both learning outcomes and venture direction. A central pillar of the BBP's pedagogical approach is fostering authentic stakeholder engagement. This involves actively involving students, alumni, industry partners, policymakers, communities, and other relevant actors throughout the program. Recognizing that responsible innovation depends on relevance, legitimacy, and societal acceptance, the curriculum emphasizes embedding stakeholder interactions as a core component of every phase of project development. This approach ensures that solutions are not only technically sound but also socially embedded and ethically grounded. Engaging stakeholders authentically, by fostering ongoing dialogues and meaningful participation, serves as a fundamental pedagogical principle. It moves beyond superficial consultation, encouraging students to see stakeholders as active partners whose insights shape project relevance and impact.

Some insights that we have gained after numerous iterations of the program include: the need for early involvement of stakeholders. This helps shape projects that are closely aligned with societal needs, regulatory requirements, and cultural contexts. There is also a need for continuous dialogue which builds trust and enhances the relevance of student projects and promotes societal acceptance and support. Stakeholder diversity introduces multiple perspectives, enriching innovation and ensuring solutions are inclusive, responsible, and socially acceptable.

Embedding stakeholder engagement as an intrinsic part of the curriculum, rather than just a peripheral activity, drives responsible innovation. It cultivates students' skills in communication, empathy, negotiation, and ethical reasoning thus preparing them to lead socially responsible ventures that are attuned to societal expectations and legal frameworks.

To operationalize this principle of stakeholder engagement, the program incorporates various stakeholder roles, each offering unique perspectives and expertise.

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These stakeholder roles are not episodic; they are integrated systematically across phases to create sustained feedback loops that mirror real-world entrepreneurial ecosystems. For example: alumni mentors provide ongoing coaching, industry insights, and constructive feedback on project development. Their real-world experience helps students navigate complex challenges and refine their solutions responsibly. Industry judges evaluate projects for feasibility, market potential, and regulatory alignment. They can also serve as mentors, offering practical advice on market entry strategies and commercialization pathways. Government agencies can offer critical regulatory perspectives, facilitate understanding of compliance requirements, and support students in navigating legal and policy frameworks. Their involvement ensures projects meet societal standards and legal obligations. Lastly, community representatives ensure that solutions are culturally appropriate, address genuine societal needs, and promote equitable benefits. Their participation fosters inclusivity and social license to operate.

Throughout each project phase, stakeholder engagement activities are systematically integrated. Early-stage interviews and needs assessments involve communities and policymakers; iterative feedback sessions with industry, regulatory bodies, and alumni mentors refine prototypes; iterative pitches incorporate judges' feedback to improve presentation clarity, strategy, and social responsibility. Post-pitch, alumni mentors continue their support by helping students incorporate feedback, refine their ventures, and plan for implementation. This ongoing engagement ensures that projects remain socially relevant, ethically sound, and practically viable.

Curriculum Outcomes and Impact

Having examined the role of stakeholders in shaping learning processes, the discussion now turns to outcomes. To evaluate whether the BBP achieves its intended objectives, this section synthesizes quantitative, qualitative, and longitudinal evidence collected across multiple cohorts. The goal is not merely to describe participation, but to assess developmental impact. This comprehensive curriculum design aims to produce socially responsible innovators equipped with a robust set of skills: technical expertise, stakeholder engagement capabilities, and a deep understanding of societal impacts. Each phase of the program builds upon the previous, promoting continuous learning, adaptation, and real-world readiness. Students emerge not only as capable entrepreneurs, but also as ethical leaders committed to responsible innovation that benefits society at large.

By weaving stakeholder engagement into the fabric of the curriculum, the BBP fosters a learning environment where social legitimacy and ethical considerations are central to technological development. This approach cultivates a new generation of entrepreneurs who are adept at balancing innovation with societal well-being,

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ensuring their ventures contribute meaningfully to sustainable development goals and social equity.

ASSESSMENT AND EVIDENCE

The true measure of the BBP's success lies in its ability to transform student capabilities, propel venture development, foster societal impact, and drive institutional change. Evaluating such an innovative pedagogical model requires a comprehensive, multidimensional approach that combines quantitative metrics, qualitative insights, long-term tracking, and societal indicators. This section synthesizes evidence collected over multiple cohorts, illustrating the program's effectiveness, identifying challenges, and highlighting opportunities for future growth. Ultimately, the BBP aims not only to enhance entrepreneurial skills but also to contribute meaningfully to sustainable development, societal trust, and responsible innovation.

Quantitative Evidence

We begin with quantitative indicators of growth in participation, interdisciplinary engagement, and entrepreneurial confidence.

Participation and Growth Metrics

Since its pilot inception and by the third year of running it, the program has steadily expanded with participation increasing by approximately 30% annually. The program has reached over 250 students from diverse disciplines including biology, engineering, social sciences, and business. The program demonstrates a strong commitment to inclusion achieving over 40% female participation and over 35% of students from underrepresented minority backgrounds. These statistics reflect a dedication to fostering inclusive innovation. Additionally, more than 70% of student teams comprise members from at least three different academic disciplines, fostering collaboration that mirrors the interconnected nature of real-world biotech ecosystems.

Skills and Confidence Enhancement

Pre- and post-program surveys indicate a 40% increase in self-reported entrepreneurial confidence, especially in stakeholder communication, regulatory navigation, and sustainability planning. Nearly 85% of participants report acquiring new skills in pitching, stakeholder engagement, and biotechnology regulatory landscape understanding. Alumni feedback further demonstrates that participation has heightened

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their engagement in biotech entrepreneurship, policy advocacy, and responsible innovation practices, exemplifying the program's long-term influence.

Qualitative Evidence

Quantitative measures provide breadth; qualitative evidence offers depth. Student and stakeholder reflections illuminate how experiential and stakeholder-rich design translates into shifts in mindset, resilience, and ethical reasoning.

Student Perspectives

Participants consistently highlight significant personal and professional growth and increased confidence. After completing the program many students report feeling "prepared for real-world investor meetings" and "comfortable navigating stakeholder disagreements". Students emphasize a broadened perspective, with a deeper appreciation for societal impacts, ethical dilemmas, and stakeholder diversity. Resilience also emerges as a key theme. Students recount overcoming setbacks such as prototype rejection or stakeholder pushback thereby learning to pivot and adapt their approaches. See the appendix for examples of more detailed student responses.

Mentor and Faculty Insights

Alumni and industry mentors observe notable improvements in interdisciplinary collaboration among the students, with teams demonstrating enhanced communication across technical and social domains. As one mentor noted, "Success within the aggressive BBP schedule requires teamwork, collaboration, project management, mutual trust and respect, and strong communication skills." They also observe increased ethical awareness, with students asking more nuanced questions about societal impacts and regulatory compliance. Many ventures now incorporate social impact strategies aligned with UNSDGs, reflecting a deepening commitment to responsible innovation. It is also evident that "many of them will go on to do great things and a number of them are garnering recognition even before they graduate," an alumni remarked, highlighting the impressive caliber of students and the bright futures ahead. See the appendix for examples of more detailed stakeholder feedback.

Community and Stakeholder Feedback

Community partners report that student ventures addressing local challenges, such as water purification and healthcare access, are more culturally acceptable and

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better received. Policymakers observe that student proposals align with national innovation priorities, enhancing the program's credibility and relevance.

Longitudinal Outcomes

Beyond immediate educational outcomes, the program's longer-term influence emerges in alumni trajectories and venture development milestones. The program's impact extends beyond graduation as alumni expand into new markets, secure investments, and partner with biotech firms. For example, an alumnus of the Biotech Boardroom program co-founded Arda Biomaterials, a company developing scalable, animal- and plastic-free materials with spent grain from breweries and distilleries into a sustainable material, offering an alternative to animal leathers and synthetics. Alumni also serve as mentors for subsequent cohorts, creating a virtuous cycle of knowledge exchange and capacity-building.

This body of evidence affirms that the BBP effectively cultivates entrepreneurial confidence, interdisciplinary collaboration, stakeholder engagement, and responsible innovation all leading to tangible venture milestones and societal benefits. Its adaptive, stakeholder-centered approach aligns with global imperatives for sustainable development and responsible leadership. As the program continues to evolve, ongoing assessment, active stakeholder involvement, and scaling will be essential for sustained impact. The BBP exemplifies how experiential, responsible entrepreneurship education can serve as a catalyst for inclusive and sustainable growth in biotech and beyond.

Demonstrated outcomes raise an important question: can this model extend beyond its original institutional context? The next section explores the transferability of the BBP's core principles across disciplines, regions, and institutional types, identifying both enabling conditions and potential barriers.

REPLICATION AND TRANSFERABILITY

This section analyzes the structural features that enable replication and the contextual factors that may require adaptation.

Lessons for Global and Cross-Disciplinary Adoption

The Biotech Boardroom Program (BBP) exemplifies a successful model of interdisciplinary, stakeholder-rich, experiential education rooted in active engagement, collaboration, and sustainability. Its core principles of adaptability, stakeholder involvement, and experiential learning are inherently transferable across diverse

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cultural, institutional, and disciplinary contexts. This section explores how the BBP can be replicated and transferred: across different regions and cultures in higher education systems worldwide, into other fields and sectors beyond biotech, such as renewable energy, digital innovation, healthcare, and social entrepreneurship, and across various institutional types, including universities, vocational education institutions, public / government agencies, and industry training programs. We will also identify barriers, enablers, and best practices for embedding responsible innovation principles into diverse educational and organizational ecosystems. Although the program's core principles are transferable, successful implementation depends on addressing contextual constraints related to resources, culture, regulation, and institutional readiness.

Core Principles Enabling Broad Transferability

Modular and Flexible Design

This curriculum has great adaptability potential. Modular content allows customization to local societal challenges, regulatory environments, and disciplinary norms. The curriculum also has 'resource sensitivity' in that open-source tools, virtual labs, and community prototypes can be utilized to minimize costly infrastructure needs, facilitating adaptation across a variety of resource settings. The interdisciplinary approach is also key. By combining science, entrepreneurship, policy, and social engagement the program is almost universally applicable fostering cross-sector relevance.

Technology-Enabled Delivery

Globally available digital platforms can be used to facilitate the program. Tools like Zoom, Microsoft Teams, Google Drive, and Slack are all examples that can enable remote collaboration, mentorship, and stakeholder engagement across disciplines and geographies. Open access (free) educational resources can also be used. Items like sharing modules, case studies, and mentorship models online support adaptation to various fields and educational contexts. Emerging immersive technologies could also be used to facilitate the program. Technologies like virtual (or augmented) reality and simulations can replicate negotiations, regulatory reviews, or stakeholder dialogues relevant to multiple stakeholders.

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Ecosystem Building

Networks are a key factor in facilitating the program and can potentially be developed anywhere. Developing alumni, industry, and community partnerships supports ongoing mentorship, funding, and collaboration. Local Engagement helps as well. Embedding local stakeholders ensures societal relevance and acceptance in different cultural settings. Lastly, policy alignment is a crucial factor. Connecting program goals with national or sector-specific policies accelerates institutional support.

Strategies for Broad Replication and Transfer

Various strategies exist for replicating this type of program. However, idiosyncratic barriers may be encountered in various parts of the world. For example: resource limitations, cultural differences, regulatory complexity, institutional resistance, and stakeholder engagement hurdles may be encountered but can be addressed through tailored strategies such as localization, capacity building, and stakeholder involvement. Strong global networks, supportive policies, diverse funding streams, and digital infrastructure can all help facilitate scaling and transfer. It may be necessary to advocate for policies integrating responsible innovation across sectors. Facilitators can use AI, virtual reality, and data analytics to enhance learning, stakeholder engagement, and impact assessment.

Pilot and Co-Creation

Small-Scale Pilots are a smart way to initially develop the program. Test programs can fit in new contexts through pilot initiatives. Co-Design is another technique. Collaborate with local educators, industry, and policymakers to tailor content and stakeholder roles. It is important to have iterative feedback. Use pilot insights to refine curriculum, stakeholder engagement, and assessment methods.

Building Capacity and Networks

Faculty development may be necessary for implementing the program. Conduct training workshops on responsible innovation, interdisciplinary teaching, and stakeholder facilitation. Mentor pools could also be used. Develop regional mentors from academia, industry, and community sectors. Participant outreach may also be needed. Promote societal relevance and cross-sector impact to boost participation.

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Resource Mobilization

If (additional) funding is needed to facilitate the program, there are several possibilities. Tap into national or international grants, regional development funds, and private or corporate sponsorships. If required infrastructure is needed, consider leveraging existing facilities, community centers, or digital tools, supplemented with open (free) resources. Partnerships could also be an option. Formalize collaborations with governments (city, regional, national, or international), NGOs (non-profit organizations), industry, and educational institutions.

Contextualization and Localization

Cultural Sensitivity will likely need to be considered for most locations around the world. Incorporate local norms, languages, and values into the curriculum and stakeholder engagement process. Consider appropriate regulatory alignment based on location. Adapt program guidance to local legal and policy frameworks. Lastly, consider societal relevance. Emphasize specific local and regional societal challenges, as well as UNSDGs, to enhance engagement and societal impact.

Building a Global Community of Practice

For the BBP and other experiential Entrepreneurship and Innovation programs, we should all consider fostering online resource-sharing platforms, mentorship networks, and peer learning communities. We could also organize international webinars, conferences, and collaborative projects. Or develop adaptable modules and case studies reflecting regional and sector-specific challenges.

Barriers to Implementing BBP

While the BBP model offers a compelling blueprint, several barriers can hinder its adoption. Resource limitations are one such barrier. Establishing biotech labs, prototyping facilities, and stakeholder networks requires significant financial and infrastructural investment, which may be lacking in resource-constrained institutions. Additionally, building and maintaining active relationships with industry, regulators, and communities requires ongoing effort, trust, and institutional incentives that may be absent. Curricular rigidity is another barrier. Traditional curricula often emphasize discipline-specific content with rigid structures, making it difficult to incorporate flexible, experiential components like iterative pitches or stakeholder engagement activities. Resistance to curricular changes, especially in universities with siloed departments or conservative academic cultures, can slow or prevent

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adoption. Additionally, many educators may lack experience in entrepreneurship, stakeholder facilitation, or interdisciplinary teaching, creating a need for faculty development and training. Overcoming these barriers requires strategic planning, stakeholder buy-in, resource mobilization, and flexible program design.

In summary, the BBP's core principles of interdisciplinary integration, stakeholder engagement, experiential learning, and sustainability are highly transferable across sectors, disciplines, and regions. This adaptable, stakeholder-centered framework has the potential to drive a global movement toward responsible innovation in diverse fields and institutions. Successful scaling will rely on strategic partnerships, technological innovation, and contextual customization to foster a culture of inclusive and sustainable development worldwide.

DISCUSSION AND CONCLUSION

Having considered scalability and contextual adaptation, the discussion now synthesizes theoretical insights, practical implications, and institutional lessons emerging from the BBP experience. The modular structure of BBP makes it adaptable across disciplines such as engineering, environmental sciences, or health sciences. Its emphasis on stakeholder-rich experiential learning responds to global calls for educational practices that prepare students for complex, real-world challenges (Fayolle, 2013; Nabi et al., 2017). By embedding sustainability and CSR as core learning outcomes, BBP contributes to a growing movement in entrepreneurship education that prioritizes inclusive, responsible, and sustainable growth (Acs et al., 2018; Shepherd & Patzelt, 2011).

The Biotech Boardroom Program (BBP) demonstrates that multidimensional, stakeholder-rich experiential learning can meaningfully strengthen entrepreneurship education by bridging scientific rigor with social responsibility and commercialization strategy. The findings emerging from program delivery and assessment indicate that when students are immersed in iterative, authentic pitch cycles supported by coaching and mentorship, they not only develop stronger entrepreneurial competencies but also demonstrate heightened awareness of ethical, environmental, and societal considerations embedded within innovation processes.

The program's design intentionally integrates experiential learning (Kolb, 1984), entrepreneurial mindset development (Neck & Greene, 2011), and responsible leadership frameworks (Maak & Pless, 2006). The evidence suggests these theoretical commitments translate effectively into practice. Quantitative outcomes demonstrate increased self-efficacy, regulatory literacy, and stakeholder communication skills, while qualitative feedback highlights meaningful shifts in students' confidence, resilience, ethical reasoning, and interdisciplinary collaboration. Importantly, em-

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bedding sustainability and social responsibility within project expectations, rather than presenting them as optional considerations, appears to normalize responsible innovation as a core entrepreneurial competency rather than an adjunct value.

The BBP also advances calls within entrepreneurship education to move beyond simulated business plan development toward pedagogies that mirror the uncertainty and complexity of real venture environments (Fayolle, 2013; Nabi et al., 2017). The high-pressure boardroom simulation and stakeholder integration are particularly effective in prompting students to articulate venture impact beyond commercial viability, aligning with emerging imperatives in sustainable and inclusive entrepreneurship (Acs et al., 2018; Shepherd & Patzelt, 2011). The iterative pitch structure further encourages adaptability and reinforces entrepreneurship as a methodological process rather than a static outcome.

Implications for Practice

Several implications for educators and institutional leaders emerge from this analysis. For example, making stakeholders part of the curriculum, not an add-on. Students benefited most when industry partners, regulators, alumni, and community actors were systematically embedded into milestones, feedback loops, and assessment, not merely invited as judges at the end of the process. Also normalizing iteration and failure. The structured three-pitch sequence, framed explicitly as iterative learning, helped shift student mindset from perfectionism to continuous innovation. Programs seeking similar outcomes should intentionally design opportunities for revision and re-engagement. Facilitators should focus on sustainability and responsibility early. Positioning SDGs, ethics, and social impact as core constraints rather than optional dimensions, encouraged teams to generate solutions that were both technically strong and societally relevant. Educators should also consider using rubrics as learning tools, not just evaluation instruments. Transparent scoring criteria helped students internalize expectations around regulatory feasibility, stakeholder engagement, ethical reasoning, and communication. Lastly, build local ecosystems, even at small scale. Sustainable implementation depends not only on curricular design but on relationship cultivation, including alumni mentorship pipelines, institutional partnerships, and community relevance. These practices position the BBP as a replicable pedagogical model that supports both technical innovation and responsible entrepreneurial competency formation.

Limitations

While the BBP demonstrates much potential, several limitations should be acknowledged. First, participation levels varied by cohort, and students with prior

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entrepreneurial exposure may have benefited differently than those new to the domain. Second, while stakeholder diversity was a strength, stakeholder engagement fluctuated depending on availability, potentially influencing equity of learning experiences across teams. Third, the assessment methods, while multi-dimensional, rely in part on self-reported measures of confidence and perceived skill development, which may not fully capture behavioral change. Finally, the program was implemented within a large research university with access to prototyping labs, alumni networks, and regulatory experts; resource-constrained institutions may require additional adaptation time, infrastructure development, or alternative delivery models.

Future Research Directions

Future research could extend this work in several directions. For example, longitudinal tracking. Further study could assess whether increased confidence and responsible innovation mindsets translate into career pathways, venture creation, or ethical decision-making post-graduation. Comparative program studies may also be beneficial. Comparing the BBP with traditional classroom-based entrepreneurship education or with similar stakeholder-rich programs across institutions, could provide valuable insight into essential versus contextual program components. Equity and inclusion outcomes could also be investigated. Research examining how first-generation students, underrepresented groups, and non-business majors experience the program could inform strategies for equity-centered program refinement. Lastly, scalability models could be analyzed. Additional research on hybrid, online, or international adaptations could illuminate frameworks for scaling without diluting stakeholder authenticity or experiential rigor.

Case Study Example

The context for the student example case provided here is for a team named EcoGrad Gowns at the ideation stage for a plantable graduation gown product. Traditional graduation gowns are made from synthetic, non-biodegradable materials that contribute to environmental waste. To promote sustainability and school pride, a student team in the ideation stage developed the concept of biodegradable, plantable graduation gowns made from natural fibers such as cotton, hemp, and algae. Their innovative design involves embedding seeds of the school's specific flower colors into the hem, enabling graduates to plant the gown after the ceremony. This process transforms waste into a living memorial, fostering ecological responsibility and school spirit.

The team engaged with various stakeholders throughout the process. For example, students and alumni contributed insights on gown aesthetics, the significance

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of incorporating school colors, and the symbolic value of planting the gown post-ceremony. Alumni helped articulate the specific sustainability problem, the ecological impact of gown waste, and supported how well the team explained their solution's impact: turning waste into a living plant that celebrates the graduate and benefits the environment. They also assisted in articulating the scientific method behind seed embedding and germination, emphasizing seed viability and ecological safety. Material scientists and biotechnologists provided the team guidance on selecting biodegradable fibers and seed embedding techniques that preserve seed viability during gown use and disposal. School administrators and faculty discussed with the team how to potentially incorporate the concept into graduation ceremonies and promote institution sustainability themes. Environmental and community groups advised the team on suitable plant species, planting practices, and ecological impacts to ensure the seeds would thrive locally.

EcoGrad Gowns engaged in several activities for development and validation of the concept (primarily at the ideation stage). For example, the team brainstormed fabric blends, focusing on durability and biodegradability, seeking solutions that could safely decompose after planting. They also researched seed embedding techniques, such as coating seeds with biodegradable substances or sewing seed capsules into the hem, to protect viability during gown use. Initial sketches and rough mock-ups illustrated how seeds could be integrated into the hem, aligned with school colors.

Future development, or next steps, for EcoGrad Gowns include (but are not limited to): developing prototypes with embedded seeds, conducting laboratory testing to verify seed viability after gown use, organizing planting trials with graduates to evaluate germination success, and addressing logistical issues like gown cleaning and seed protection.

Key Takeaways

1. **Experiential structure drives competency development:** A phased, iterative design, concept development, prototype validation, and boardroom simulation strengthens entrepreneurial self-efficacy, regulatory literacy, and strategic communication skills.
2. **Stakeholders must be embedded throughout the process:** Sustained engagement with alumni, industry professionals, regulators, and community partners enhances venture realism, accountability, and learning depth. Stakeholder integration is most effective when curricular, not episodic.
3. **Responsible innovation is a core competency:** Positioning sustainability, ethical reasoning, and regulatory compliance as non-negotiable design constraints normalizes socially responsible entrepreneurship rather than treating it as an optional add-on.

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4. **Iteration and structured feedback build resilience:** Multiple pitch cycles and prototype revisions reframe critique as developmental, cultivating adaptability and evidence-based decision-making essential in biotechnology and high-uncertainty sectors.
5. **The Model is adaptable and scalable:** The BBP's modular, stakeholder-centered architecture can be transferred across disciplines and institutional contexts, provided that local ecosystems and partnerships are intentionally developed.

CONCLUSION

In closing, the BBP illustrates how experiential learning, stakeholder integration, and responsible leadership can be woven into a unified pedagogical model that prepares students for complex innovation ecosystems. It offers a promising model for future-focused entrepreneurship education that integrates experiential learning, interdisciplinary collaboration, and responsible innovation. By embedding stakeholder interaction, iterative pitching, and sustainability considerations into the educational experience, the program prepares students not only to develop viable biotechnology ventures but to do so with a mindset oriented towards ethical stewardship and societal benefit.

As higher education continues to grapple with preparing graduates for rapidly evolving scientific, technological, and societal landscapes, programs like the BBP demonstrate the value of combining scientific expertise with entrepreneurial capability and responsible leadership. With continued refinement, research, and thoughtful adaptation, this model has the potential to inform broader efforts to cultivate innovators who are technically skilled, stakeholder-aware, ethically grounded, and prepared to lead in service of sustainable and inclusive progress.

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APPENDIX

Table 2. Sample of Past BBP Topics

Year	Theme	Brief Description
2022	Microplastic Degradation	Using plants and fungi to biologically break down microplastics in the environment.
	Microplastic Capture	Developing filters for dryers to trap microplastics before they pollute air and water.
2023	Green Building Solutions	Creating sustainable, livable plant-covered walls to improve insulation and air quality.
	Disease Diagnostics	Designing low-cost, rapid kits for detecting diseases quickly and accurately.
	Algae for Construction & Food	Using algae-based materials for eco-friendly building components and nutritious food.
2024	Soil Health	Developing biodegradable solutions to conserve soil water and enhance crop yields.
	Mycelium Packaging	Producing sustainable packaging materials from fungi to replace plastics.
	Plant Protein	Creating high-protein, plant-based dietary supplements for health and sustainability.
2025	Cotton Waste Enzymes	Using enzymes to break down cotton waste into reusable raw materials.
	Plastics to Energy	Employing nanoparticles to degrade plastics and convert waste into usable energy.
	Dental Phages	Developing bacteriophage treatments to dissolve plaque and improve oral health.
	Antibiotic Resistance	Using phages to combat antibiotic-resistant bacteria infections in hospitals.

*These are just a few examples of over fifty projects since 2022:

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Table 3. Sample Assessment Rubric for Concept Pitch

Criteria	1-3 Beginning / Developing	4-7 Proficient / Achieving	8-10 Advanced / Mastery	Points Earned
How well did the team articulate a specific sustainability problem or unmet need and identify the audience segment?	Problem statement is not clearly articulated, and the intended audience is not well defined.	The problem statement and the target audience are identified; however, some information is missing or incomplete.	Both the problem statement and the target audience are clearly identified and easy to understand.	
How well did the team explain the proposed solution?	Two or more of the following are unclear: • How the user would interact with the solution • What features would be included • What data/ information the solution would provide or analyze	One of the following is unclear: • How the user would interact with the solution • What features would be included • What data/ information the solution would provide or analyze	All of the following are clearly articulated: • How the user would interact with the solution • What features would be included • What data/ information the solution would provide or analyze	
How well did the team connect the proposed solution to the outcomes they were trying to achieve in relation to the target audience behaviors?	It is unclear how the proposed solution would solve the problem or meet the need of the defined target.	The team makes an adequate case for their solution to solve the problem/need, but some aspects are unclear or appear unnecessary.	The team makes a compelling case, and it is clear how their solution will solve the problem/need for the defined target.	
What is the level of impact that the idea may have on the identified audience in relation to solving the defined sustainability goal?	The solution is either inappropriate for the intended audience or would be unlikely to result in the desired outcome.	The solution is either somewhat inappropriate for the intended audience or somewhat unlikely to result in the desired outcome.	The solution is clearly appropriate for the intended audience and is likely to result in the desired outcome.	
Additional Questions	What made you enthusiastic about this presentation?	What could be improved about this presentation?	**Total**	

Sample Student Feedback

"I participated in the biotech boardroom pitches during the Spring (459) and Fall (416) of 2024. Throughout this process, we were required to form teams, generate ideas, conduct research, troubleshoot potential problems, and present to a panel of expert judges. In both of my pitches, my teams attempted solve a real-world problem that directly affected our lives. For our Plant Tissue Culture and Biotechnology course, my team addressed my undying love for peanut butter

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and my concerns about its safety regarding the presence of mycotoxins, defensive biomolecules produced by fungi growing on peanuts. I found it highly rewarding to develop a solution for an issue that actually mattered to me, and my team and I took no small amount of pride in our work. One of my favorite parts of the Biotech Boardroom experience was the mentor relationship. Each team is paired with a mentor who comes directly from the biotech industry, typically with multiple decades of experience. My mentor, Bill, had a particular eye for detail, and he consistently held us to a high standard. It was clear that he had pitched numerous ideas to investors in the past; his skills in this area were invaluable in sharpening our presentation and making us stronger communicators." – Sample Student 1

"Being able to present at the biotech boardroom, was a very cool experience. As someone not in the biotech major, it was my first time at one of these events, and learning how to create a product, market it, and then present it was very rewarding. Being able to talk with a mentor and get input and feedback was incredibly helpful as I did not have previous experience in marketing or development. Overall it was a very valuable experience as I got to hear from real judges, and learn more about what goes into developing a product." – Sample Student 2

"Coming out of the competitions, I feel much more confident in my abilities to apply business practices to the scientific aspects of biotechnology, and my situational awareness of career opportunities in the field has been greatly expanded. I will always be grateful for the lessons I learned with Beatrice and my teams, and I am already benefitting from them in my own career." – Sample Student 3

"From helping build communication materials to strengthening alumni involvement, it's been incredible to witness just how much thought and heart goes into making BBP a true launchpad — not just for products and pitches, but for people. This program makes you think bigger, act bolder, and speak up with confidence — whether you're a scientist, entrepreneur, or a little bit of both. – Sample Student 4

Sample Stakeholder Feedback

"While my transcript reflects a strong life sciences education, I spent my entire professional career in information technology services to include leadership and business development. What I never drifted far from is a strong desire to develop young people.

When I first meet with a new team of students, I remind them that it would be very unusual to have a mentor well-versed in the science they are employing. No one will know the science better than they do and each mentor and judge will bring their own strengths and experiences to the program. Success within the aggressive BBP schedule requires teamwork, collaboration, project management, mutual trust

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and respect, and strong communication skills. My contribution is to work with them to build on the science, share relevant experiences, and help develop a credible and compelling business case presentation to the panel of alumni judges.

Most of the students take both courses with the professor and the overlapping nature of their enrollment means there is always a subset of the class that has prior experience with the BBP. The result has been a steady discernable improvement in the pitch content and delivery each semester; the bar is always rising." – Sample Stakeholder 1

"Over the past eight semesters I've had the opportunity to work with twelve student teams with some of the same students on teams in subsequent semesters. I'd like to think I get as much or more out of the experience as the students do and I look forward to the start of each BBP cycle. I've been impressed with the caliber of students … and, often, pleasantly surprised at what they come up with. It is clear that many of them will go on to do great things and a number of them are garnering recognition even before they graduate." – Sample Stakeholder 2

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Chapter 8
Social Immersion in Kamkole as a Case Study of Experimental Learning

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EXECUTIVE SUMMARY

The social immersion project engaged 170 undergraduate students from Woxsen and Zuyd University in an experiential learning initiative in Kamkole, India. The project aimed to explore how real-world immersion fosters empathy, adaptability, and entrepreneurial mindsets while also generating outcomes of value for local communities. Students documented everyday village systems via activity maps and data physicalizations using a mixed-method approach combined observation, interviews, participation, and reflection. The study highlights how students developed resilience in the face of cultural and linguistic barriers, exercised adaptive decision-making under field constraints, and transformed ethnographic fragments into meaningful visual narratives. The case demonstrates that immersive, community-based projects extend the boundaries of education, cultivating socially responsive, innovation-

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oriented students. It illustrates how education can act as a catalyst within broader ecosystems, linking pedagogy with reality and contributing to inclusive economic resilience and sustainable growth.

INTRODUCTION

Experiential learning has become a defining approach in higher education, particularly in disciplines that seek to prepare students for complex societal and economic challenges. Unlike traditional classroom-based instruction, which often emphasizes abstract and decontextualized knowledge, experiential learning places students within authentic contexts where understanding is built through direct engagement, critical reflection, and iterative problem-solving. Kolb's (1984) experiential learning cycle offers a robust framework for structuring these processes. By guiding learners through this cycle, experiential learning equips them not only with disciplinary expertise but also with adaptability, empathy, and innovation skills essential for driving societal transformation and sustainable economic growth.

In the context of design education, social immersion projects represent a particularly powerful form of experiential learning, bridging academic inquiry with lived community realities. Social immersion has emerged as a transformative pedagogical tool when combined with community-based fieldwork (Krämer, 2017; Nigudkar and Nair-Shaikh, 2025). By embedding students in rural or marginalized environments, such initiatives expose them to cultural, social, and infrastructural dynamics that cannot be replicated within the classroom. Prior research underscores the importance of immersive, community-oriented projects in developing empathy, creativity, and reflective practice (Robinson, 2018; Vieira Júnior et al., 2020; Zanchetta et al., 2023; Mallesha and Rao, 2026).

The project presented in this chapter exemplifies this educational philosophy. Conducted in Kamkole village, India, it involved first-year undergraduate design students from Woxsen University (Hyderabad, India) and Zuyd University (Maastricht, The Netherlands). Students were tasked with documenting and visualizing village activities through observation, interviews, and participatory engagement, later transforming these findings into tangible visual and physical representations. This approach required them to navigate linguistic and cultural barriers, adapt methods in real time, and reflect critically on the implications of their design outputs. From a visualization and physicalization perspective, the project tested how novice designers engage in data storytelling under real-world constraints, while also encouraging critical inquiry and empathetic observation (Overes and Santoro, 2025).

Kamkole was chosen for its distinctive socio-economic landscape. Traditionally an agrarian community, the village has undergone a gradual shift toward small-

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scale business, creating a hybrid socio-ecosystem where agricultural, cultural, and entrepreneurial practices intersect. For students, this provided a unique opportunity not only to document daily routines but also to situate them within broader cultural, ritual, and economic contexts. By tracing links between cultivation, religious beliefs, and evolving livelihoods, students were encouraged to see village activities as more than functional routines, emphasizing instead their historical, cultural, and socio-economic significance.

From an educational perspective, the Kamkole project illustrates how experiential learning can strengthen both cognitive and affective competencies. Students moved beyond the role of passive learners to become co-creators of knowledge in dialogue with community members. The translation of ethnographic data into activity maps and physicalizations reinforced their ability to combine analytical rigor with creative expression, cultivating reflective and innovative capacities.

This initiative aligns with broader policy frameworks and educational shifts. Social Immersion supports the National Education Policy (NEP) 2020 mandate for holistic, multidisciplinary education aimed at fostering socially responsible graduates (Design Council, 2019). The Kamkole Social Immersion Project reflects these principles through real-world engagement and human-centred learning. Similar global programs demonstrate the value of participatory and creative approaches in driving learning and social impact. It also corresponds with the Bologna Process emphasis on competency-based learning (OECD, 2019) and the Triple Helix model integrating academia, industry, and community (Etzkowitz and Leydesdorff, 2000). This transition draws on resilience theory, highlighting the capacity of educational systems to adapt to constraints (Unesco, 2021). Sustained faculty support is essential to ensure such initiatives remain embedded within curricula (OECD, 2018). Overall, the project contributes to the discourse on experiential learning as a catalyst for educational transformation and innovation. It demonstrates how immersive practices can enhance learning outcomes while generating insights valuable to local communities, fostering graduates who are both professionally skilled and socially responsive.

This chapter investigates how short-term social immersion contributes to the development of empathy, contextual understanding, and methodological reasoning among novice design students. The chapter first reviews relevant literature on experiential learning, participatory research, and visualization-based design pedagogy. It then outlines the qualitative case study methodology and immersion structure. The findings section analyses students' learning processes, methodological adaptations, and emerging empathy during field engagement. The chapter concludes by discussing pedagogical implications, limitations, and future research directions for integrating community-engaged immersion within design education.

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RELATED WORK

The increasing misalignment between higher education and the global economy highlights critical competency and capability gaps produced by traditional pedagogical models (Mallesha and Rao, 2026). Predominantly reliant on rote memorization, standardized curricula, and classroom-bound instruction, these approaches fail to equip students with the ability to apply knowledge in complex, real-world contexts. As a result, graduates often lack practical problem-solving skills, adaptability to ambiguity, and the capacity to navigate systemic challenges. Additionally, the limited integration of social and emotional learning leaves students underprepared to address human-centred and societal dimensions of professional practice (Mallesha and Rao, 2026). Social immersion and experimental learning emerge in response to these deficiencies, seeking to bridge these gaps by fostering applied competencies, adaptive capabilities, and socio-emotional awareness through engagement with real-world environments.

Experiential learning is acknowledged as a transformative pedagogical approach in higher education, equipping students with the capacity to navigate complex social and economic realities. Scholars emphasize that immersion in authentic contexts develops not only cognitive and technical skills but also empathy, adaptability, and critical reflection (Colomer et al.,2020; Kolb, 1984; Robinson, 2018). In this sense, experiential learning is more than a pedagogical tool; it is a process of preparing students to address uncertainty, complexity, and change. These traits are key conditions for innovation and growth and fits Bloom's six levels of understanding (Pezzella and Overes, 2022).

Within design education, immersive projects have proven particularly powerful. They compel students to apply abstract concepts to unpredictable situations, reinforcing the immersive power of social interaction in fostering deep learning (Krämer, 2017). Similarly, Pink (2020) underscores the role of embodied, visual, and participatory methods in ethnographic practice, which resonate strongly with the pedagogical aims of design programs. Social immersion projects, where students engage directly with communities, therefore represent an important intersection between design education and experiential learning theory.

The Social Immersion project at Woxsen University, in collaboration with Zuyd University, builds on this body of work by integrating community engagement, participatory inquiry, and reflective visualization into undergraduate design curricula. Situated in Telangana, India, the project immersed 170 students in Kamkole village for two weeks, allowing them to move through cycles of concrete experience, reflective observation, abstract conceptualization, and active experimentation. Preparatory training in observational drawing, ethics, and qualitative methods supported this process, emphasizing multi-modal immersion (visual, auditory, and

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kinesthetic) as a foundation for situated learning (Fedorov et al., 2020). Rather than an extracurricular activity, Social Immersion is a pedagogical imperative grounded in a robust philosophical tradition that rejects the learner as a passive vessel. Based on the work of Dewey, Cloke (2023) argues that learning is a byproduct of active engagement with one's environment. He distinguished between Immediate Experience (first-hand collection of sensory data through direct interaction) and Mediated Experience (analysis and reflection upon that data). In this framework, Social Immersion serves as the catalyst for Kolb's four-phase experiential learning cycle (Kolb, 1984). Social Immersion bridges the gap between Dewey's immediate experience and Kolb's reflective observation, transforming direct sensory data from the field into a multiphase learning module where external reality informs abstract conceptualization (Kolb, 1984; Mallesha and Rao, 2026).

Participatory methods have long been recognized for their ability to deepen empathy and foster community engagement in complex sociocultural settings. In Kamkole, students mapped social, infrastructural, and economic systems in collaboration with villagers, using techniques such as activity mapping and physicalization. This aligns with Chambers (2006) and Pink (2020), who emphasize the role of participatory and visual tools in ethically grounded social inquiry. Mapping as a speculative and narrative practice also provided students with instruments to surface latent community patterns and create platforms for dialogue (Corner, 1999; Gill et al., 2023). The power of using process visualizations to close the gap between observer and user is also underlined in the work of Overes (2025). Participatory visualizations produced by students were presented back to villagers and local authorities, reinforcing the role of design as both an analytical and communicative practice.

This project also resonates with broader research on narrative visualization and knowledge exchange. For example, Gill et al. (2023) illustrate how participatory data visualizations can address sensitive issues through emotionally resonant exhibits, while Perovich, Wylie and Bongiovanni (2020) show how situated physicalizations of data can engage communities with environmental decision-making. These precedents highlight how visual storytelling, in line with Schröder et al. (2023) and Overes and Santoro (2025), transforms raw data into boundary objects for dialogue and action. Similarly, Fedorov et al. (2020) and Miller et al. (2015) demonstrate that multimodal immersion and creative synthesis are critical responses to complex, data-poor environments, although the characteristics of both visualization as channel need to be taken into account (Overes, Pliushch and Balk, 2025).

Collectively, this body of work demonstrates that immersive, community-based approaches in design education not only foster reflective and socially responsive practitioners but also generate actionable knowledge that supports resilience, entrepreneurship, and innovation. The Kamkole project thus extends existing research by showing how participatory design education can serve dual functions: enriching

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student learning while strengthening local innovation ecosystems. The contribution of this project extends beyond just educational objectives. The following paragraph examines its broader contributions, followed by an outline of the methodology employed.

BEYOND DESIGN PEDAGOGY

Beyond its contribution to design education, the Kamkole Project can be understood within broader frameworks of innovation, resilience, and ecosystem development. Social Immersion is a primary driver of economic productivity. Experiential learning has long been linked to entrepreneurial mindset formation, an orientation Schumpeter and Swedberg (2021) identified as central to innovation through the recognition of opportunities and the creative recombination of resources. By situating learning in underprivileged regions or resource-constrained environments, Social Immersion fosters innovation-relevant capabilities essential for entrepreneurship (Unesco (2021). The capabilities mentioned in this Unesco report are Opportunity Recognition (Spotting potential for innovation in underserved markets), Resourcefulness (Adapting solutions to function under extreme constraints), Adaptive Problem-Solving (Refining ideas based on social complexity), and Economic Resilience (Developing long-term community stability). These activities transform personal growth into system-level economic outcomes and prepare graduates for high-level intrapreneurial and entrepreneurial thinking in an AI-driven economy (Design Council, 2019; Unesco, 2021). The ECO methodology is designed to transform students from observers into innovators via three iterative phases: Explore (Empathize/Define), Create (Ideate/Prototype), and Offer (Implement/Test) (Torres-Gordillo et al., 2020). The Kamkole project is an example of the exploration phase, aimed to develop the innovation-relevant capabilities for entrepreneurship. By situating students in an unfamiliar rural context, the Kamkole project mirrored the conditions of entrepreneurial practice: ambiguity, resource constraints, and the need for iterative problem-solving. Students' adaptive strategies therefore reflected not only learning outcomes but also the processes of innovation and entrepreneurship.

Recent empirical work supports that combining experiential learning with innovation and entrepreneurship education (IEE) substantially enhances students' capacity to deal with uncertainty and to translate ideas into action. For example, a study of medical students in China found that adapting the Experiential Learning Theory (ELT) framework within IEE helped students reconcile evidence-based norms with entrepreneurial thinking, leading to increased tolerance of ambiguity, greater creative initiative, and improved innovation-related competencies (Wang et al., 2025). Similarly, university–community engagement initiatives, such as community-engaged

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curricula, foster transformative social learning and align academic objectives with local needs (Fang, 2018).

At the community level, the project resonates with resilience theory of Folke (2006), which frames resilience as the ability of systems to adapt and transform in response to change. The activity maps and physicalizations produced by students did more than document practices; they served as tools for dialogue, allowing villagers, educators, and local authorities to visualize hidden processes and explore alternatives. This aligns with Chambers' advocacy for participatory mapping as a democratizing practice that empowers local stakeholders (Chambers, 2006). Comparative studies, such as Yousufi, Loukissas and Hyde (2023) on participatory mapmaking with youth in disaster-prone areas, underscore how visual and participatory methods foster resilience and adaptive capacity at the community level.

At the institutional level, the Kamkole project illustrates the role of higher education within the Triple Helix model of innovation (Etzkowitz and Leydesdorff, 2000). By embedding students in grassroots contexts and facilitating reciprocal knowledge exchange, universities become active collaborators in regional development. Such projects mirror other international initiatives, such as the World Leisure Organization Field School in São Paulo (Vieira Júnior et al., 2020) and transcultural health collaborations between Brazil and Canada (Zanchetta et al., 2023), which demonstrate how immersive learning can catalyze both student transformation and community innovation.

Taken together, these insights highlight that experiential learning, when situated within authentic community contexts, extends beyond pedagogy. As a driver of entrepreneurial mindset formation, community resilience, and institutional innovation, it contributes directly to inclusive growth and sustainable development.

METHODOLOGY

The Social Immersion Project was conducted by Woxsen University, Hyderabad, India, in collaboration with Zuyd University, The Netherlands, and involved 170 first-year undergraduate design students. The two-week initiative, held in December 2024, was structured as a deliberate experiential learning intervention based on Kolb's learning cycle, guiding students through phases of preparation, immersion, and reflection (Kolb, 1984). This design ensured that students were not only exposed to real-world contexts but also supported in synthesizing their experiences into academically and socially meaningful outputs.

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Pre-Immersion Preparation

During the first week, students participated in preparatory sessions on campus that emphasized methodological, ethical, and cultural foundations for community engagement. Training included qualitative methods, observational drawing, reflective journaling, and research ethics. Multi-modal immersion (Fedorov et al., 2020) was encouraged, combining visual, auditory, and kinesthetic approaches to strengthen perceptual awareness.

Recognizing the challenge of linguistic and cultural distance, short language familiarization sessions were organized with peers from the Telangana region to build basic communication competence. Students were divided into five groups, each assigned two of ten thematic domains (Agriculture/Cattle, Commerce/Economy, Construction/Infrastructure, Education, Electricity, Governance, Healthcare, Transportation, Religion, and Waste Management). This structure ensured both depth in focused areas and breadth in overall village coverage.

Community Immersion

In the second week, students were embedded in Kamkole village (image 1). Each thematic group conducted cycles of observation, semi-structured interviews, and participatory mapping, documenting everyday practices such as flour production, waste management, and birth certification procedures (image 2). Activity maps were used to capture sequences, interactions, and spatial dynamics of village systems.

This stage required students to adapt their methods in real time, negotiating challenges such as language barriers, informant hesitancy, and incomplete data. Their ability to make in-situ methodological choices exemplifies the problem-solving and opportunity-recognition processes central to entrepreneurial education (Schumpeter and Swedberg, 2021). Importantly, students also practiced reciprocal engagement: preliminary maps and visualizations were shared with villagers for feedback, reinforcing participatory accountability and aligning with Chambers' principles of co-creation (Chambers, 2006).

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Figure 1. Images from the project in Kamkole village: (A) Students gathered at the village square for instructions, (B) Students observing activities and interviewing villagers, (C) students presenting results in the form of physicalizations in the village.



Figure 2. Examples of activity maps made by the students: (A) flour production, (B) Infrastructure, (C) Birth certification, (D) Getting water (1=sketch; 2=reworked), (E) Waste Management.



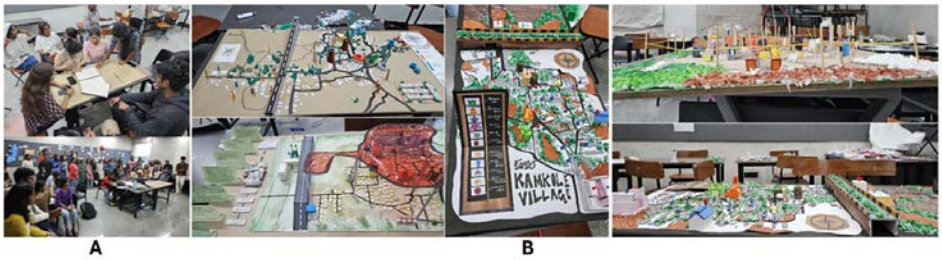
Post-Immersion Reflection and Synthesis

Following fieldwork, students returned to campus for structured reflection and synthesis workshops. Here, raw ethnographic data were transformed into visual narratives and data physicalizations (image 3), enabling abstract insights to be communicated in tangible and accessible formats. This process was collaborative and iterative: students worked in teams to refine their outputs, which were later presented to academic peers, community members, and local authorities.

The reflective phase reinforced both design competencies and entrepreneurial ideation. Students were encouraged to consider how observed challenges, such as healthcare gaps or waste management inefficiencies, might inspire innovative solutions or even social enterprises. This integration of reflection and forward-looking ideation ensured that the project did not remain a descriptive exercise but actively nurtured innovation-oriented thinking.

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Figure 3. Debrief and peer evaluation in progress (A); Examples of Data Physicalizations made by the different groups (B).



Research Component

To evaluate the educational and methodological outcomes of the Social Immersion Project, a mixed-methods research design was employed. A stratified sample of fifteen students completed structured questionnaires, in-depth interviews, and reflective exercises. Survey instruments, adapted from Díaz-Oreiro et al. (2019), explored group dynamics, mapping methods, data-gathering strategies, and reflective practices. Quantitative analysis assessed decision-making processes, visualization techniques, and adaptive behaviors, while qualitative coding captured recurring themes of resilience, creativity, and reflective growth.

The quality of student outputs was analyzed against established criteria for data visualization and storytelling (Folke, 2006; Lohse, 1993; Overes, Pliushch and Balk, 2025). This dual approach provided insight into both the process of learning and the products generated, highlighting how experiential immersion fosters not only technical competencies but also transformative personal and professional skills.

Educational and Economic Relevance

The project was intentionally designed to bridge academic objectives with societal relevance. By visualizing local systems in ways that surfaced otherwise invisible processes, students produced outputs with potential application for community governance, infrastructure planning, and resource allocation. At the same time, the initiative nurtured entrepreneurial mindsets within the student cohort. This way, the project exemplifies how higher education can simultaneously enrich student learning and generate actionable knowledge for regional innovation ecosystems.

The selected methodology was determined following a review of comparable Social Immersion projects. Prior to presenting the findings of the Kamkole project, a

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comparative analysis with other Social Immersion initiatives will be provided. This comparison will enable the reader to contextualize the project within the broader framework of similar efforts.

COMPARATIVE PERSPECTIVES ON SOCIAL IMMERSION MODELS

The Kamkole project is best understood in relation to established immersion frameworks. Each model reflects a different balance between exposure, co-creation, and continuity, dimensions that together define the depth and sustainability of social immersion. In this paragraph, the researchers include a brief comparison with other immersion models to contextualize the Kamkole case more broadly.

Comparative Social Immersion Models

MIT D-Lab (Cambridge, USA)

MIT D-Lab offers students structured field engagements through courses such as Development Ventures and Design for Scale, integrating classroom learning with field immersion in low-income communities worldwide. These experiences, typically lasting two to three weeks, are designed around participatory design and iterative prototyping, in collaboration with local NGOs, entrepreneurs, and community groups. D-Lab emphasizes co-creation and capacity building rather than aid delivery, but the brevity of the field stay often limits the depth of relational learning. Its strength lies in a rigorous design-thinking pedagogy, clear ethical frameworks, and sustained institutional partnerships (MIT D-Lab, 2025).

Stanford University's Design for Extreme Affordability (California, USA)

Stanford's Extreme program, run by the Hasso Plattner Institute of Design (d.school), spans two academic quarters and culminates in field immersion with partner organizations in low-resource contexts. The model integrates empathy-driven design, prototyping, and implementation—students co-develop affordable solutions with local users and social enterprises. Successful outcomes such as the Embrace neonatal incubator and Sanku micronutrient fortification system illustrate how immersive co-design can generate scalable social innovations. Yet its time-bound structure and reliance on partner mediation can constrain long-term continuity in community relationships (Stanford University, 2025).

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IRMA's Village Fieldwork Segment (Anand, India)

In India, the Institute of Rural Management Anand (IRMA) has long institutionalized rural immersion through its eight-week Village Fieldwork Segment (VFS). Students live within rural communities to understand governance systems, livelihoods, and local social dynamics. The VFS emphasizes empathy, sensitivity, and experiential learning rather than design intervention. It remains one of India's most enduring frameworks for grounding managerial and policy education in lived rural realities. However, the model's observational nature and limited project-based continuity distinguish it from more iterative co-design approaches (IRMA, 2025; LBSIM–IRMA, 2025).

Comparative Sketch: Kamkole in the Landscape of Social Immersion Models

Against this backdrop, Kamkole represents a distinct attempt to merge relational immersion with iterative co-production. Unlike time-bound field modules, Kamkole's engagement model emphasizes sustained community presence, repeated cycles of interaction, and the cultivation of local leadership capacities. Its pedagogical focus extends beyond sensitization to the co-generation of social and infrastructural initiatives, anchored in mutual trust and reflexive practice. For the comparison of the Kamkole project with other social immersion projects one useful axis is depth, duration, and integration of immersion (Figure 1). Next to this is purpose orientation (sensitization, design, capacity building, co-production), and a third is post-immersion continuity or projects.

The continuity of relationships, feedback loops, and shared governance distinguishes Kamkole from both short-term global immersions and traditional Indian rural stays. Figure 4 gives a graphical representation of the comparison between the reviewed social immersion models.

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Figure 4. Comparison of the reviewed Social Immersion Models.

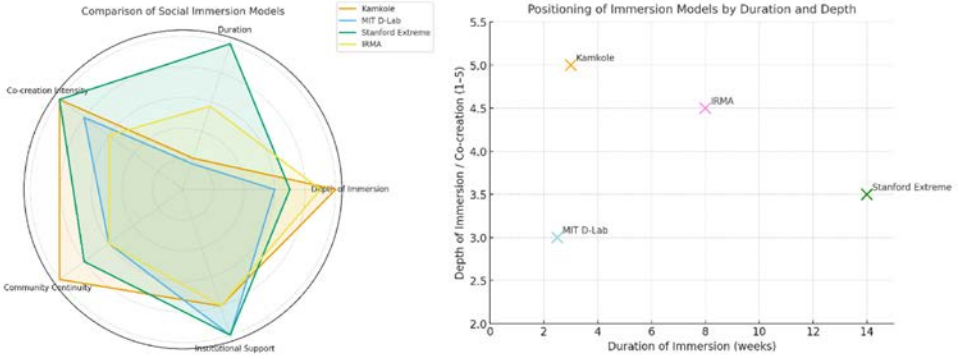


Table 1 presents a comparison of the Kamkole project with other social immersion projects based on purpose orientation (sensitization, design, capacity building, co-production), relationship to the local communities and thirdly on post-immersion continuity / legacy or projects.

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Table 1. Comparison of the Social Immersion models based on purpose and continuity, and the relationship with the local communities.

Model / Program	Core Purpose and Pedagogy	Relationship with Local Communities	Continuity / Legacy and Scaling
Kamkole	Social immersion aimed at deep contextual understanding, co-learning, trust building, possibly co-creation or community engagement in ongoing projects	Participants live / work "with" community rather than just "in" it, with iterative feedback loops, local participation in setting agendas	The possibility of sustaining the intervention, evolving community capacities, or scaling/rediffusing the immersion model to new geographies
MIT D-Lab	To engage students in designing solutions in low-resource settings through participatory design, inclusive innovation, prototyping, and iterative feedback	Projects are in collaboration with community / NGO / social enterprise partners; emphasis on "co-creation" and respect for local capacities (e.g. via "covering costs that limit full participation")	Some student designs continue past the course; D-Lab has innovation practice arms and attempts to maintain long-term partnerships.
Stanford's Design for Extreme Affordability	Multidisciplinary project-based design toward ultra-low-cost solutions; students work "with" partner organizations to design, prototype, test, iterate and implement	Strong emphasis on co-design and embedding with partner NGOs / social enterprises and user communities. Projects often developed in situ or tested in field.	Many projects have spun off beyond the class into real deployments (e.g. Embrace incubator, Sanku fortification in grain mills)
IRMA / Indian Rural Management Programs	To sensitize future rural managers to realities of village life, governance, livelihood systems, social norms; to foster empathy, grounded policy thinking, management humility	Students live in villages, interact with local institutions, self-help groups, cooperatives, local governance, and NGOs. The segments are strongly embedded in rural settings.	After the VFS, students proceed to summer internship, coursework, and eventually careers in rural development sector; the immersion experience often continues influencing their research or work choices.

Synthesis

Taken together, these models reveal a spectrum of immersion: from the structured, innovation-oriented fieldwork of MIT and Stanford, to the empathy-driven, exposure-based experiences at IRMA, to Kamkole's ongoing, participatory co-habitation. The Kamkole approach demonstrates how immersion can evolve from a pedagogical exercise into a sustained social partnership, one that not only observes community life but becomes a living part of it.

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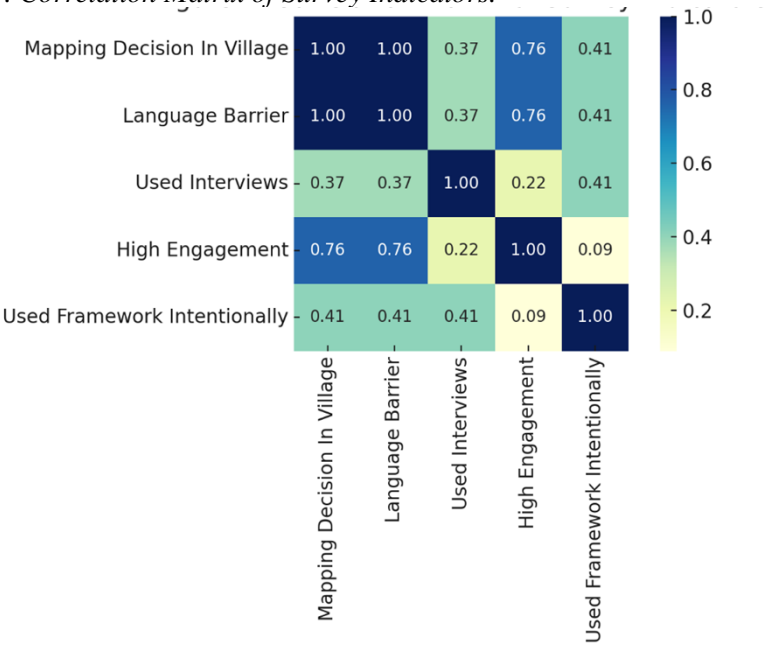
FINDINGS

The Social Immersion Project generated rich insights into both the immediate outcomes of the Kamkole case study and the broader functioning of experiential learning as a pedagogical approach. To make these contributions clear, findings are presented in two parts: first, those directly related to the project, and second, those that generalize to experiential learning more broadly. While there is inevitable overlap between these levels, since many project outcomes directly illustrate principles of experiential pedagogy, this division highlights both the situated and the transferable aspects of the initiative.

Findings from the Project

Figure 5 shows several quantifiable correlations that were observed across the dataset. This matrix visualizes the strength of relationships between key student behaviors and outcomes, such as mapping timing, language barriers, data depth, and framework usage.

Figure 5. Correlation Matrix of Survey Indicators.



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Adaptive Decision-Making and Entrepreneurial Mindset Formation

A central finding was the degree to which students engaged in adaptive decision-making in response to field realities. Nearly 70% reported changing their mapping strategies upon arrival in Kamkole, selecting techniques such as flowcharts, swimlane diagrams, or exploded views to capture the specificity and complexity of village activities. This iterative process reflects hallmarks of entrepreneurial mindsets: opportunity recognition and problem-solving under constraint.

Resilience in the Face of Socio-Cultural Barriers

Language barriers and informant hesitancy posed significant challenges, with over 70% of students citing difficulties in data accuracy. These obstacles, however, became learning opportunities. Students triangulated data through repeated visits, peer collaboration, and secondary sources, developing resilience and adaptability in the process. Such competencies mirror the flexibility needed in real-world professional and entrepreneurial contexts.

Integration of Reflection and Knowledge Creation

Students who explicitly engaged with visualization frameworks (e.g., sequential mapping, exploded views) produced more coherent outputs and articulated greater satisfaction with their work. Reflection also revealed how emotional responses evolved: initial discomfort with poverty and infrastructural gaps often transformed into empathy and a sense of responsibility, influencing both data collection and design outputs. This reflective shift reinforced design as a socially responsible practice.

In terms of reflection it is also interesting to look at how the design students dealt with the emotional impact of their exposure to the village life, which relates to (1) the cultural distance between the observing students and the observed villagers, and (2) gender inequalities. Firstly, many students felt uncomfortable during their initial visits, seeing poverty, unstructured village lifestyle, infrastructure inadequacy etc., which was totally in contrast with their own city life upbringing. Over the period, this uncomfortable situation turned into empathetical understanding and deeper sense of responsible problem solver. This shift of perspective from uncomfortable to empathetic changed their way of data collection and visualizing the activities of villagers. For example, the emotional shift helped them to visualize farming from a technical/mechanical process to ritualistic and spiritual aspect attached to harvesting and sowing. This way they included the humanization perspective and attached it to the data collection. The second critical factor was role of gender in forming village activities and its mapping. Female design students connected well

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with village women, which helped them to understand the day-to-day life of village women like cooking, cleaning, childcare, housework etc. Male students connected with men who shared the information about labor work, community infrastructure, and social governance. Understanding the role genders play in village system dynamics, helped the students to gather rich collective data and multifaceted views on village realities. Such peculiar experiences underline the role of empathy, which is especially important in times when trust and moral agency are under pressure (Simonis and Overes, 2025). Positioning, understanding gender roles, and self-reflection appeared to be strong tools in this project. Next to developing technical design skills, the social immersion project contributed largely to creating more empathy amongst the design students and the interaction with the villagers created avenues for personal reflective transformation.

Innovation Through Visual Storytelling

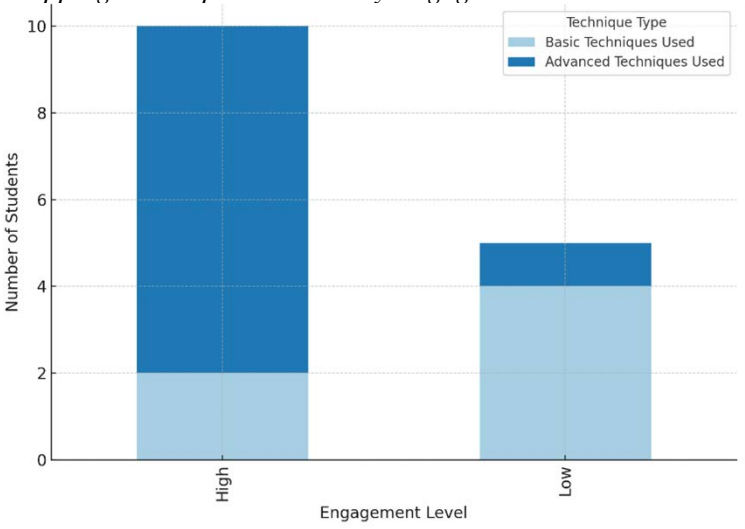
Final outputs were not simply academic exercises but narrative instruments that illuminated village dynamics for local stakeholders. By presenting activity maps and data physicalizations back to the community, students created shared platforms for dialogue around healthcare, waste management, and governance. These visualizations acted as boundary objects, enabling inclusive conversations and demonstrating the dual value of student outputs: pedagogical for learners, and practical for communities.

Linking Student Engagement to Innovation Capacity

Analysis showed that students with higher personal interest in their thematic areas experimented with more advanced mapping styles. Figure 6 illustrates that students with high engagement used significantly more advanced mapping techniques compared to those with lower engagement. Engagement thus correlated with methodological innovation, highlighting how motivation fuels creativity and deeper insight.

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Figure 6. Mapping Technique Selection by Engagement Level.



Together, these project-level findings underscore that immersion in Kamkole fostered empathy, resilience, and entrepreneurial competencies, while also generating visual tools of potential value for local dialogue and planning.

Findings from an Experiential Learning Perspective

While the Kamkole project produced situated outcomes, it also exemplifies broader dynamics of experiential learning. Viewed through Kolb's cycle, the findings illustrate how immersion nurtures adaptive decision-making, reflection, and innovation.

Concrete Experience: Immersion as Catalyst

Direct engagement with the village provided students with authentic, unpredictable contexts. Confronting ambiguity, cultural distance, and real constraints challenged assumptions and anchored abstract concepts in lived reality, echoing Krämer's emphasis on the "immersive power of social interaction" (Krämer, 2017).

Reflective Observation: Confronting Biases and Emotions

Communication barriers and incomplete data prompted critical self-evaluation. Students reflected not only on methodological choices but also on their own positionality and biases. The emotional transformation from discomfort to empathy

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illustrates Colomer et al.'s argument that reflection is central to transformative learning (Colomer et al.,2020).

Abstract Conceptualization: Linking Practice to Frameworks

Transforming observations into activity maps and physicalizations showed how students bridged lived experience and theory. By drawing on visualization and storytelling frameworks (Fedorov et al., 2020; Segel and Heer, 2010), they structured complexity and produced coherent, communicable outputs.

Active Experimentation: Iteration and Innovation

Students' willingness to adapt visualization techniques in real time—shifting between process maps, flowcharts, and hybrid forms—illustrates Kolb's stage of active experimentation and parallels the iterative processes of entrepreneurial practice. Testing visualizations with villagers reinforced the importance of feedback and iteration.

Integration: Building Entrepreneurial and Social Capacities

Taken together, these experiential processes nurtured competencies central to both professional and societal innovation: opportunity recognition (Schumpeter and Swedberg, 2021), adaptive resilience (Folke, 2006), and participatory knowledge creation (Chambers, 2006). Students left with an expanded understanding of design as socially responsible practice, capable of shaping inclusive innovation.

IMPACT OF EXPERIMENTAL LEARNING ON STUDENTS MINDSETS

The immediate deliverables from social immersion were activity maps, but beyond that immersion influenced students' mindsets and their roles as a reflective design practitioner. Their earlier assumptions about rural lifestyle were formulated based on second hand information and stereotypes. These falsified assumptions were challenged by the experiential reflection through immersion. The designers interviewed villagers, insightfully discussed with them, drew activity maps, and attempted to present villager's fostered viewpoints. This made them realize design is not only about aesthetics and ergonomics but also resonating with village communities' representations those are recognizable and corroborated. The tangible explicit outcomes from the social immersion engagement were activity maps and

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skill development, while the intangible and implicit outcome was in the form of personal eye-opening transformation happened through experiential learning. This aligns with Kolb's experiential learning cycle and fits with the motivation of students (Barykin et al., 2021).

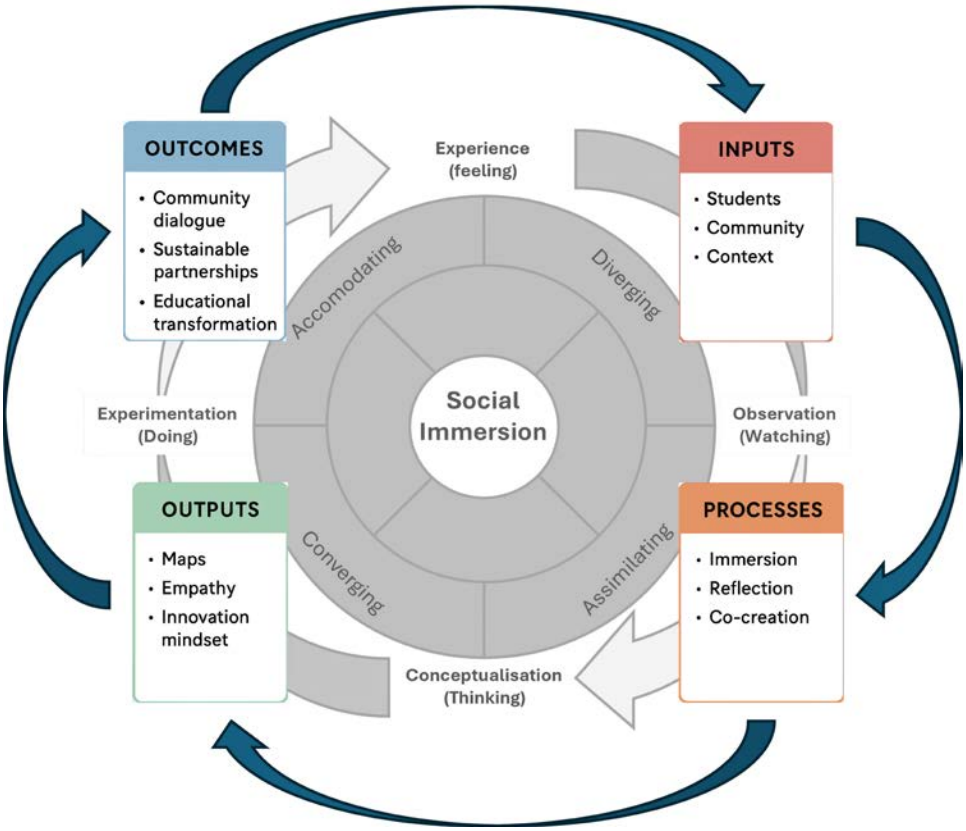
During this social immersion, the design student's self-reflections has subtly redefined their experiences, changed phenomenon of what counts as design in social context, and challenged their existing understanding about design knowledge. The prior understanding of design students on design education which was only confined to drawing, aesthetics, ergonomics, digital proficiency over design software's, designing of apps and products was challenged through this extroverted exercise. Along with that, they learned to appreciate the value of core skills, such as active listening, observing, informally interviewing, and sharing the stories of rural communities responsibly. The realization that design is not merely a possessing technical knowhow but also encompasses social responsibility. They deeply immersed in the village systems, carefully observed people, captured rural communities' voices, translated rural narratives into active maps. This whole activity made designers aware about power of listening to people's voices. The selective listening of fewer people's voices made them realize they have all power to solve the problem, make it worse, or fix it from design perspective. This awareness made them introspect about working neutrally, making choices in unbiased manner, and ethically practice design where every choice they made mattered.

SYNTHESIS OF FINDINGS

The researchers have synthesised their findings in the Social Immersion Learning Framework as graphically displayed in Figure 7. While divided for clarity, the project-specific and experiential-learning-level findings are deeply interwoven. The concrete examples from Kamkole (adaptive decision-making, reflective empathy, participatory storytelling) are unique to this case and emblematic of experiential learning's transformative potential. This overlap reinforces the dual significance of the project: as a situated educational intervention and as evidence of how experiential learning equips students to contribute to innovation ecosystems and sustainable development.

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Figure 7. the Social Immersion Learning Framework (SILF) as a result of the project, placed over Kolb's Experimental Learning cycle (Kolb, 1984) in the background.



Implications for Education and Policy

The findings of this study offer important implications for the advancement of experiential, community-engaged pedagogies in design education. The results demonstrate that structured short-term social immersion experiences can effectively cultivate foundational competencies such as empathy, contextual awareness, reflexive thinking, and systems understanding among novice designers. When combined with guided reflection and collaborative synthesis, such immersion experiences enable students to move beyond observation toward interpretive and socially responsive design practice, reinforcing experiential learning principles (Kolb, 1984; Robinson, 2018).

For design schools and curriculum leaders, the study highlights the importance of pedagogical scaffolding, including preparatory workshops, structured observation

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frameworks, and reflective practices such as journaling and peer debriefing. These mechanisms help students translate complex field observations into meaningful insights and visual narratives (Colomer et al., 2020; Pink, 2020).

At the policy level, the findings align with international calls for higher education systems to equip graduates with the capacity to address complex societal challenges through interdisciplinary and experiential learning (OECD, 2018; UNESCO, 2021). The Design Council (2019) similarly emphasizes systemic design approaches that integrate social, cultural, and environmental perspectives when addressing complex societal problems. Embedding social immersion within design curricula therefore supports broader policy goals of developing human-centred innovators capable of navigating complex socio-technical systems.

Importantly, the pedagogical model demonstrated in this study is not limited to design education. Evidence from engineering education shows that community-based immersion modules significantly enhance students' empathy, collaborative learning, and problem-solving abilities when applied to the real-world (Mallesha and Rao, 2026). This suggests strong potential for replicating similar immersion-based pedagogies in business, technology, and innovation programs, where exposure to community realities can cultivate socially responsible leadership and systems-oriented decision-making.

DISCUSSION

The Social Immersion Project in Kamkole provides compelling evidence of how immersive, experiential learning can catalyze both educational transformation and community engagement. The findings suggest that the act of embedding students in real-world contexts does more than test classroom-acquired skills; it challenges them to negotiate ambiguity, cultural difference, and resource limitations in ways that directly contribute to the development of resilience, adaptability, and empathy. These competencies, often difficult to cultivate in formal academic environments, are essential to design practice and to broader professional domains where complexity and uncertainty are the norm, such as Social Innovation and Social Entrepreneurship.

One of the most salient outcomes was the extent to which students engaged in adaptive decision-making under field conditions. The necessity to select or improvise visualization methods on the spot underscored both the limitations of preparatory training and the generative potential of improvisation. This adaptive capacity aligns strongly with entrepreneurial education, where uncertainty is not an obstacle but an opportunity for innovation. By adjusting techniques to match contextual realities, students were practicing opportunity recognition, and identifying gaps in representation, communication, or process and responding with creative solutions. In

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this sense, the project functioned as a microcosm of innovation ecosystems, where constraints and unpredictability can spark novel insights and design interventions.

The study also highlighted the role of reflection as a bridge between experience and knowledge creation. Students who systematically engaged with visualization frameworks and reflective practice were able to move beyond descriptive documentation toward interpretive and analytical storytelling. Their activity maps and data physicalizations did not simply record village life but actively re-framed it, offering both academic and community audiences new ways of seeing local systems. This transformation of ethnographic fragments into communicable narratives illustrates the power of visual storytelling as both a pedagogical and social innovation tool.

Equally significant is the project's potential to generate value beyond the educational setting. When students presented their visualizations back to villagers and local authorities, these outputs became catalysts for community dialogue on themes such as waste management, education, and healthcare. This reciprocal exchange underscores how participatory design methods can democratize knowledge production by creating accessible and actionable representations of complex systems. It also affirms the potential of higher education institutions to act as partners in regional development, aligning with the Triple Helix model where universities contribute not only through knowledge transfer but also through active facilitation of innovation in collaboration with government and industry.

In sum, the Kamkole project illustrates the dual promise of immersive, participatory learning: it cultivates student competencies that are critical for navigating an uncertain professional future while simultaneously producing outputs with potential socio-economic relevance for local communities. This duality strengthens the argument for embedding experiential, community-based projects more systematically into higher education curricula as a means of aligning pedagogical outcomes with societal needs.

LIMITATIONS

Despite its promising findings, the study has several limitations that warrant careful consideration. First, the research design relied heavily on self-reported data from a relatively small, stratified sample of students. While these reflections provided valuable insights into personal experiences and adaptive strategies, they are subject to recall bias, selective reporting, and subjective interpretation. Future studies should triangulate student self-assessments with independent observations

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from faculty mentors, structured peer evaluations, and systematic analyses of student outputs to strengthen validity and reliability.

Second, the study's scope was limited to a single community context (Kamkole village) which restricts the generalizability of findings. While the village provided a rich and complex site for immersion, the challenges encountered (e.g., linguistic barriers, infrastructural limitations, cultural distance) may not be identical in other contexts. Comparative studies across multiple communities, both rural and urban, could provide a more nuanced understanding of how immersion dynamics vary with sociocultural, economic, and infrastructural conditions.

Third, while the project foregrounded student learning outcomes, it did not systematically evaluate the long-term impact of visualizations and activity maps on the community itself. The assumption that visual storytelling tools support dialogue and decision-making remains speculative without structured feedback from villagers, local authorities, and other stakeholders. A participatory evaluation phase, such as focus groups, surveys, or co-analysis workshops with community members, would have provided more robust evidence of the outputs' relevance, clarity, and utility for local development processes.

Additionally, methodological inconsistencies emerged in data collection and reporting. Students often varied in how they documented observations, conducted interviews, and translated findings into visualizations. This heterogeneity complicates comparative analysis across groups and may obscure patterns in decision-making or methodological effectiveness. Future iterations should adopt standardized protocols for data collection, consistent identifiers for groups and themes, and shared templates for reporting. These measures would facilitate more rigorous cross-group comparisons while preserving space for creative expression in visualization design.

Finally, the study was constrained by time. The two-week immersion and brief post-field synthesis period limited opportunities for deeper engagement with the community and for iterative refinement of visualizations. Longitudinal follow-up, tracking how students' skills and perspectives evolve over multiple semesters, or how communities use and adapt visual outputs over time, would yield richer insights into the enduring value of such projects.

Taken together, these limitations point to the need for more robust, longitudinal, and participatory research designs. By addressing these gaps, future social immersion projects can better capture both the educational transformations experienced by students and the tangible impacts on the communities with whom they collaborate.

Navigating Structural Constraints and Ethical Risks

Scaling Social Immersion requires a critical assessment of risks. Based on our empirical findings, institutions must address ethical risks and power asymmetries

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inherent when students enter vulnerable communities (Unesco, 2021). We must acknowledge "institutional liability" and the "resource intensity" required for these modules. To ensure the "sustainability of the model," governance challenges, including language barriers (33.8%) and logistical hurdles (81.2%), must be addressed through dedicated institutional support and faculty motivation (Design Council, 2019; Unesco, 2021).

RECOMMENDATIONS

In line with the findings, the recommendations of this project can be divided into recommendations how to improve the Social Immersion Project for follow-up editions and recommendations for experimental learning programs in general. In this paragraph the authors will separate those recommendations in sub-paragraphs.

Recommendations for Improving the Social Immersion Project

Building on the findings and limitations of the Kamkole Social Immersion Project, several recommendations can be proposed to strengthen future iterations and to enhance both pedagogical and community impact. These suggestions are in line with the theories mentioned in the related work section of this chapter, from preparation and field immersion to post-immersion reflection and community engagement, while drawing from established best practices in participatory design, experiential pedagogy, and innovation education.

Strengthening Pre-Immersion Preparation

Effective engagement begins well before students enter the field. The preparatory phase should go beyond methodological instruction to include cultural, linguistic, and ethical dimensions of immersion. Short language familiarization sessions—covering conversational phrases in Telugu—would reduce barriers and foster trust with community members. Prior studies have shown that even minimal linguistic competency improves student confidence and enhances rapport in community-based research (Colomer et al.,2020; Robinson, 2018). In addition, mock interviews, observation role-plays, and participatory mapping simulations on campus can provide a safe environment for practicing adaptive techniques before real-world application. Preparation should also include explicit training in data triangulation and ethics of engagement, echoing Chambers (2006) and Pink (2020), who emphasize the need for reflexivity and sensitivity in participatory fieldwork.

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Enhancing Fieldwork Practices

During immersion, students should be supported by both academic mentors and local facilitators. Assigning thematic mentors (faculty or practitioners aligned with domains such as agriculture, healthcare, or governance) would enrich field observations with expert input and provide targeted guidance (Gill et al., 2023). At the same time, pairing student groups with local translators or cultural mediators can bridge linguistic divides and prevent misunderstandings, ensuring more accurate and respectful interactions. To deepen inquiry, fieldwork should systematically integrate mixed methods allowing for triangulation of insights. Research in participatory design suggests that combining multiple modes of inquiry strengthens both data quality and community ownership of outcomes (Fedorov et al., 2020; Yousufi, Loukissas and Hyde, 2023).

Improving Data Validation and Ethical Standards

The reliability of student-generated outputs depends on robust validation processes. Training in verification methods, such as cross-checking with multiple informants, iterative feedback sessions, and secondary source consultation, should be emphasized. Students must also be equipped to identify and address potential biases in their interpretations, a skill central to ethical ethnography (Pink, 2020). To support this, future projects could incorporate structured debriefs in the field, where students present preliminary findings back to villagers for validation, ensuring accuracy while reinforcing participatory accountability.

Structuring Reflection and Documentation

Reflection is the bridge between concrete experience and conceptual learning (Kolb, 1984). Daily journaling, rapid visual sketching, and structured group debriefs should be embedded into the program. Such reflective practices help prevent loss of contextual detail and foster deeper metacognition (Colomer et al.,2020). Digital platforms could be introduced to capture field notes, sketches, and photographs in a shared repository, supporting both collaborative synthesis and later comparative analysis across groups. Faculty-facilitated reflection sessions can also help students explicitly connect their field experiences with theoretical frameworks in design, entrepreneurship, and resilience studies.

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Expanding Post-Immersion Support

Upon returning from the field, students require structured opportunities to translate raw data into meaningful outputs. Dedicated workshops on visualization frameworks, narrative construction, and data physicalization would support this process. These workshops could draw on established guidelines for narrative visualization (Bach et al., 2018; Miller et al., 2015) to help students craft outputs that are not only visually coherent but also analytically rigorous. Moreover, final deliverables should be co-designed with community stakeholders to ensure relevance and usability. For example, simplified versions of activity maps could be produced for local schools, village councils, or grassroots organizations to use as practical decision-making aids.

Integrating Longitudinal Community Feedback

One of the current project's limitations is the absence of systematic assessment of community impact. Future iterations should embed follow-up mechanisms, such as focus group discussions, participatory evaluation sessions, or surveys with villagers and local authorities. This would allow stakeholders to assess the clarity, usefulness, and cultural appropriateness of student outputs, while also generating new cycles of dialogue and co-creation. Longitudinal community feedback would not only improve the credibility of outputs but also reinforce the project's role in contributing to local economic resilience (Folke, 2006) and innovation ecosystems (Etzkowitz and Leydesdorff, 2000).

Institutionalization and Scaling

Finally, higher education institutions should consider institutionalizing such projects within curricula, ensuring continuity, scalability, and integration with broader innovation ecosystems. Embedding social immersion within interdisciplinary programs could foster cross-disciplinary competencies and create richer opportunities for innovation. By scaling the model, universities can position themselves not only as pedagogical leaders but also as active contributors to regional sustainable development and inclusive growth.

Recommendations from an Experiential Learning Perspective

The Kamkole Social Immersion Project demonstrates the transformative potential of experiential learning in design education, but its outcomes also highlight opportunities for refinement. To optimize future iterations, recommendations are structured to ensure that students move effectively between concrete experience,

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reflection, abstraction, and experimentation. Such a framework situates immersion not merely as exposure but as an intentional pedagogical sequence that bridges student learning with community benefit.

Designing Richer Concrete Experiences

Immersion constitutes the concrete experience stage of the learning cycle. To strengthen this phase, future projects should provide students with more authentic and sustained engagement opportunities. This includes extending the duration of immersion, diversifying community sites (e.g., multiple villages or contrasting urban and rural contexts), and fostering reciprocal relationships with local stakeholders. Research suggests that varied and prolonged engagement deepens empathy, cultural sensitivity, and resilience (Krämer, 2017; Robinson, 2018). Providing students with opportunities to directly contribute to community initiatives, such as supporting a health awareness campaign or assisting with local infrastructure mapping, could make the experience more participatory, moving beyond observation toward co-creation.

Embedding Structured Reflective Observation

The reflective observation stage requires intentional scaffolding. Daily debrief sessions, reflective journals, and sketchbooks should be formalized as core requirements rather than optional activities. Structured prompts can encourage students to interrogate not only what they observed but also how their positionality, biases, and assumptions shaped their interpretations (Colomer et al.,2020). Digital reflection platforms could support peer-to-peer dialogue across groups, allowing for cross-pollination of insights and early recognition of recurring patterns. Reflection should also extend beyond individual students to collective processes: for example, mid-immersion reflection circles facilitated by local mentors could promote dialogic learning that bridges student and community perspectives (Chambers, 2006; Pink, 2020).

Strengthening Abstract Conceptualization

The abstract conceptualization stage, where learners connect lived experience with theory, requires stronger integration between field immersion and academic frameworks. Prior to fieldwork, students should be explicitly introduced to theoretical lenses such as resilience theory (Folke, 2006), participatory design (Chambers, 2006; Gill et al., 2023), and entrepreneurial mindset formation (Schumpeter and Swedberg, 2021). During the post-immersion phase, faculty should guide students in linking their raw observations and maps back to these frameworks, ensuring that

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outputs are not only descriptive but also analytically rigorous. This alignment could be supported through facilitated workshops where students explicitly map their field experiences onto theoretical models, thus transforming fragmented experiences into transferable conceptual insights.

Encouraging Active Experimentation

The active experimentation stage should be expanded beyond classroom presentations to include iterative, participatory testing of outputs within the community. Students could prototype multiple visualization formats (e.g., simplified infographics, physical installations, interactive digital maps) and evaluate them with community stakeholders to identify the most accessible and impactful forms. Such iterative prototyping resonates with design thinking practices and reinforces the entrepreneurial mindset by encouraging rapid cycles of feedback, adaptation, and re-design (Bach et al., 2018; Segel and Heer, 2010). Longitudinal engagement, such as follow-up visits or digital communication channels with villagers, could also transform experimentation into an ongoing process of co-learning, where students and community members collaborate on refining tools and strategies for local problem-solving.

Integrating Experiential Learning Across the Curriculum

Finally, the Kamkole project underscores the need to embed experiential learning not as a one-off intervention but as a pedagogical spine across the curriculum. A sequence of progressively complex experiential modules would allow students to iteratively develop competencies in empathy, resilience, critical reflection, and innovation. Such a trajectory mirrors best practices in entrepreneurial education, where repeated cycles of experimentation and reflection are critical for skill acquisition (Fayolle and Gailly, 2015; Huang et al., 2018). Embedding experiential learning across courses also positions universities as long-term partners within regional innovation ecosystems (Etzkowitz and Leydesdorff, 2000), reinforcing their role as catalysts for sustainable development.

CONCLUSION: SOCIAL IMMERSION AS A PEDAGOGICAL IMPERATIVE

The Social Immersion module is a two-week, credit-based course offered to first-year design students at the end of Semester One. The program follows a structured format consisting of a preparatory phase on campus, where students learn systems thinking, sub-system analysis, and ethical field engagement, followed by a

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field immersion phase in Kamkole village, located approximately 2.5 km from the university campus. Several features of the program are context-specific, including the proximity of the village that allows daily walking-based engagement, the residential campus environment that enables extended studio work after field visits, and the availability of multiple faculty mentors to supervise a large student cohort.

Despite these contextual advantages, the pedagogical framework demonstrates strong transferability. The staged learning structure can be adapted by other institutions seeking to integrate experiential learning into design education. However, scalability requires careful consideration of institutional feasibility. Key constraints include faculty availability for field supervision, transportation logistics, increasing cohort sizes, and gender-sensitive mentoring support during fieldwork. Additionally, the program currently operates with minimal dedicated funding, relying largely on existing institutional infrastructure and student-provided materials. As student numbers continue to grow, institutions may need to adopt staggered cohorts or extended timelines, which may introduce additional resource and scheduling challenges. Consequently, while the immersion model is pedagogically transferable, its broader implementation depends on institutional capacity, logistical planning, and sustainable resource allocation.

The transition of higher education from a focus on abstract "designs and formulas" to the practice of "living in the community" is no longer optional (Design Council, 2019). Social Immersion is a revolutionary methodology that transforms passive consumers of information into knowledgeable change agents capable of driving economic growth and social innovation (Unesco, 2021). By integrating immersive, multi-phase experiential learning, we prepare future professionals to solve the complex problems of society with both technical talent and compassion (Design Council, 2019; Unesco, 2021).

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Chapter 9
Transforming Communities Through Public Health Nutrition:
A Service-Learning Approach.

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EXECUTIVE SUMMARY

This chapter examines the development, implementation and impact of the Public Health Nutrition (PHN) experiential learning module at Manchester Metropolitan University, delivered through a service-learning approach. Service-learning integrates academic study with structured community engagement, generating reciprocal benefits for students, universities, and local populations. The chapter outlines the pedagogical principles and value of service-learning within public health nutrition, emphasizing its alignment with social accountability and potential to enhance graduate employability. Set against the backdrop of a public health emergency marked by rising diet-related diseases and reduced public health funding, the chapter demonstrates how universities can address local needs through knowledge exchange and partnership, thereby achieving social and community impact. The module connects students with community organisations, enabling them to design and deliver tailored interventions. Case studies illustrate practical outcomes, and the chapter concludes with recommendations for practice.

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INTRODUCTION

Service-learning integrates academic study with structured, meaningful engagement in community settings, fostering reciprocal benefits and enabling students to apply their learning in ways that directly support public health improvement. Greater Manchester is a region facing persistent health inequalities, rising chronic disease burdens, and constrained public health resources. This approach offers a valuable mechanism for bridging local service gaps while cultivating the next generation of socially accountable health professionals.

Service-learning in a public health nutrition module operates through a dynamic ecosystem that relies on the effective interaction of three groups:

- **Students**, who bring emerging expertise and a willingness to learn and contribute.
- **Community service providers**, who offer real-world insight, community access and opportunities for meaningful engagement.
- **Universities**, which provide structure, quality assurance, academic guidance and long-term partnership co-ordination.

This chapter first outlines the theoretical foundations underpinning service-learning in public health nutrition and explores how these principles are operationalised within a Public Health Nutrition (PHN) module. The chapter will discuss the impact and challenges for the three groups at the heart of this ecosystem and concludes with case studies that illustrate practical applications and a set of recommendations to support replication in other contexts.

SERVICE-LEARNING

Service-learning is an intentional pedagogy that *"ensures that both the service enhances the learning, and the learning enhances the service"* (Furco, 1996, p. 2–6). It is also regarded as a form of experiential teaching and learning strategy which combines classroom instruction with meaningful community service and guided activities for reflection (Rosenkranz et al., 2012). According to Mackenzie et al. (2019) service learning is a pedagogy that aligns with the values of public health, as it places learning within real-world contexts, where social, environmental, and behavioural determinants of health interact.

Participation in service-learning enables students to develop both technical and interpersonal competencies, including communication skills, empathy, community awareness, and applied knowledge. These experiences help students understand

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complex community health challenges and strengthen their ability to translate academic knowledge into practical interventions. Service-learning can also benefit higher education institutions by strengthening partnerships with local communities and improving 'town and gown' relationships (Rosenkranz et al., 2012).

Meili et al. (2011) reported that service-learning had the potential to teach medical students' social accountability. The World Health Organization (WHO) (1995) defines this as *"the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region and/or nation that they have a mandate to serve"*. This aligns with broader community-engaged and participatory approaches, which emphasise collaboration between universities and communities in identifying and addressing local needs (Plessas et al., 2024). Embedding these principles within higher education can therefore support both student learning and community capacity building (Plessas et al. 2024), and thus the local and wider economy.

Service-learning enhances students' understanding of community needs, highlights the complexity of health and nutrition behaviours, and encourages critical reflection on the wider determinants of health. Through engagement with community partners, students gain insight into the real-world challenges of implementing public health nutrition interventions. This approach also enables universities to contribute directly to local public health priorities while providing students with opportunities to develop practical and professional skills.

PUBLIC HEALTH NUTRITION AND THE SOCIAL DETERMINANTS OF HEALTH

Public health nutrition focuses on improving population health through the promotion of healthy dietary behaviours and the prevention of diet-related diseases. Globally, poor diet is a major contributor to non-communicable diseases such as obesity, cardiovascular disease, and type 2 diabetes. Addressing these issues requires population-level interventions that consider the broader environmental, economic, and social factors influencing dietary behaviours.

One of the aims of the PHN module is to provide students with an understanding of the social determinants of health (Dahlgren and Whitehead, 1991). The determinants of health illustrates how health is shaped by a range of interconnected influences including individual lifestyle factors, social networks, living and working conditions, and wider socio-economic and environmental factors (Dahlgren and Whitehead, 1991). It also encourages students to think beyond individual behaviour change and consider the structural conditions that influence health outcomes, such as education, employment, housing, and access to services.

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However, teaching students to understand the wider social context of health can be challenging in traditional educational settings. Didactic lectures are effective for delivering theoretical knowledge, such as nutrient metabolism. However, they are less effective for developing the interpersonal and practical skills required to support behaviour change and for understanding the lack of knowledge on healthy eating at the population level. Skills such as communication, empathy, and cultural competence require opportunities for interaction, practice, reflection, and real-world application.

GLOBAL HEALTH AND SUSTAINABLE DEVELOPMENT

The importance of public health nutrition is reflected in the United Nations Sustainable Development Goals (SDGs). The SDGs are a set of 17 interconnected global goals adopted by the United Nations in 2015, serving as a universal action plan to end poverty, protect the planet, and ensure peace and prosperity for all. According to WHO (2025), Goal 3: Good Health and Well-Being is a cross-cutting goal. Progress in health contributes to improvements across other development areas including education, poverty reduction, and economic growth. By engaging students with the SDGs and encouraging them to apply these frameworks to their interventions, educators can help students develop the ability to "think globally and act locally" (UNESCO, 2015–2022). Service-learning provides an ideal platform for this approach, as students can apply global health concepts within the specific social and cultural context of their local communities.

Greater Manchester, United Kingdom (UK)

The UK is currently facing what has been described as a "public health emergency," in relation to diet-related disease and obesity. The House of Lords Food, Diet and Obesity Committee (2024) has called for urgent action to address the growing burden of obesity and related conditions, which place substantial financial pressure on healthcare systems and result in significant losses in economic productivity.

Despite the scale of the challenge, funding for public health services is limited and in England this funding has decreased from 2.9% of the NHS budget in 2013/14 to 2.2% in 2024/25 (Patel et al., 2024). This decrease has limited the capacity of local authorities to deliver preventative services and has contributed to a cycle in which resources are increasingly directed toward treating rather than preventing illness.

As a result, health inequalities across the UK continue to widen. The Institute of Health Equity's report *England's Widening Health Gap: Local Places Falling Behind* (2025) highlights growing disparities in life expectancy both between regions and

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within local authorities. Marmot (2010) defines health inequalities as unfair and avoidable differences in health outcomes between different social groups that arise from the conditions in which people are born, grow, live, work, and age.

Approximately 2.8 million people live in Greater Manchester, and its economy is larger than that of Wales or Northern Ireland (Greater Manchester Integrated Care Partnership, n.d.). Despite this economic significance, the region experiences some of the lowest life expectancy levels in England (Codling & Allen, 2020). Health Equity North (Simpson et al., 2025) reported that the scale of health-related economic inactivity is greatest in the North of England compared to the South. Individuals with long-term conditions such as chronic obstructive pulmonary disease (COPD), heart disease, or diabetes are significantly more likely to leave employment due to ill health, thereby impacting the local economy.

Public health nutrition is critical not only for improving population health but also for supporting economic growth. In the United Kingdom, overweight and obesity are estimated to cost the economy approximately £126 billion annually, including around £31 billion in lost productivity due to absenteeism, unemployment, and premature mortality (Nesta, 2025). These impacts are particularly pronounced in regions such as Greater Manchester, where higher rates of chronic disease contribute to economic inactivity. Investment in preventative nutrition interventions can deliver substantial economic returns by reducing healthcare costs and improving workforce participation. In this context, service-learning represents an innovative approach to addressing both public health and economic challenges.

Universities located within these regions have the potential to contribute to addressing these issues through community-engaged education and research. Service-learning provides one mechanism through which universities can mobilise student knowledge and expertise to support community organisations while simultaneously preparing students to work effectively within complex public health systems.

THE PUBLIC HEALTH NUTRITION MODULE

The PHN module (see Table 1 for a weekly schedule of delivery) is taught to undergraduate and postgraduate nutrition students at Manchester Metropolitan University. The aim of the module is to examine the theory, methods, and applications of public health, nutrition, and health promotion in the context of changing individual and population behaviours to improve health.

Students are responsible for project managing, designing, and implementing their campaign as part of an authentic assessment known as the "Health Fair," held on campus. The assessment provides students with an opportunity to engage directly with members of the university and local community while applying theoretical

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knowledge in a real-world setting. Students are provided with a range of topic areas developed in collaboration with local organisations, including MCRactive, Afro Cats, Intergenerational England, and the university. Topics reflect current community priorities and include areas such as healthy eating on a budget, heart health, healthy eating for international students, weight management, sugar reduction, and food bank nutrition. Students are supported through a combination of prior learning and concurrent skill development. Whilst many students on nutrition related programmes have strong scientific knowledge, they have less experience in communication, marketing and design. The module includes opportunities to develop skills in resource creation and digital communication. The use of platforms such as Microsoft Teams supports collaborative working within groups, while the university's RISE platform provides opportunities for students to further develop professional and transferable skills. Manchester Metropolitan University's RISE platform offers students a range of co-curricular opportunities, including short courses, projects, and collaborations alongside their core studies. Participation can contribute additional academic credits while enhancing employability. RISE is a flagship initiative designed to foster experiential learning and support students' future development (Lean, 2022). Digital design tools such as Canva and Adobe Express are also used to help students create professional-quality materials for their campaigns.

Through this approach, the module integrates service-learning principles by connecting academic learning with community engagement. The design of the intervention draws on existing evidence from public health education and service-learning literature, ensuring that students not only gain practical experience but also contribute to addressing locally relevant health issues.

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Table 1. Schedule of Module delivery

Week no.	Lecture	Workshop	Assessment task students
1	Introduction to the module, assignment brief and public health nutrition. What are the priorities (groups assigned or formed by students).	Ice-breaking activities. Get to know your group. Active tasks to understand the assessment.	Understand assessment requirements. Organise assessment groups, define tasks and future meetings schedule a Communicate information to the tutors. Weekly MS teams meetings. *
2	Health Promotion PHN cycle Topic overview and finalise groups. Guest speakers (eternal organisations). Groups assigned to MS Teams area.	Start to build evidence base for your research area. Needs analysis starts.	Finalise your topic and start to collate the research to support (needs analysis). *
3	Health Promotion and determinants of health.	Explore the research and present a case as to why your campaign is needed.	Reflect how you have learned from the applied task and transfer knowledge to summative assessment. *
4	Needs assessment.	Start to work on the needs assessment.	Agree who in the team will write up the needs analysis. *
5	Behaviour change (BC) part 1 (workshop).	Selecting a BC theory for your campaign.	Work on the BC theory for your topic and prepare the research to support the executive summary. *
6	Behaviour Change part 2. (workshop) Develop a leaflet.	Review current campaigns and feedback on the approach.	Continue to work on how the campaign is underpinned by a BC theory. *
7	Health Promotion settings.	Look at the different settings where your topic can be implemented.	Consider health promotion in different settings and population groups and continue to develop appropriate materials. *
8	Communication and presentation skills.	Presentation of work to date.	Practice delivery of your work and finalise materials/resources required on the day. Complete allergen training and risk assessment. *
9	Social Marketing complete risk assessments for event.	Finalise print materials.	Finalise marketing materials and send info to print. *

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Table 1. Continued

Week no.	Lecture	Workshop	Assessment task students
10	Evaluation and finalise materials.	Student-led Q&A related with group case studies presented in class.	Finalise how the intervention will be evaluated. *
11	Assessment week.		Health fair and submit executive summary and reflection on MS Teams area/ LinkedIn.

*Independent study each week including academic readings, independent work on assessment and Mcr Met RISE (e.g. Adobe Express).

The following section provides an overview of the core components of the PHN interventions and details the specific skills that students acquire because of their participation.

Needs analysis

Needs analysis is a fundamental component of effective public health interventions, ensuring that resources are used efficiently and that interventions are responsive to the actual needs of the target population. A robust needs assessment should incorporate multiple sources of data, including epidemiological data, policy priorities, and stakeholder perspectives and improves students' critical analysis skills.

Hughes and Margetts (2011) conceptualise this as the 'intelligence' phase within their public health nutrition management bi-cycle model, referring to the systematic collection and synthesis of information from diverse sources to inform intervention design. This approach aligns with broader public health frameworks that emphasise community engagement and co-production, ensuring that interventions are not only theoretically sound but also socially and culturally appropriate. Students are required to undertake a comprehensive needs assessment of their chosen topic. Importantly, students are also encouraged to engage with community stakeholders and, where possible, members of the target population. This approach reflects principles of community-engagement and participatory practice, ensuring that interventions are grounded in real-world priorities.

Behaviour change

PHN interventions underpinned by behaviour change theories and that utilise behaviour change techniques have been found to be more effective at changing health outcomes in comparison to those that have not (Rigby et al., 2020). Students are required to underpin their PHN intervention with a behaviour change theory

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and ensure their developed resources (which include leaflets, websites, social media accounts, recipes) reflect a theoretical foundation. The emphasis within the module is on facilitating small but meaningful changes in behaviour, recognising that sustained improvements in health outcomes are often incremental.

Social marketing

Social marketing applies commercial marking principles to health interventions to encourage behaviour change by using principles such as audience segmentation, consumer insights, messaging and incentives. Students are introduced to the core principles of social marketing and utilise this in the planning of their public health nutrition interventions. Health interventions which utilise audience insights and cost-benefit analysis are more likely to result in positive behaviour change (Firestone et al., 2017). Embedding social marketing strengthens the likelihood that student interventions are both engaging and impactful and improves digital literacy for students.

Project management

Project management is a critical component of effective public health practice and is central to the successful delivery of interventions. It encompasses planning, organisation, teamwork, communication, and evaluation, all of which are essential skills for health professionals. Ramazani and Jergeas (2015) highlight a growing skills gap in project management among professionals, suggesting that these competencies are increasingly important for graduates entering the workforce. Through project management students work collaboratively to design, implement, and deliver their interventions within a defined timeframe. Students are supported through structured communication channels, including dedicated Microsoft Teams spaces and regular briefings, which facilitate collaboration, accountability, and reflective practice.

Evaluation

Evaluation is an essential component of public health interventions, enabling practitioners to assess effectiveness, identify areas for improvement, and ensure efficient use of resources. Improving and sustaining successful interventions depends on understanding what works, for whom, and under what circumstances (Steckler & Linnan, 2002). Students are introduced to different types of evaluation, including process, impact, and outcome.

Process evaluation focuses on how an intervention is implemented, providing insight into the mechanisms, context, and delivery of the programme and helps answer questions such as “what worked, when, for whom, and why” (Office for

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Health Improvement and Disparities, 2018). Impact evaluation examines the short to medium term effects of an intervention, such as changes in knowledge, attitudes, or behaviours related to healthy eating. Outcome evaluation, by contrast, considers longer-term changes in health outcomes, such as improvements in nutritional status or reductions in disease risk factors. The time constraints of the academic semester mean outcome evaluation is limited. However, engaging in all three enables students to critically appraise interventions, understand the complexity of public health practice, and recognise the challenges associated with achieving sustainable health improvements.

Reflection

One of the key principles of service learning (experiential learning) is reflection. Experiential learning (EL) as conceptualized by Kolb (2014) is a process involving four stages: concrete experience, reflective observation, abstract conceptualization and active experimentation. It is through the reflective stage where individuals start to actively learn (Ingles and Retallick, 2025). Without structured reflection, students may engage in activities without fully developing the deeper understanding, critical thinking, and professional skills that experiential learning is designed to promote. Reflection enables students to develop higher-order analytical skills and supports personal and professional growth, including resilience.

Students reflect on their experiences both through formal evaluation processes and through professional platforms such as LinkedIn. While reflection is traditionally undertaken in private academic formats, sharing selected insights on LinkedIn encourages students to translate their experiences into a form that is accessible and meaningful to a wider professional audience. This includes reflecting on the development of key skills, challenges encountered, and the impact of their work, while maintaining appropriate professional boundaries. This reflection through LinkedIn aligns with the development of a professional identity, enabling students to evidence their competencies, communicate their experiences effectively, and enhance their employability (Ruparel et al., 2020; Slone and Gaffney, 2016; Noor, Tong, & Zainol, 2025). Through this combination of reflection and professional engagement, students can consolidate their learning, articulate their skills, and prepare for future roles within the public health and nutrition workforce.

EMPLOYABILITY - GRADUATE ATTRIBUTES

At Manchester Metropolitan University there is a focus on supporting students gaining transferable skills to enhance their employability which is part of the Uni-

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versity's Education Strategy (Manchester Metropolitan University, 2025). More broadly, developing employability skills is a key priority within higher education, with increasing emphasis placed on equipping students with transferable competencies that prepare them for complex and evolving professional environments. Many universities have adopted graduate attribute frameworks that integrate personal qualities, academic capabilities, and professional skills to support student development. These frameworks are often closely aligned with experiential and work-integrated learning approaches, which enable students to apply their knowledge in real-world contexts.

Digital capability is developed through digital platforms and tools to design and communicate public health interventions. Students engage with content creation, project management tools, and digital communication methods, while also considering issues such as accessibility and inclusivity.

Connectedness is fostered through collaborative group work and engagement with community partners. Students build relationships with peers and external stakeholders, developing a sense of connection to place and an understanding of their role in contributing to local communities. These experiences are often underpinned by global frameworks such as the Sustainable Development Goals, reinforcing the link between local action and global impact.

Interpersonal effectiveness is developed through teamwork and engagement with target populations. Students enhance their communication, empathy, and listening skills while tailoring interventions to meet the needs of diverse groups. This supports the development of culturally sensitive and inclusive approaches.

Autonomy is encouraged through the design of an authentic assessment that require students to take ownership of their projects. Students are responsible for developing, implementing, and evaluating their interventions, while responding to feedback and adapting to challenges throughout the process.

Sustainability awareness is embedded through consideration of the social determinants of health and the broader environmental, social, and economic factors that influence wellbeing. Students are encouraged to develop interventions that are contextually relevant and contribute to sustainable improvements in population health.

Enterprising skills are developed through problem-solving, innovation, and resource management. Students are required to design feasible interventions within real-world constraints, encouraging creativity, adaptability, and financial awareness.

Collectively, these attributes are strengthened through a service-learning approach, which provides students with opportunities to apply theoretical knowledge in practical settings. This not only enhances employability but also prepares graduates to contribute effectively to public health practice and to address complex societal challenges.

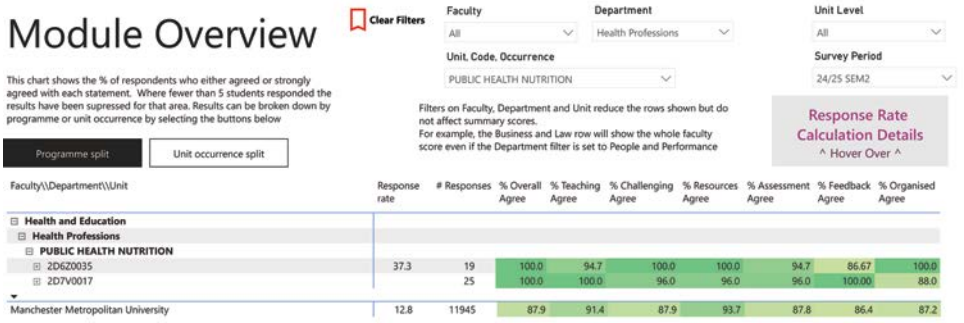
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MODULE EVALUATION

Evaluating the impact of service-learning initiatives is essential to understanding both their educational value and their contribution to community outcomes. In line with public health evaluation frameworks (Hughes & Margetts, 2011), the PHN module considers impact across multiple levels: student learning, community benefit, and longer-term sustainability. While short-term outcomes can be measured through module evaluation data and stakeholder feedback, the broader value of the module lies in its potential to contribute to ongoing community capacity and the development of a socially accountable workforce.

In recent years the PHN module has received 100% module satisfaction (Figure 1: End of Module data) due in part to the applied nature of the module and the sense of autonomy.

Figure 1. End of Module data.



The PHN module has been shortlisted twice for a national award with Graduate Futures Institute (previously Association of Graduate Careers Advisory Services (AGCAS)). It was shortlisted for 'Authentic Assessment for Employability' in 2025 and for 'Employer and Community Partnerships' in 2026. The awards celebrate excellence in teaching employability skills embedded in the curriculum in the UK. Authentic assessment refers to assessment methods that require students to apply their knowledge and skills to tasks that replicate real-world challenges and/or professional practices, rather than relying solely on traditional exams or written coursework. Tasks often involve problem-solving, collaboration, and communication, and are designed to be meaningful and relevant to students' future careers or societal roles (Sokhanvar, Salehi, & Sokhanvar, 2021).

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Feedback from Students

Students are internally surveyed on modules as part of the End of Module Survey (EMS) which gathers feedback on students' experiences and includes both quantitative ratings and free-text comments. Below is some of the module feedback from the 24/25 cohorts, demonstrating the student association with the embedded skills and relationship to career focus and transferable skills.

The interactive nature of creating a campaign was a great experience. It included a lot of communication and teamworking skills that are very helpful to practice and utilise. This module also helps train our marketing skills through creating resources and a website, which are excellent overall professional skills to have. My favourite thing was making so many different materials a leaflet and posters on various different topics. I really enjoyed writing my part of the executive summary because I thought it was really relevant to the topic and helped me understand the determinants of health and the barriers beyond personal choice. It also helped me understand the approach to use when motivating people to make positive changes. I think that this module was very important and applied to real life and has helped people make positive changes. This module has changed my direction from sport, and I am going to apply to be a dietetic assistant. I think helping the general community it is very rewarding and important.

Whilst the feedback and evaluation demonstrate strong immediate benefits, the longer-term impact of the module is reflected in the sustained use of student-developed resources by community partners and the influence on students' career trajectories. This aligns with wider evidence suggesting that service-learning contributes to ongoing civic engagement and professional commitment to underserved communities. However, it is acknowledged that further longitudinal evaluation would strengthen understanding of sustained community and workforce outcomes.

CHALLENGES

Whilst the benefits of service-learning for both the students and the service provider are substantial, there are inevitably challenges for all those involved. As documented in the wider research literature; (Henderson et al., 2019) there is mixed empirical evidence on the effectiveness of service-learning where it can be seen as 'forced' versus 'free' community service. Whilst their findings indicated that students who were introduced to mandatory service-learning displayed engagement levels that were no greater than non-volunteers, this was predominantly because of poor structured programmes of service-learning. Lin et al. (2025), in a survey of over 2,081 alumni indicated that mandatory academic service-learning had the poten-

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tial to cultivate engagement in the wider community beyond graduation. Thereby indicating long term impact for the community.

Student challenges

As with any type of assessment at university, for students there is always the challenge of balancing coursework, part-time work and personal commitments which can create logistical and time pressure difficulties. Despite the well documented benefits of group work, including learning and social benefits it can also provide challenges particularly on the perception of effort from the whole group (Forman and Miller, 2023). It is therefore fundamental that students are aware of the importance of clear communication with their peers, academics and the service provider. As mentioned previously, students are provided with a Microsoft Teams area where all information is available and shared between the group and the module teaching team. They are encouraged to hold weekly meetings and create minutes of the meetings to ensure that everyone is accountable for their work. Yousof et al. (2020) highlighted that for some students, service-learning represents a novel approach to learning, and they may initially struggle to apply theoretical knowledge from the classroom to external community settings. As a result, students may rely heavily on academic staff for guidance and support, which can lead to a significant increase in staff time commitment when facilitating service-learning activities. To address this challenge, the design of the PHN module incorporates structured support mechanisms, including guided project milestones, access to digital collaboration tools, and opportunities for formative feedback, enabling students to progressively build confidence and autonomy in applying their knowledge within real-world contexts.

Service Provider Challenges

Chikka-James et al. (2022) explored the perspectives of community partners and highlighted that, while service-learning offers practical benefits, it also presents several challenges. These include variable levels of student engagement, inconsistencies in how service-learning programmes are delivered by universities, changes in staffing and the capacity of community partners to support and sustain involvement. Such challenges can impact the overall effectiveness and sustainability of service-learning initiatives if not carefully managed.

Within the current PHN module, these challenges are addressed through the establishment of clear expectations from the outset. Both students and service providers are informed that the focus is on achieving small but meaningful outcomes within the timeframe of a single semester (11 weeks), ensuring that project goals remain realistic and manageable. In addition, the module emphasises the creation

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of sustainable outputs, such as social media content, recipes, and educational resources, which remain available to partner organisations beyond the duration of the module. This approach enhances the longer-term value of the collaboration and supports ongoing health promotion activities. Furthermore, by providing community organisations with reusable resources at minimal cost, this model represents an innovative and resource-efficient approach that contributes to local public health capacity while offering indirect economic value.

University challenges

Yusof et al. (2020) highlighted the challenges that staff within the University can face when delivering service-learning. They noted that lecturers can struggle with the lack of structural support available within the university to support service-learning. This is particularly in terms of the time spent to build relationships and the lack of funding available to offer quality, depth and scalability of the service provided. Within the current PHN module, the authors have established relationships with a small number of organisations and maintain this relationship throughout the year with regular meetings to discuss the projects. However, this is completed outside of dedicated workload hours. The PHN module is quite labour intensive for staff and requires considerable management and resources. Mabungela and Mtiki (2024) supports this and noted that for academics, work integrated learning (WIL) modules can be labour intensive as there is a lot of administration involved. It is therefore important that for those modules which embed WIL, that additional workload time and resources are provided by the university to support staff who embed it.

Taken together, these challenges highlight that while service-learning offers significant benefits, its successful implementation depends on careful design, clear communication, and sustained institutional support. Many of these issues, such as resource constraints, partnership management, and balancing academic and community priorities reflect broader systemic challenges within public health and higher education. Addressing these requires a strategic approach that embeds service-learning within institutional structures, rather than treating it as an additional or peripheral activity.

DEVELOPMENT AND SUSTAINABILITY OF PARTNERSHIPS

A key success factor underpinning the PHN module is the development and maintenance of strong community partnerships. These partnerships are established through ongoing engagement with local organisations, aligning student projects with existing community priorities and organisational capacity. Maintaining these

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relationships requires regular communication either online or in-person, clear expectations, and mutual benefit. Importantly, the co-creation of interventions ensures that outputs are relevant, culturally appropriate, and usable beyond the duration of the module. This reciprocal approach reflects best practice in community-engaged and participatory public health.

Case studies

The following section on the case studies illustrates how the theoretical principles and pedagogical approaches outlined in this chapter are applied in practice, demonstrating the real-world impact of student-led public health nutrition interventions across diverse populations.

Case study 1: Breathe Better Get Together

Breathe Better Get Together is part of MCRactive, an organisation that the lead author has established links with to establish work integrated learning (WIL) opportunities for students. MCRactive is part of Manchester City Council. One of the aims of the organisation is to inspire everyone to become more physically active and lead healthier lifestyles. This case study will outline the development and impact of the project with examples of output and feedback from the students and the organisation.

Breathe Better Get Together is a wellbeing group for individuals living with COPD a long-term health condition (World Health Organisation, 2023) in Manchester. The group typically meet once a month to help people improve their health through advice from health professionals and provides an opportunity to meet new people and reduce social isolation. Through the PHN module, students were tasked with creating an intervention which focussed on the needs of people living with COPD and to create a range of resources to support them to eat a healthier diet.

Following the steps outlined previously in the module delivery, students conducted a needs analysis of the health condition, explored the social determinants of health, and conducted stakeholder analysis through regular communication with the lead facilitator of *Breathe Better Get Together*. As a result, they created a healthy eating campaign called 'Lungevity' for people living with COPD. Underpinned by behaviour change theory, the students created a campaign that ensured participants could make small but meaningful changes to their diet. This included the creation of social media content including a Facebook page, leaflets (Figure 2), recipes and an in-person nutrition talk tailored to participants at the group.

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Figure 2. example resource, demonstrates branding and indicative content.



Impact

The impact of this work can be seen in the feedback below. As mentioned previously the aim is to encourage small but meaningful changes whilst providing students opportunities to enhance their employability developing hard and soft skills.

Feedback from the service provider

"On 14th April and 12th May 2025, MSc Students from Manchester Metropolitan University attended Breathe Better Get-Togethers in Wythenshawe and Harpurhey respectively. These sessions are set up to support adults living with respiratory conditions such as COPD, by providing medical advice from clinicians, opportunity to do physical activity, and guest speakers and community groups. The students spoke to our groups about the importance of healthy eating, particularly for those living with long-term health conditions. They had discussions with each group about how to make small but significant changes to improve their health. They demonstrated a great wealth of knowledge on the subject and were able to answer questions quickly and confidently. Both groups of attendees were engaged and enjoyed speaking to the students, who gave them much to reflect on! We have since had other conversations about healthy eating, and I can see that these

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visits have planted some seeds in the minds of our attendees. Furthermore, the materials the students put together for people living with COPD were superb. They were informative and comprehensive, without being packed with jargon or otherwise inaccessible. Attendees took materials home to stick on the fridge and have since tried recommended recipes and cooking tips! I know our patients learnt a lot from all of this input, because I certainly have! Excellent work by the whole group." Bethany Donohoe (Lead of Breathe Better Get Together)

Case study 2: Fuel your Future (Created with an International Student focus)

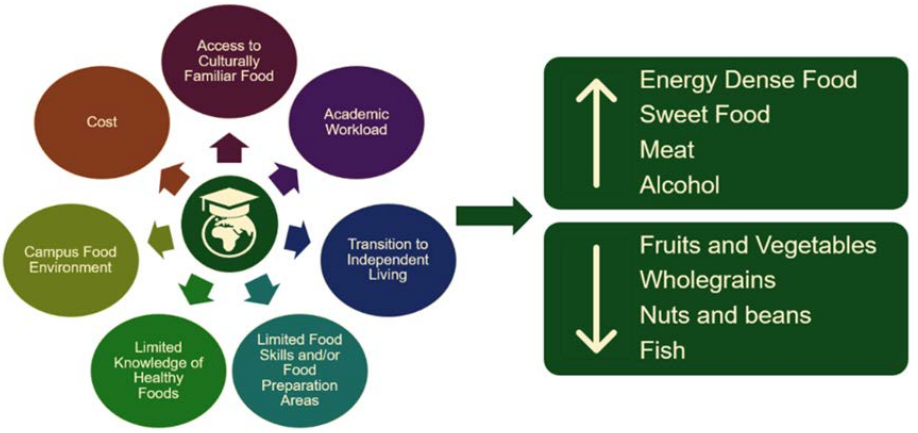
Case study 2; Fuel your Future is a PHN campaign for (SA-INT) (South Asian-International) tailored to support international students, especially those from South Asian backgrounds, in making healthier, informed food choices as they transition into university life. Recognising the challenges of adapting to a new culture and environment, the campaign offers practical, accessible resources to help new students confidently navigate their food options in Manchester. The campaign's guidance is rooted in behaviour change theory, offering an evidence-based approach to supporting healthier dietary habits.

Perceived need

In 2020-21 over 600,000 international students entered UK higher education, representing approx. 22% of all students (Walsh, 2022). The journey of an international student is not one which is straightforward and when also faced with acculturation can lead to many dietary changes. According to Brown et al. (2010) it is common when moving to a country with a different culture for immigrants to experience food shock. Adaptation of food habits to the new environment can be challenging due to inadequate information regarding cooking options, shopping, and lack of familiar foods available (Dean et al., 2010). International students face uncertainty with regards to how to adjust their eating habits due to lack of familiar foods and knowledge of how to utilise the available foods (Terragni et al., 2014). Data from multiple countries shows that international students from Asian and non-Western countries often change from eating healthy, home-cooked food to eating a more westernised diet (high fat and high sugar) when moving to a Western country for university education. This is due to the multiple barriers that they have for eating healthily (Figure 3) Bauch et al., 2023; Glick et al., 2025; Liu et al., 2020; Njambi, 2023; Pilli and Slater, 2021; Shi et al., 2021).

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Figure 3. Barriers to Healthy eating and Resulting Food Patterns in International Students



Concept of the promotion campaign

The student group planned their campaign to map to the student journey (Table 2) with a series of key contact points during that journey at which to add nudges to promote behaviour change.

Table 2. Overview of Fuel your Future Campaign

Item	Aim	Description
Welcome Email	Engages with students before they arrive so they can digest resources when not overwhelmed.	Provides access to all resources. Advises them to learn basic cooking skills and gather recipes. Advertises the fresher's fair stall.
Freshers' Week Stall and Games	Aids engagement with SA-INT students during their first days in Manchester to highlight the resources available and help establish healthy food habits.	Information leaflet highlights benefits for academic success Stall games with prizes educate and quiz students on healthy diets. Vitamin D sample bottle.
RISE pack containing the resources below	Aids engagement with SA-INT students both prior to and during their arrival in Manchester to highlight the resources available and help establish healthy food habits.	Provides access to the content below. Enables the student to access resources prior to arrival empowering autonomy to make healthy choices

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Table 2. Continued

Item	Aim	Description
MAPS to South Asian Food Shops	Gives SA-INT students the ability (control) to access familiar food.	Provides costs, travel options and common ingredients to make finding specialist south Asian ingredients achievable.
Supermarket Guide	Limits culture shock when faced with British supermarkets.	Provides information on trusted shops, what you can buy, supermarket layouts, food labelling, how you can pay and tips and tricks.
Videos	Engaging videos that can be released on various MMU platforms throughout the year to show the benefits and accessibility of healthy eating	Includes videos on what students are eating for lunch, group eating situations, what you buy in different shops and shop guides.
Recipe Book	Encourages healthy eating by providing batch cook recipes ideas to reduce costs and time. (86% of SA-INT MMU students wanted recipe ideas (Fuel Your Future, 2025).	Contains recipes for breakfast, lunch and dinner across a variety of cultural cuisines.
Top Tips	Reminder leaflet for the fridge encouraging social normative behaviour for healthy diets.	Reminds SA-INT students to shop for healthy food, how to reduce costs and to engage in social food-related activities.

Impact

Student Feedback

"The Public Health Nutrition module was incredibly fun, fast paced (in a good way!) and engaging. It really helped me understand how to design an effective nutrition campaign that is backed by science and routed in behavioural psychology. Our team was tasked with developing materials for international students to help them eat more healthily when moving to Manchester. Ann and Orla were very clear about what the university required, but we had incredible freedom on what we could develop, from the types of materials to branding and design. I know some people worry about group work, but working as a team that included a range of ages and cultures really brought different perspectives to the materials and ensured the content was directly applicable to the target audience. We honestly had a lot of fun developing everything together. I certainly feel a lot more equipped to develop these kinds of campaigns in the future, especially in terms of thinking about how behavioural psychology should inform the final campaign - it shouldn't just be pretty - it should work! The assessment day itself

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helped me affirm some of the choices we'd made in the campaign and think about how some things could have been improved - it felt like another learning opportunity, not an assessment. We also got to see other groups' campaigns, which helped me see different creative approaches and again reflect on our approach. These are the things I will take forward. One advantage for our group was that we been able to transform the materials we developed to a live online resource for students at McrMet. We worked with the RISE team to ensure the materials were fit for purpose and translated well to an online format, which is critical for todays' public health landscape. Overall, it's been a truly gratifying and informative experience. I am very proud of the work we did and thankful for the support we received. I am hopeful that we work we have done can be expanded by McrMet in the future."

Service User Impact

The wider university expressed an interest in the resources, which led to the creation of a RISE pack generated to form part of the pre-arrival communications for International Students for the September 25/26 intake (long term impact). To date the pack has had over 60 students enrolled, 32 completions and 13 are in the process of completion of the RISE sprint (an online course). A further 76 students have attended the associated Discover Manchester – Peer Guided City Tours which take place throughout the academic year and utilise the resources created by the students. Future development will see adaptations to the RISE pack to include student-led recipe cooking workshops and to expand to other ethnicities.

Case Study 3: Singing from the Heart

Singing from the Heart was a project in collaboration with Intergenerational England, a charity that works to unite public, voluntary and private sectors against ageism and age segregation (Intergenerational England, n.d). Singing from the Heart integrates the transformative power of music into hospitals, care homes, and community spaces, engaging individuals living with or who are recovering from heart conditions. Through this project students and the community were brought together, and students led a healthy eating talk for individuals with cardiovascular disease. Cardiovascular disease (CVD) remains the leading cause of mortality globally and in the UK (Global Burden of Disease Study, 2021), with an estimated 7.6 million people currently affected by heart or circulatory conditions (British Heart Foundation, 2025). Key contributing factors include poor diet, low levels of physical activity, age, and gender (British Heart Foundation, 2025). In 2024, Greater Manchester was ranked as the second-highest area in the UK for premature mortality associated

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with coronary heart disease (British Heart Foundation, 2025) thus highlighting the need for tailored interventions. Through this project the students provided nutrition advice and created a range of resources for people with heart issues. The impact of this PHN campaign can be seen below in the feedback from the participants and the Co-founder of Intergenerational England.

Feedback from service provider

"Having the students involved in the Singing from the Heart sessions introduced a different depth and highlighted what's possible when intergenerational, real-life learning sits at the heart of public health work. At Intergenerational England, we believe that public health is strongest when generations learn with and from one another - the students weren't just delivering information, they were engaging in with their community and creating something responsive to the needs, stories and realities of the group. Integrating public health nutrition with creative-health techniques and the social relationships that underpin wellbeing, helped us model a truly holistic approach to heart health. What emerged was meaningful knowledge transfer, empathy, and a shared understanding of how factors like age, identity, and life experience shape health - all essential to an intersectional public health approach. Service learning of this kind is paramount in transforming public health. It strengthens students' skills, supports communities, and demonstrates the power of intergenerational exchange in driving healthier, more connected lives." Emily Abbott Co-founder Intergenerational England.

Feedback from the participants of Singing from the Heart

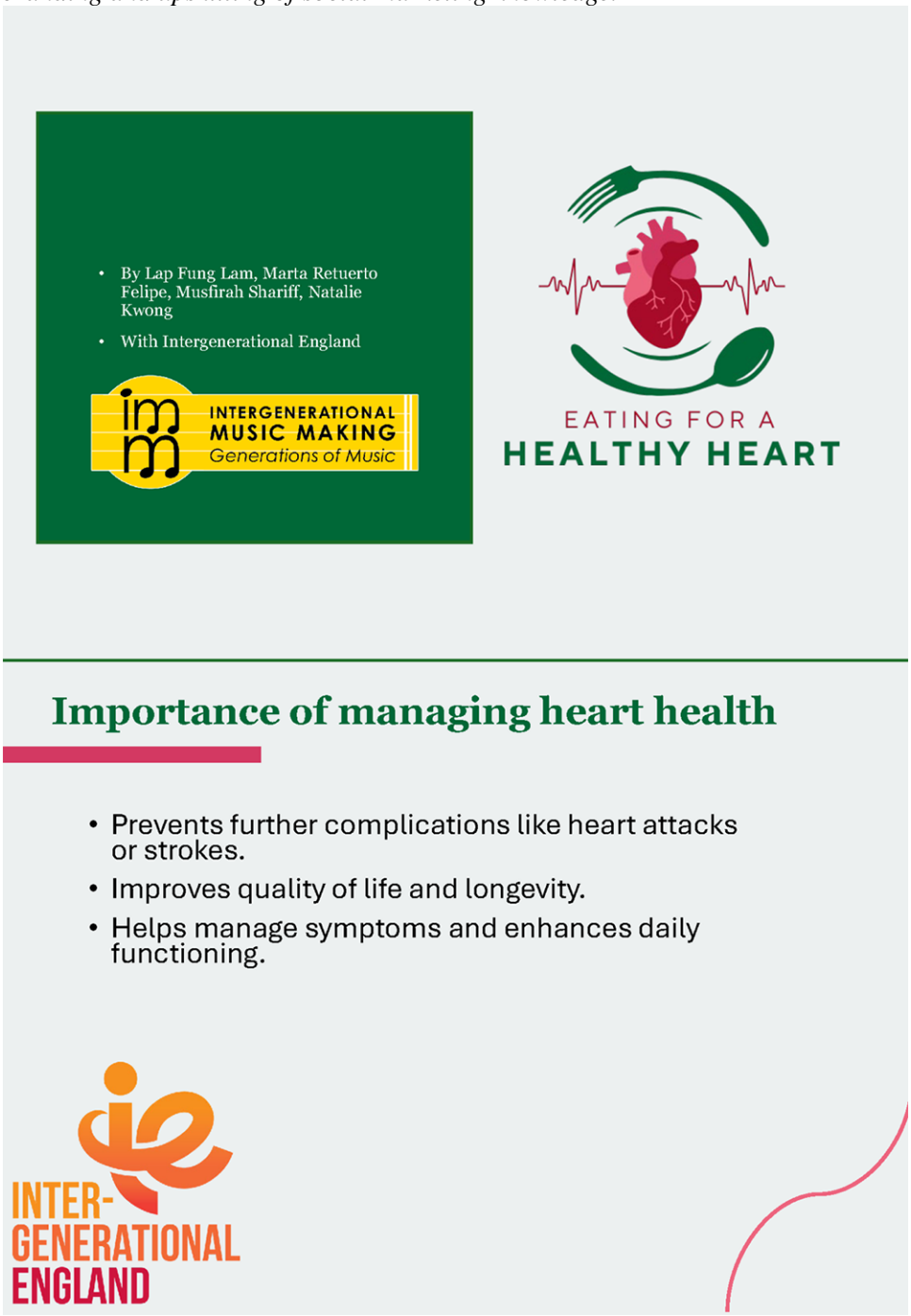
"Presentation very enjoyable and interesting, some very good information - so very good. Thank you"

"Presentation was very useful and taught us things we did not know. Very enjoyable".

Example of the resources that were created for case study 3, (Figure 4).

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Figure 4. Example of resources created clearly demonstrates the application of branding and upskilling of social marketing knowledge.



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As discussed earlier the PHN module encourages students to align their campaign to the SDGs, Table 3 demonstrates how the SDGs are mapped to the module and case studies.

Table 3. SDG and PHN alignment

SDG Goal	PHN Module Contribution	Relevant Case Study Examples
Goal 2: Zero Hunger	• Builds students' understanding of food insecurity, nutrition equity and sustainable food systems. • Develops interventions that promote affordable, nutritious eating, especially for vulnerable groups. • Encourages culturally appropriate food resources and accessible recipe development.	• Case study 2: *Fuel Your Future*: supports international students in achieving adequate, nutritious food intake during transition to university. • Community food-based resources co-created with charities and health groups.
Goal 3: Good Health and Well-being	• Focuses on improving community nutrition knowledge and behaviour change. • Addresses chronic disease prevention through diet (e.g., cardiovascular disease, COPD). • Promotes physical, mental and social wellbeing via tailored campaigns.	• Case study 1: *Breathe Better Get Together (Lungevity)*: COPD-friendly nutrition campaign. • Case study 3: *Singing from the Heart*: integrating nutrition with creative-health activities for people recovering from cardiovascular disease.
Goal 4: Quality Education	• Provides experiential, work-integrated learning grounded in service-learning principles. • Offers inclusive, high-quality teaching linked to real-world public health practice. • Enhances digital literacy, critical thinking, teamwork and reflective practice.	• All case studies demonstrate applied learning in real settings. • RISE platform activities that develop academic and professional competencies.
Goal 10: Reduced Inequalities	• Addresses health disparities through targeted community interventions. • Engages students in projects with under-resourced or marginalised groups. • Promotes cultural competence and inclusive communication skills.	• *Fuel Your Future*: reduces inequalities faced by international students whose food experiences and challenges differ from domestic students. • Partnerships with charities supporting people with chronic illness (COPD, CVD), often in lower-income areas.
Goal 12: Responsible Consumption and Production	• Encourages sustainable nutrition practices and responsible food choices. • Integrates concepts of food waste reduction, environmentally friendly eating and sustainable food systems into projects.	• Student-created materials emphasising sustainable, affordable eating (e.g., resource packs and recipes). • Interventions encouraging healthier and more sustainable dietary habits in community groups.

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A Three-Way Ecosystem: Students, Service Providers and Universities

The strength of the three-way ecosystem lies in co-creation, reciprocity and scaffolded support. Students are prepared through templates, communication guidance, reflective practice and skills-based workshops. Community partners benefit from clear project briefs, consistent communication and the integration of student work into their ongoing programmes. Meanwhile, universities are responsible for maintaining sustainable partnerships, monitoring student wellbeing and ensuring alignment with educational and public health priorities.

When these components function cohesively, the result is a mutually beneficial learning environment that enhances academic development, supports community needs and strengthens institutional civic identity. The following (Table 4) outlines key recommendations, actions and associated impacts across the three stakeholder groups within the PHN service-learning module.

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Table 4. Recommendations for Practices

Recommendations	Actions	Impact
Students Communicate professionally; set expectations early. Conduct needs assessments and co-create resources collaboratively. Use reflective practice to deepen learning. Apply evidence-based public health nutrition principles and behaviour-change principles. Develop digital, teamwork and project management skills.	Provide templates for needs assessments, project briefs and communication etiquette and teamwork. Deliver workshops on behaviour-change theory, community engagement and resource design. Facilitate sessions on reflective practice and professionalism. Support digital skills through RISE equivalent activities, tutorials and exemplars.	Enhanced employability through real-world experience, digital capability and professional competencies. Improved confidence, cultural competence and ability to work with diverse populations. Higher-quality, tailored interventions that meet real community needs, as shown in case studies like Fuel Your Future and Lungevity. Deepened understanding of social determinants of health and public health inequalities.
Service Providers Provide clear project briefs aligned with community needs and organisational capacity. Offer context, mentoring and access to service users for co-creation. Give timely feedback on student interventions. Integrate student-created resources into ongoing programmes.	Meet with partners pre-semester to co-develop realistic project scopes. Create guidance notes for partners outlining module timelines, expectations and communication processes. Maintain consistent contact with partners throughout the module to troubleshoot issues. Gather partner feedback post-project for quality improvement. Ensure partners feel valued through acknowledgement and opportunities for repeat collaboration.	Increased capacity for health improvement work in under-resourced settings. Access to new, evidence-informed nutrition resources (e.g. videos, leaflets, recipe packs). Strengthened partnerships with the university that support long-term community wellbeing. Enhanced service-user engagement through tailored, community-focused interventions as illustrated in Singing from the Heart.

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Table 4. Continued

Recommendations	Actions	Impact
University Provide scaffolded learning: templates, staged deadlines, structured support. Maintain sustainable, reciprocal community partnerships. Embed digital literacy, sustainability and inequality awareness into the curriculum. Monitor student wellbeing and group functioning. Use feedback from partners and students for continuous improvement.	Curriculum and teaching tasks Create a structured weekly plan with staged deliverables. Sign post to additional upskilling opportunities for digital marketing, project marketing, ADOBE Express etc. Partnership & Community Tasks Map community partners and maintain a partnership log for consistency year-to-year. Conduct pre and post module partner meetings to align goals and capacity. Student Support Tasks Implement early group check-ins to identify risk areas (engagement, conflict, time pressures). Offer flexible support sessions for struggling groups. Provide clear marking rubrics and exemplars. Quality & Improvement Tasks Collect structured feedback from students and partners via surveys/ interviews. Use feedback to refine partnership processes, timelines and learning activities. Disseminate successful case studies across the programme and institution.	High student satisfaction and strong module performance, as seen in the chapter. A socially accountable curriculum that addresses local health inequalities across Greater Manchester. Increased institutional presence and trust within the community. Graduates equipped with skills aligned to modern public health workforce needs. Stronger impact within SDG areas: health, hunger, reduced inequalities and sustainable consumption. Content created by students for students and disseminated through the RISE platform (e.g. Fuel your Future case study 2).

Scalability and Wider Application

Although the PHN module is situated within Greater Manchester, the principles underpinning its design are transferable to other contexts. The integration of service-learning, behaviour change theory, and community partnership working; provides a flexible framework that can be adapted to different populations, institutional settings, and resource levels. Scalability depends on factors such as institutional support, availability of community partners, and resource allocation. Embedding service-learning within curricula therefore requires intentional alignment with institutional

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priorities, investment in community engagement infrastructure and ongoing dialogue between educators and local organisations.

CONCLUSION

Service-learning within a Public Health Nutrition module offers substantial benefits for students, communities and universities. In a context characterised by widening health inequalities, rising diet-related illness and stretched public health services, the Manchester Metropolitan University model demonstrates how higher education can make a meaningful contribution to local health improvement and the economy.

Through strategic partnerships, students engage in experiential learning that develops confidence, communication skills, digital capability and cultural competence. Community partners benefit from practical, evidence-informed resources that can continue to support service delivery long after the module concludes. Case studies illustrate the adaptability and value of this approach, showing how students can create small yet meaningful changes within real community settings.

While challenges such as varying engagement, partnership management and time pressures persist, these can be mitigated through structured planning, scaffolded learning and sustained relationship-building. Ultimately, the PHN module exemplifies the transformative potential of service-learning as a pedagogical approach that bridges academic learning with community impact. As universities seek to prepare graduates capable of addressing complex public health challenges, service-learning offers a compelling, scalable and socially accountable model that enhances both educational outcomes and community wellbeing.

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KEY TERMS AND DEFINITIONS

Authentic Assessment: An assessment that mirrors real tasks carried out in professional practice providing students with real-world experience.

Community Impact: The positive changes that occur in a local area because of a project or partnership. This may include better health awareness, new nutrition resources, increased engagement or improved wellbeing for specific groups.

Employability: The abilities and attributes that help students secure and succeed in jobs. These include hard and soft skills such as communication, teamwork, professional behaviour, digital skills and confidence gained through real-world learning.

Experiential Learning: Learning through direct experience. Students gain understanding by actively doing tasks, reflecting on their actions, and applying theory to real-life situations rather than relying only on didactic lectures and textbooks.

Public Health Nutrition: An area focused on how food, diet and nutrition influence the health of populations. It aims to prevent illness, promote wellbeing and reduce inequalities by improving access to healthy, sustainable food.

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Service Learning: A teaching approach where students learn by working directly with community groups or organisations. They apply university learning to real situations while providing helpful support to the community.

Work Integrated Learning: A way of combining academic study with real-world experience. Students use their skills and knowledge in practical settings—such as community projects, health organisations or local initiatives—to prepare for future employment.

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Chapter 10
Impact of an Entrepreneurial Service-Learning Project in Higher Education From Classroom to Community

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EXECUTIVE SUMMARY

Service-Learning connects theoretical learning with real world experiences; meeting community needs and fostering civic responsibility. The project aimed to enhance entrepreneurial skills of 39 tribal women from Yercaud Hills, India through millet-based recipes and also impart service-learning for 26 students pursuing their post-graduation in Food service Management and Dietetics in the Department of Home Science, Women's Christian College, Chennai. An exploratory mixed methods design was used to examine the impact of SL project. Data was collected using questionnaires, interview method and were analysed using statistical tests. Pre-test revealed 61.5% students equated community projects with classroom learning and 92.3% anticipated employment benefits. Post-test showed 73% found tasks meaningful, with 100% reporting enhanced societal understanding and team coordination.

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While, the tribal women gained hands-on knowledge, felt economically empowered and expressed entrepreneurial motivation. Findings demonstrate SL's reciprocal efficacy for both students and the community.

INTRODUCTION

Service-Learning (SL) is a type of experiential learning, that enables students to deepen their conceptual and theoretical understanding through real world application (Salam et al., 2019). In higher education, SL provides opportunity for the students to connect classroom learning with community needs, fostering reflection on professional skills and reflect on their skills and civic responsibility (McLaughlin, 2010; Toomey, 2026). This pedagogical approach enhances students' learning and academic performance in terms of both personal, and professional development by fostering leadership skills, communication skills and higher order thinking skills (Hébert & Hauf, 2015). It also addresses community needs, making education more impactful and relevant while instilling civic responsibility (Wilczenski & Cook, 2009). SL has been shown to promote social inclusion, reduced stereotyping and discrimination (Hymel & Katz, 2019). The community perspective in SL is also crucial, as it ensures mutual benefits and reciprocity (Petri, 2015). This dual benefit of SL aligns with the present study's rationale which focuses on empowering tribal women of Yercaud hills through entrepreneurial training in millet-based recipes, while providing the students of food service management and dietetics an opportunity to equip themselves for socially responsible careers.

Millets are robust, quick growing small-seeded grains renowned for their nutritional superiority to wheat and rice. Unlike major cereals, millets do not require much water during cultivation, making them environment friendly. These crops are widely cultivated in the hilly areas, particularly by the farmers in the tribal areas in order to meet their daily sustenance. Traditionally, millets were the staple crops in tribal farming communities (Sahoo & Samantaray, 2021).

In recent decades, there has been steady decline in the consumption and cultivation of millets across many regions of India. This is due to shift in the dietary preferences towards refined and polished grains, leading to lower demand for millets in the market. This change has directly impacted farmer's decision, especially in tribal areas such as Yercaud, a well-known millet cultivation region in Tamil Nadu, India. Although, farmers household prefer millets, they face economic pressures to cultivate cash crops to meet their financial demands. This trend threatens the preservation of local agrobiodiversity and undermines food security, traditional diets and health in the long term (Michaelraj & Shanmugam, 2013).

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Women in tribal communities play a vital role in millet cultivation as well as culinary traditions. This positions them uniquely to influence both local economies as well as the dietary pattern of the entire family. However, changing economic and social challenges often limit their opportunities for financial stability and empowerment. Offering to build and support entrepreneurial capacity of tribal women, particularly developing value-added millet-based food products, will not only help to revive millet consumption and increase market demand but also promote women's economic independence. Besides, Yercaud is a popular tourist destination, providing tribal women with unique opportunities to market their millet-based products directly to tourists. This, in turn, promotes wider consumption and appreciation of millets among diverse consumer groups, supporting economic empowerment and the revival of local food heritage.

Recognizing these challenges, the present project aims to leverage the educational framework of service-learning (SL) to create an impactful community engagement. This enhances civic sense and responsibility for students and also offers tangible benefits to the communities. It aims to demonstrate the transformative impact of SL in fostering reciprocal benefits and highlight the innovative pedagogical approach that supports development of scalable models of community-driven economic empowerment of tribal women through students as future leaders and change makers.

Objectives

The objectives are as follows:

1. To plan and implement a SL project focussed on entrepreneurial training in millet-based innovative recipes for tribal women in Yercaud to promote economic empowerment.
2. To provide postgraduate students in Food Service Management and Dietetics with SL experience by engaging them in entrepreneurial training activities and community engagement.
3. To assess the impact of the SL project on both student and community perspectives.

This study implements entrepreneurial SL where postgraduate students in Food Service Management and Dietetics deliver specific entrepreneurial competencies to tribal women through structured workshops. These competencies include recipe production, costing and pricing strategies, food hygiene and safety standards for commercial production, and sales pitching techniques tailored for Yercaud's tourist market. The training transforms tribal women's traditional millet cooking knowledge into market-ready entrepreneurial skills, enabling them to establish sustainable millet-based food outlets.

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Scope and Contribution

This chapter contributes to the growing body of literature on service-learning by presenting a study that bridges academic knowledge with real-world application in a marginalized tribal context. It emphasizes the role of higher education in promoting economic and gender empowerment alongside sustainable food systems through SL. The chapter links entrepreneurship, nutrition and environmental sustainability with community development by bridging the gap between students and community.

Beyond, the chapter also addresses key challenges faced during the implementation of SL project, which includes bridging the gap in academic objectives with real world problem of the community and managing resource constraints. It is highly relevant to academicians, educators and policy makers invested in innovative and impactful pedagogy, enhancing whole person education for students and fostering community engagement. This chapter also fosters interdisciplinary collaboration, which will help in addressing complex challenges in the community. Additionally, it also highlights SL as a powerful vehicle for cultural revitalization, empowering tribal communities to transform traditional millet practices into economic opportunities while building social cohesion through interdisciplinary collaboration. The study's dual perspective design creates a synergy with reciprocal benefits and mutual entrepreneurial self-efficacy where the students develop teaching confidence and leadership through real-world workshop delivery, while tribal women gain enterprise competencies for millet outlet.

REVIEW OF LITERATURE

A literature review was carried out to assess studies on the students and community's perspective of service learning, yielding 14 studies (Table 1). Geographically, the studies span from Western to wide global contexts, providing wider perspective and enhancing external validity. Across these 14 studies, consistent themes emerge: students develop professional skills, leadership and civic responsibility (Beatrice, 2024; Jessani et al., 2025; Lo et al., 2022), while communities emphasize reciprocity and co-education as success factors (Petri, 2015; Zhou et al., 2024).

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Table 1. Review of Literature on the Student's and Community's Perspective of SL

S.No	Dimensions	Geographical Location	No. of Participants	Design of the Study	Tools	Outcome	Reference
Student's Perspective							
1.	To train dental learners with community service-learning focusing on the oral health needs of local-equity deserving communities and global populations.	Canada	41 learners	Survey	Questionnaire	-Learners felt the importance of access to care and community outreach. -Enhanced their clinical skills and improved communication, teamwork and instilled cultural humility.	Jessani et al. (2025)
2.	Impact of service-learning project on the whole person development of students from food service management and dietetics discipline	India	26 post graduate students	Pre-test, post-test	Questionnaire	-Improved academic knowledge and the ability to apply in real life situation and improved communication and professional skills. -Gained insights about their civic responsibility and developed problem solving ability. -Profound impact on students' whole person development	Beatrice (2024)
3.	Develop soft skills, train for socially responsible citizens and raise awareness about the Sustainable Development Goals (SDGs) through SL	Angola and Brazil	200 high school students, 20 from the University of Angola and 40 from the University of Brazil	Cross-sectional	Reflection	Significant impact on academic learning, personal and professional domains and improved literacy about the SDGs.	Ribeiro et al. (2023)

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Table 1. Continued

S.No	Dimensions	Geographical Location	No. of Participants	Design of the Study	Tools	Outcome	Reference
4.	Impact of experiences (motivation and learning) on students' cognitive learning outcome through academic SL	Hong Kong	2056 University Students	Survey	1.Self-reported experiences for students' learning experiences; 2. Motivated Strategies for Learning Questionnaire; 3. Service-Learning Outcomes Measurement Scale instrument (S-LOMS)	-The level of expectancy for success and personal value of the project increased after positive learning experiences. -Motivation was not static and was found to be dependent upon the learning experiences	Lo et al. (2022)
5.	University students' perception of the impact of SL in lieu with their participation, competencies, service rendered and experience obtained	Georgia	64 University students	Survey	1.Adapted questionnaire; 2. Reflection	Participation in SL was valued positively by the students. They had acquired competence, commitment, motivation and self-knowledge.	Escofet & Rubio (2019)
6.	Influence of community-based SL experience on civic responsibility	USA	18 Students pursuing Master of Occupational Therapy	Qualitative Study	Reflective journal	-Increased self-awareness, awareness of social issues, professional self-efficacy and developing leadership skills -Heightened awareness of social injustices and improved civic responsibility.	Maloney et al. (2014)
7.	Leadership skills in nursing students before and after a SL experience	USA	65 Baccalaureate nursing students	Pre-test and Post-test	Student Leadership Practices Inventory-Self and Observer	-Significant improvement in leadership behaviours was found -Significant correlation between overall post-test scores for both self and observer inventory.	Foli et al. (2014)

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S.No	Dimensions	Geographical Location	No. of Participants	Design of the Study	Tools	Outcome	Reference
8.	SL based Civic Involvement	USA	212 students completed SL and 324 students did not opt SL	Pre-test and Post-test with control (non-SL students)	1.Civic Attitudes and Skills Questionnaire (CASQ) 2. Course Satisfaction Measures 3. Social Desirability Scale	-Improved future civic action, interpersonal, problem solving and leadership skills -Greater satisfaction with SL course -Higher levels of academic and community learning than non-SL students	Moely et al. (2002)
Community's Perspectives							
9.	Perspective of community partner organizations (CPOs) in supporting community-based service learning (CBSL)	Canada	65 CPOs involved in CBSL curriculum for	Qualitative Study	Semi-structured interviews	-CPOs value their role as co-educators -CPOs see the potential opportunities in increased partnerships between CPOs and faculty in curriculum delivery -CPO's role is limited by curriculum structure as they facilitate unique teachings that is unavailable through traditional learning	Zhou et al. (2024)
10.	Community perspective of how reciprocity works in higher education SL	USA	24 community partners (Midwestern private and not-for-profit university)	Qualitative Study	Interview method	-Community partners felt reciprocity drives their outcomes -Community partners value the learning outcomes of students -Community partners support institutionalising SL and felt the need to contribute	Petri (2015)

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Table 1. Continued

S.No	Dimensions	Geographical Location	No. of Participants	Design of the Study	Tools	Outcome	Reference
11.	Perspective of community partners on effective service-learning partnerships	USA	11 community partners	Qualitative Study	Interview method	Community partners expect the following: -Attention to their mission and vision -Mindfulness of their resources -Acceptance and sharing of responsibilities for inefficiency -Recognition / value of their legacy -Importance to the process of SL	Tinkler et al. (2014)
12.	Experiences of community partners engaged in SL	USA	14 community organizations	Qualitative Study	Interview method	Community partners feel that: -Students had direct impact on community members -Students must be genuinely interested in working -SL provides an opportunity for them to help students expand their knowledge.	Budhai (2013)

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Table 1. Continued

S.No	Dimensions	Geographical Location	No. of Participants	Design of the Study	Tools	Outcome	Reference
13.	Perspective of rural community stakeholders on SL pedagogy	Philippines	1 community	Qualitative Study	Interview method and focus group discussions	The community perspectives are as follows: -SL projects must meet the unique needs of the community -Training on values formation and personal development of rural poor communities.	Toledano & Lapinid (2010)
14.	Perspectives ofcommunity-based organizations (CBO) on SL	USA	20 community-based organizations	Qualitative research	Interview method	-Develop SL courses with Partnership of CBOs. -The role of CBOs must be defined in the course and the course objectives needstobeshared -Written communication explaining the expectations and goals for clarity.	Blouin & Perry (2009)

Student's Perspective

Students perceive service-learning (SL) as a transformative experience that offers numerous benefits across academic, personal and civic domains. Literature evidence shows that SL enhances students' ability to apply academic knowledge in real-world situations. Through direct engagement with diverse populations, students report enhanced interpersonal skills and nuanced communication skills (Beatrice, 2024; Ribeiro et al., 2023). This immersion with community deepens their understanding of civic responsibility and social issues, leading to increased self-awareness, awareness of social injustices, heightened civic engagement and fostering a stronger sense of their social identity (Maloney et al., 2014; Moely et al., 2002).

SL also positively impacts students' professional skills by developing leadership skills, problem-solving abilities, and professional self-efficacy (Foli et al., 2014; Maloney et al., 2014). Participation in SL is valued for its role in building competence, commitment, motivation, and self-knowledge (Escofet & Rubio, 2019). Furthermore, SL experiences are associated with increased motivation and a greater sense of personal value when learning is positive and engaging (Lo et al., 2022). Overall,

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students report higher satisfaction with SL courses compared to traditional learning methods, noting that community engagement with purpose and link to academics, makes learning more relevant, memorable and impactful. This, in turn, has been associated with improved academic performance, stronger skill acquisition and at the same time, renders positive community engagement outcomes (Moely et al., 2002).

Jessani et al. (2025) highlighted that student's engagement with underserved community increased the awareness of structural barriers in the social that limit appropriate care or access to health and inequalities. It underscored their ethical responsibility as future professionals to advocate for more equitable systems and prompted to critically reflect on their role in reducing disparities. The students also learned to foster cultural humility and learned to listen to community voices and adapt approaches to respect differing cultural norms and priorities. Such outcomes align with SL's theme, which emphasizes that reflective engagement with communities encourages students to go beyond cultural competence as a static endpoint, towards an ongoing stance of learning and humility.

In short, the student perspective focused literature positions SL as a powerful pedagogy that integrates academic learning acquisition with the development of professional identity, civic responsibility and deepened commitment to society. These emerging evidences, illustrates how discipline specific SL curriculum or models can build proficiencies in multi-dimension. Across different settings, students' reflections converge on the view that well-structured and executed SL offers them a richer, more holistic learning than traditional learning alone, suggesting to embed SL as a core educational strategy. Methodological strengths of the included studies show the use of diverse designs and presents the applicability of SL to different disciplines thereby confirming SL's efficacy across disciplines.

Community's Perspective

The community's perspective on service learning (SL) emphasizes the importance of reciprocity, alignment with community needs, and effective collaboration. Community partners view reciprocity as a driving force behind successful outcomes, as it ensures mutual benefits for both the students and the community. They value the opportunity to contribute to institutionalizing SL and appreciate when students demonstrate genuine interest in their work, which enhances the direct impact on community members (Petri, 2015; Budhai, 2013). With alignment of these elements, SL provides a platform for communities to voice out their concerns, while helping students expand their knowledge and fostering meaningful interactions.

Community partners also stress the need for SL projects to align with their mission and vision while being mindful of their resources. Specifically, focus on long-term strategic goals are expected rather than being solely driven by academic timelines or

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course requirements. They expect shared responsibility for inefficiencies and recognition of their legacy, which underscores the importance of collaborative planning and execution (Tinkler et al., 2014). Moreover, addressing unique community needs, such as values formation and personal development of rural or underserved areas, is critical for ensuring that SL initiatives are impactful (Toledano & Lapinid, 2010).

Effective and sustainable partnerships require robust communication channels and clear role definition between community organizations and academic institutions. Community-based organizations (CBOs) prefer transparency about their roles explicitly outlined in SL courses, with objectives to avoid misunderstandings and manage workload. Written communication about expectations and goals, such as memoranda of understanding, regular feedback meetings and co-developed learning objectives, further strengthens these collaborations (Blouin & Perry, 2009).

Empirical evidence examining the perspective of community partner organizations (CPOs) in supporting community-based service learning (CBSL), showed that CPOs share a strong interest in their role as co-educators (Zhou et al., 2024). They view their involvement in teaching as an extension of their commitment to community wellbeing. But the CPOs feel that their role is limited by curriculum structure as they facilitate unique teachings that is unavailable through traditional learning module, highlighting how institutional rigidity can restrict innovative, community-engaged educational approaches despite demonstrated value. At the same time, CPOs see the potential opportunities in increased partnerships between them and faculty in curriculum design and delivery. This study provides concrete evidence on the beneficial role of CPOs when positioned as genuine co-educators or pedagogical partners.

In summary, the literature review suggests that communities or partner organizations envision SL as a relational, negotiated process grounded in reciprocity, shared responsibility and alignment with their missions for meaningful outcomes for both the community and the students. They emphasize transparent communication and role definition as essential pillar stones for long term, mutually beneficial partnerships. Positioning the CPOs as co-educators illustrates the rich contextual learning the students will receive, yielding meaningful outcomes. Hence, by adopting these practices, SL initiatives can create long-term, mutually beneficial collaborations that address community identified priorities or needs while enhancing student learning outcomes.

The present review of literature has helped us to identify critical gaps. Of the 14 included studies, no study addresses nutrition-focused SL or entrepreneurial training outcomes. Further, tribal and indigenous contexts are entirely absent, and discipline-specific applications in food service management/dietetic remain unexplored. This study directly addresses these gaps through dual perspective analysis of postgraduate students and tribal women from Yercaud's unique millet-tourism ecosystem.

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Theoretical Relevance

The empirical evidence from students and community perspective of SL are cleanly supported by two complementary theoretical frameworks: Kolb's experiential learning theory and John Dewey's theory of experience and education. Kolb's Experiential Learning Theory (ELT) posits learning as a dynamic cycle or a spiral comprising of four stages: concrete experience (experiencing), reflective observation (reflecting), abstract conceptualization (thinking) and active experimentation (acting). In this theoretical model, learning touches all the mentioned stages and the resultant outcome is based on the dynamic tension between the stages (Nurunnabi et al., 2022). This framework elegantly explains the transformative outcomes reported across the reviewed literature, where students consistently describe SL as superior to traditional teaching methods due to its reflective and immersive nature.

As students begin to engage directly with community realities, the concrete experience initiates the cycle, where they get to understand the needs of the community and experience it firsthand. They get to apply their academic/classroom knowledge by addressing the community needs, which in turn, hones their academic skills, personal and interpersonal skills such as communication, teamwork, while exposing them to social determinants and civic responsibility which the textbooks cannot convey the true essence. As the students navigate the unfamiliar cultural, social and environmental dynamics, they get foster adaptability and form new learnings. Reflective observation follows, where structured debriefing transforms raw experience into valuable insight. Students are normally instructed to carry out reflection process via journals or group discussions, where they process their experiences. This stage bridges personal growth with professional identity, explaining the increased motivation and commitment. Without this stage, the experiences will risk superficiality, but when guided with reflection, it serves the true purpose of SL by benefiting both the students and the community.

The stage of abstract conceptualization emerges as students distil patterns or learnings into principles. The students form models of leadership, problem solving, social responsibility and civic sense. This intellectual synthesis of their experiences and reflections underpins gains in their personal and professional competencies, as isolated events into frameworks for equitable practice or application in future. Active experimentation is the last stage or the stage that completes the loop of learning. In the reviewed literature, it was noted that the students equip themselves to apply the refined approaches in future engagements, moving towards mastery, yielding higher satisfaction. Kolb's cycle, thus rationalizes the literature's consensus on SL's holistic benefits for students, positioning it as a scaffold for competence.

The community perspectives of SL reviewed in this literature find elegant theoretical coherence in John Dewey's philosophy of education and experience,

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including democracy as a way of life. According to his theory, education is positioned as a participatory process embedded in democratic community life and not as an isolated event or transmission of knowledge (Pacho, 2015). This framework directly supports the dual emphasis central to the theme of our research which is both student's transformative experiences through real-world engagement and community's reciprocity, its perspective on mission alignment and mutual benefit as co-educators. Central to this theory is the principle of continuity and interaction in experience. Educational experiences must connect past knowledge to future action through community encounters that are meaningful. For students, this manifests in their learning through complete immersion with the community while addressing their needs. From community perspective, Dewey's emphasis on democratic system elevates partners beyond service sites to essential collaborators of the educational institution. They no longer become passive recipients but active contributors to democratic education with mutual benefits. This frames SL as a democratic pedagogy where student's transformation and community reciprocity are interdependent. A well implemented SL will honour this by prioritizing interactional quality, yielding holistic outcomes for both parties involved. This theoretical anchor positions SL as an essential component in preparing students for participatory, equitable practice in diverse societies.

Overall, the reviewed literature positions SL as a mutual shaping process in which students learning, community needs and democratic educational values are deeply intertwined, rather than separate or competing aims. This synthesis reveals key tensions such as curricular constraints and definitional heterogeneity, that limit SL's potential, alongside opportunities for structured reciprocity. Grounded in this evidence, the present study is well placed to explore how SL can be intentionally designed to strengthen both personal, social and professional identity of students, as well as community's wellbeing within the education framework. By addressing these gaps through empirical investigation, it contributes to advancing SL as a core pedagogy for bridging theory and practice in ways that align with Kolb's theory of experiential learning and Dewey's vision of educative community partnerships.

METHODOLOGY

This methodology outlines the systematic execution and evaluation of a SL project delivering entrepreneurial training in millet-based recipes to tribal women from Yercaud hills, while immersing postgraduate Food Service Management and Dietetics students in community-engaged practice.

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Study Design and Conceptual Framework

The present study adopted an exploratory mixed-methods design integrating quantitative (pre/post survey) and qualitative (semi-structured interviews) approaches to comprehensively understanding and assess the impact of the service-learning (SL) project on students and tribal women participants. This approach was designed with an intention to align with reciprocal pedagogy emphasized in the literature review and it aligns with Kolb's Experiential learning theory and John Dewey's Theory of experience and education to address literature gaps.

The SL intervention was based on the four stages of Kolb's theory namely, concrete experience through students delivering hands-on millet recipe workshops and entrepreneurial training to tribal women; reflective observation via student discussions; abstract conceptualization connecting food service management and dietetics course work to tribal entrepreneurship challenges and active experimentation as tribal women apply the concepts of costing, hygiene and sales skills toward establishing millet food outlets. This study was also integrated with Dewey's theory through collaborative community engagement as civic education where tribal women were co-learners and co-educators, solving real world problems such as addressing Yercaud's millet market decline and this study enabled social responsibility development as students served this marginalized tribal community.

Prior to the implementation of the study, millet-based recipes were standardized for nutritional value, cultural acceptability and feasibility for entrepreneurial application among tribal women in Yercaud hills. This SL project followed a structured process by establishing community engaged models, emphasizing problem identification, collaborative development, stakeholder feedback and sustained evaluation among the students. Briefly, the SL project unfolded in the following phases: Needs assessment of the target population, recipe adaptation and standardization, hands-on entrepreneurial training, reflective evaluation and impact assessment. This design enabled rigorous examination of student professional growth alongside community's economic empowerment and assessing dual perspectives.

Participants and Sampling

Two primary participant groups were involved: 26 postgraduate students from the Department of Home Science, Women's Christian College, Chennai, Tamil Nadu, India and 39 tribal women from Yercaud Hills, Salem, Tamil Nadu, India. The students participated as a curricular requirement, ensuring full cohort inclusion to reflect authentic SL integration within academic training. On the other hand, the tribal women were recruited through purposive sampling based on their interest in entrepreneurial skill-building for economic self-reliance and willingness to participate

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in this training. Selection criteria included residency in Yercaud, basic literacy for recipe documentation and availability for the multi-session training. Community leaders facilitated initial outreach through local self-help groups, ensuring voluntary participation and cultural sensitivity. No participants withdrew from the study.

Project Implementation

The SL project was executed with structured collaborative phases to foster reciprocity. Initially, the students were briefed about Yercaud hills, its potential as a millet hub and highlighting the economic needs of its tribal women. This was followed by faculty-guided brainstorming sessions, which helped prioritize millet-based recipes with high entrepreneurial potential. Subsequent phases involved market analysis to identify gaps and the finalized recipes were standardized and scaled for group training, where students delivered hands-on sessions to the tribal women (Figure 1 & 2).

Figure 1. Hands-on Millet Recipe Training



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Figure 2. Recipe Demonstration



The hands-on sessions represented the execution of the structured collaborative process, where postgraduate students worked directly with tribal women to implement the standardized millet recipes developed through prior briefing, brainstorming, and market analysis. Tribal women participated directly in recipe preparation under the guidance of students, focusing on portion standardization and scaling techniques suitable for commercial production. Students facilitated active involvement through group production workflows that mirrored market operations. Real-time testing and refinement occurred as tribal women provided cultural feedback during food preparation. The students taught costing calculations, explaining how to compute raw material expenses and determine profit margines for each batch of food. Pricing strategies were practiced by comparing tourist market rates with production costs to establish competitive selling prices. Commercial hygiene practices were integrated throughout, teaching proper storage, contamination prevention and market-ready packaging during food preparation. Sales pitching techniques were role played immediately after production, with women presenting finished products as if selling to tourists. This cycle of empathy mapping, ideation, testing, refinement and execution mirrored design thinking for SL, ensuring solutions were community driven and sustainable.

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Data Collection and Analysis

Data collection method was tailored to each group's perspective, employing validated tools for reliability. For students (n=26), a pre-test questionnaire assessed their baseline attributes across four domains: participants' prior experiential learning experiences and attitudes; community engagement and social awareness; skills and self-efficacy, leadership background and motivation domain. The post-test questionnaire measured the participants' outcome of SL and their experience of the project. The items in the questionnaire comprised of Likert scales, yes/no questions and multiple-choice items. Quantitative data underwent descriptive statistical analysis using Microsoft Excel and was presented as number, percentage. For tribal women (n=39), semi-structured interviews (15-20 minutes each, originally in Tamil, the local language) explored perceptions of training and its impact and to identify entrepreneurial competencies achieved and the transcripts were reviewed for themes.

RESULTS AND DISCUSSION

The results pertaining to the student's and community's perspective of the SL project focused on the economic empowerment of tribal women are presented in this section. The 26 post graduate students included in the study were urban females aged between 21-23 years of age from middle and upper middle class socio-economic status. On the other hand, the 39 tribal women participants, aged 25-45 years from Yercaud hill's Scheduled Tribe communities, hailed from low-income farming households, possessed basic literacy, and were homemakers with agricultural backgrounds organized through self-help groups seeking economic reliance. This urban-rural contrast framed the reciprocal dynamics of the millet-based entrepreneurship SL project.

Student's Perspective

The results of the pre-test survey are presented in tables 2 to 10, while the results of the post-test survey are presented in tables 11 and 12.

Pre-Test Survey

Prior Experience in Experiential Learning and Attitudes. The percentage distribution of participant's prior experience in experiential learning is presented in table 2.

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Table 2. Percentage distribution of participant's prior experience in experiential learning

S. No.	Prior Experience	Number	Per cent
1.	More educational than my classroom work	9	34.6%
2.	Equally educational with my classroom work	16	61.5%
3.	Less educational than my classroom work	1	3.9%

From table 2, it can be observed that, 61.5% of participants felt participating in experiential learning projects was equally educational with their classroom work, while 34.6% found it more educational than classroom work. Only 3.9% felt that experiential learning was less educational than their classroom work.

Experiential learning engages students directly in real world problems, which in turn creates an opportunity to apply their theoretical knowledge and help them to learn more effectively by action and reflection of experiences. This improves the intrinsic motivation levels of the students, thereby leading to greater understanding of the subjects taught at classroom level (Kong, 2021).

Table 3 presents results pertaining to the percentage distribution of participants who think their experiential learning would lead to employment.

Table 3. Percentage distribution of participants who think their experiential learning would lead to employment

S. No	Experiential learning leads to employment	Number	Per cent
1.	Yes	24	92.3%
2.	No	2	7.7%

Results from table 3 shows that majority (92.3%) of the participants think that the experiential learning would lead to employment while 7.7% do no think so. Employers reportedly value candidates with experiences and tangible skills. By engaging in experiential learning, students get hands-on experiences which makes them more competent and confident. This positions experiential learning as a valuable tool for job readiness and career development (Spanjaard et al., 2018). Findings of Westover and Andrade (2025) demonstrated that SL shapes student's career readiness.

The percentage distribution of participants who plan to do community work on their own after this project is over is presented in table 4.

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Table 4. Percentage distribution of participants who plan to do community work on their own after this project is over

S. No	Rating	Number	Per cent
1.	Never	0	0
2.	No Plans Yet	0	0
3.	Neutral	4	15.4%
4.	Sure	4	15.4%
5.	Very Sure	18	69.2%

From table 4, it can be observed that about 70% of them are very surely planning to do community work after this project. Experiential learning allows individuals to be directly involved with the community members, which enhances a better understanding of their need and improve empathy, resulting in a strong sense of civic responsibility. This connection motivates the students to engage in community work and contribute actively (Lo et al., 2022).

Community Engagement and Social Awareness. The percentage distribution of participants who think addressing community needs affects the quality of life in their town/city is presented in table 5.

Table 5. Percentage distribution of participants who think addressing community needs affects the quality of life in their town /city

S. No	Rating	Number	Per cent
1.	Strongly Disagree	0	0
2.	Disagree	2	7.6%
3.	Neutral	3	11.5%
4.	Agree	4	15.4%
5.	Strongly Agree	17	65.4%

Results from table 5 shows that 65.4% strongly agree well that addressing community needs affects the quality of life in their town or city. Research evidence shows that addressing community needs results in improved quality of life primarily by addressing health needs (Zhang et al., 2018) and by empowering them economically (Beatrice, 2024).

Skills and Self-Efficacy. The percentage distribution of participants according to their skills and self-efficacy is presented in table 6.

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Table 6. Percentage distribution of participants according to their self-efficacy

S. No	Question	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
1	Participants who think they have strong leadership skills	1	3.8	2	7.7	5	19.2	4	15.4	14	53.8
2	Participants who feel comfortable speaking in a group setting	0	0	0	0	3	11.5	5	19.2	18	69.2
3	Participants who think they have good communication skills	1	3.8	3	11.5	5	19.2	7	26.9	10	38.5

From table 6, it could be observed that 53.8% strongly agree that they have strong leadership skills, while 15.4% agree. Results also show that about 69% of the participants agree that they feel comfortable speaking in a group setting. With respect to communication skills, it could be observed that around 39% think that they have excellent communication skills. These results indicate a high level of self-efficacy among majority of the students. Self-efficacy, defined as the confidence in one's own skill or ability to achieve goals, plays an important role in experiential learning by increasing motivation, resilience and encourages them to take on challenges, apply their skills and learn from experiences in personal and professional set up (Kong, 2021).

Leadership Background. The percentage distribution of participants who held different leadership positions in the past is presented in table 7.

Table 7. Percentage distribution of participants who held different leadership positions in the past

S. No.	Leadership Positions Held in The Past (Multiple response)	Number	Per cent
1.	Officer or leader in an extracurricular organization affiliated with your college	3	11.5%
2.	Officer or leader in a college student organization	7	26.9%
3.	Member of campus committee or task force	4	15.4%
4.	Captain or leader position on a sports team	5	19.2%

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Table 7. Continued

S. No.	Leadership Positions Held in The Past (Multiple response)	Number	Per cent
5.	Elected to student's government in college	0	0%
6.	Others	14	53.8%
7.	Nil	0	0

With respect to leadership background, results from table 7 shows that all of the participants were engaged in prior leadership roles in various phases of academic and extracurricular activities. This background in leadership can enhance their ability to engage in experiential / service-learning programs effectively.

Motivation for Experiential Learning. The percentage distribution of participants according to their motivation for experiential learning is presented in table 8.

Table 8. Percentage distribution of participants according to their motivation for experiential learning

S. No.	Reasons (Multiple response)	Number	Per cent
1.	Like helping others	19	73.1%
2.	Usually do better in-course with an active learning component	10	38.5%
3.	Wanted to learn more about service learning	19	73.1%
4.	Others	2	7.7%

Results pertaining to the domain of motivation for experiential learning (table 8), majority of the participants (73.1%) stated that they agreed to participate in this project since they liked helping others and wanted to learn more about service learning. This finding highlights the role of intrinsic motivation. Intrinsic motivation plays a significant role in enhancing student engagement and learning outcomes (Lai & Hui, 2021).

Post-Test Survey

The percentage distribution of participants based on their outcomes after SL participation is presented in table 9.

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Table 9. Percentage distribution of participants based on their outcomes after SL participation

S. No	Question	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		No.	Per cent	No.	Per Cent	No.	Per cent	No.	Per cent	No.	Per cent
1	Better connection with the learning process	-	-	-	-	-	-	17	65	9	35
2	Increased understanding ability of the challenges faced by the society	-	-	-	-	-	-	12	46	14	54
3	Helped to understand how work helps to make a difference	-	-	-	-	2	8	12	46	12	46
4	Understood what was expected of me	-	-	-	-	1	4	15	57.6	10	38.4
5	There were adequate planning and preparation for the project	-	-	-	-	-	-	9	34.6	17	65.4
6	The tasks assigned were meaningful and was worth the time	-	-	-	-	-	-	7	27	19	73
7	Able to develop communication skills	-	-	-	-	1	4	12	46	13	50

From table 9, it can be observed that 73% of them strongly feel that the tasks assigned were meaningful and was worth the time. All the participants agreed that this project increased their ability to understand the challenges faced by the society and had better connection with the learning process. Majority of the participants felt that SL project helped them to understand how work helps to make a difference. Most of the participants understood what was expected from them and wished for more courses with SL component.

Results evidently show that when tasks are perceived as meaningful, the students are most likely to be invested in the learning process thereby reflecting their intrinsic motivation. By engaging in resolving real-world problems, the students gain a deeper understanding of the community needs, enhance empathy and in turn hone their civic responsibility (Liu, 2026). Further, by understanding the impact of

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their work and witnessing tangible outcomes, it makes the students realize a sense of purpose and be motivated.

The percentage distribution of participants based on their experience after SL participation is presented in table 10.

Table 10. Percentage distribution of participants based on their experience after SL participation

S. No	Question	Strongly disagree		Disagree		Neutral		Agree		Strongly agree	
		No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
1	Learned something about the community through this experience	-	-	-	-	-	-	12	46.2	14	53.8
2	Would like to participate in SL projects in the future	-	-	-	-	-	-	7	26.9	19	73.1
3	Project gave a new experience	-	-	-	-	-	-	11	42	15	58
4	Was satisfied with my overall performance	-	-	-	-	1	4	9	34.5	16	61.5
5	Able to build team's co-ordination skills	-	-	-	-	-	-	12	46	14	54
6	Was able to help community members through education, hence can help my society	-	-	-	-	-	-	10	38.5	16	61.5

With respect to experience after SL participation, results presented in table 10 showed all students reported to have learned something about the community through this experience, and they were able to build team's co-ordination skills and that the project gave a new experience to them. This is a significant outcome of the study as

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the ability to be involved in collaborative work to serve the community as well as learn, requires communication skills, shared sense of purpose and mutual respect. These are essential for effective community engagement. All the students wanted to participate in SL projects in the future. Most of the students were satisfied with their overall performance. Further, the project also gave a sense of satisfaction to the students, as they were given an opportunity to work with the community and to pass their knowledge to the tribal women.

Overall, from the students' perspective of SL, it is clear that SL offers strategic value in accelerating the students' transition from theoretical competence to applied entrepreneurial proficiency, addressing a critical gap in conventional postgraduate training. The pronounced pre-post attitudinal shifts from recognising experiential learning with classrooms to affirming task meaningfulness, demonstrates SL's ability to convert baseline optimism into deep conviction about community-engaged learning's relevance. This transformation positions the students for India's competitive job market as experiential portfolios now outrank sole academic transcripts, securing roles in both industries as well as public health initiatives.

The post-test consensus on societal challenge comprehension underscores SL's distinctive contribution to social intelligence development, an under-emphasized competency in traditional curricula. Classroom lectures convey disparities abstractly, whereas hands-on SL exposure helped them to confront the tangible barriers thereby cultivating the contextual fluency essential for effective nutrition counselling in diverse populations. Team coordination unanimity addresses baseline communication gaps, as recipe demonstrations necessitated clear instruction amid language/cultural barriers. This practical refinement equips students for multi-disciplinary teams that are increasingly common in corporate wellness programs and community nutrition projects. Leadership maturation from prior roles to post SL project confidence surge transforms theoretical management knowledge into demonstrated facilitation skills, as the students guided the tribal women participants who were in the role of trainees through production challenges.

With regards to motivation, the intrinsic service orientation amplified when paired with skill-building, yielding profound satisfaction from knowledge transfer. This fulfillment cycle explains advocacy for curriculum-wide expansion since students experienced SL as a vocational awakening and not as an extra-curricular burden, recognizing its superiority for professional identity formation over memorization.

One main challenge which the students faced was language barriers when communicating nutrition and costing concepts which they learnt in English to explaining them to the tribal women in their local language Tamil. This issue seemed to disturb the workshop's flow but the students overcame it via peer translation, adaptive teaching and with effective rapport building across the sessions. This challenge built

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their cultural competence, articulation skills and enhanced their team work which are key for their future career.

It is important to note, especially the curriculum designers, that the sequence of SL should follow after foundational courses to leverage altruism while targeting self-efficacy gaps. In case of resource constraints, hybrid models can be applied such as virtual recipe simulations for remote areas, peer-mentored follow-ups. Area specific regional adaptations such as sorghum in arid zones, ragi in southern states, would nationalize the impact while preserving core methodology. This initiative proves that the students demand recalibration from classroom theories to translating nutrition science into viable enterprises. By institutionalizing such targeted SL, programs not only produce generic graduates but proficient professionals ready to operationalize, thereby establishing SL as the gold standard for overall excellence of the students' education.

Community Perspective

Post-training semi-structured interviews with all the tribal women participants revealed comprehensive skill acquisition and entrepreneurial motivation. Hands-on training delivered technical proficiency across multiple domains. Women learned numerous skills such as baking methods, preparation of dessert, and complete recipe development from ideation to final standardization. Complementary skills included millet nutrition (fiber content, glycemic control benefits), packaging for shelf life, profit calculations, production scheduling, hygiene protocols and basic sales pitches. Every participant reported their culinary knowledge has completely expanded with all recipes representing entirely new techniques absent from their traditional practices.

Upon the insights drawn from the interview transcripts, the tribal women were found to primarily demonstrate competencies namely costing proficiency, pricing strategy, portion standardization, commercial hygiene and sales readiness. Costing proficiency was evidenced by accurate calculation of batch expenses while mastery of pricing strategy was shown when comparing production costs against tourist rates. Costing proficiency is one of the first essential competency, upon which all subsequent commercial viability is based on (Umeji & Obi, 2014). Women's ability to calculate batch expenses replaced traditional estimation with repeatable precision critical for inventory control and profit determination. This competency eliminates speculative estimation that prevents small scale businesses or enterprises from achieving commercial scale. Further, the cognitive shift in the pricing strategy establishes women's traditional cooking labour as market-valued economic asset ready for commercial transaction.

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The concept of portion standardization was well received by the tribal women, where participant D told "Students taught me to weigh millet flour exactly as compared to before where I used handfuls and then I learned how standardization is crucial for commercial success". This competency addresses consistency demands in hospitality/food industry that undermines majority of informal vendors (Labisi et al., 2023). Transitioning from variable handfuls to standardized portions creates scalable business process capable of daily repetition without quality degradation.

Commercial hygiene competence emerged universally when they understood the importance of using muslin cloth for handling, no compromise on clean storage, no spillage and spoilage, as participant L rightly noted "I learned clean storage and optimal packing is non-negotiable as tourists fear dirt or unclean practices". Hygiene represents trust which is essential for market success. This competency builds legitimacy by transforming perceived "village food risk" into credible food of market standards. Sales readiness was confirmed by their demonstrated confident pitching with key terms related to health and nutrition. These concrete insights and excerpts from the interview confirm participants' complete transition from traditional cooking to small scale commercial food enterprise capabilities.

A clear majority of the tribal women planned to open food outlets tailored to tourist demands such as stalls, snack kiosks, tiffin centres, mini-bakeries, and coffee shops. This ambition directly resulted from mastering 12 innovative millet-based recipes namely, cake, vada, halwa, dosa, payasam, kollukatai, nombu kanji, ribbon pakoda, puttu, bars, laddu and khakra. These products positioned familiar minor millets as premium, health focused food choices for Yercaud's tourists. Further, these diverse millet-based recipes mitigate market risk by addressing rapidly shifting tourist preferences, ensuring broader customer appeal.

Economic empowerment emerged as the dominant theme where women universally described newfound ability to generate independent income, shifting from subsistence to market-oriented production. The student-led training format created unique cross-generational learning for the tribal women, which also sparked dramatic confidence grains. This relational dynamic led to spontaneous community celebrations, with groups gathering to showcase recipes and share entrepreneurial plans, signalling social cohesion and collective momentum.

These outcomes demonstrate SL's practical efficacy in converting nutritional and food service management training into immediate economic agency for economically marginalized women. The specific recipe portfolio spanning savoury staples to tourist-friendly sweets, creates diversified income streams, directly leveraging Yercaud's seasonal tourism traffic. Technical skills like standardization and costing address core entrepreneurial barriers, enabling women to compete beyond informal vending.

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This process of knowledge transfer and gain underscores SL's advantage over conventional workshops. Entrepreneurial competencies such as pricing, time management, hygiene, represent the "missing middle" skills that sustain the whole ecosystem of micro-enterprises, positioning participants for long-term benefits rather than short term training effects. Confidence transformation warrants specific attention as cross-cultural student interactions broke the urban-rural divides, with women reporting "we felt equal" during collaborative sessions. Celebratory gatherings indicate peer networks, support system and joint ventures, thereby amplifying individual empowerment into community resilience.

The reason for the success of millet-based recipes among the tribal women is attributed to its relevance to local ecology (millets are Yercaud's native crop), economy (tourist demand) and avoiding general programming. Recipe diversity mitigated market risk, while standardized formulations enable replication across households and retail shops. The absence of dropouts in tribal women participants and their collective motivation at the end of the program suggests high intervention fidelity and cultural resonance.

Tribal development agencies or NGOs could replicate this impact by partnering with students from allied departments such as hospitality management for complementary skills such as customer service, menu design. Local governments might establish millet processing hubs as incubators, linking trainees to wholesale buyers. However, the challenge in this execution could be tribal women's literacy affecting record-keeping and external factors like seasonal tourism fluctuations. Recipe scalability requires commercial kitchen access, suggesting public-private partnerships for shared facilities. Monitoring enterprise survival over 12 months would validate sustainability claims.

This SL initiative among tribal women can ignite entrepreneurship when grounded in local assets such as millets, tourism, traditional knowledge and delivered through university or academic institution partnerships. Women now possess concrete hands-on tools and training to convert cultural heritage into economic capital, establishing a blueprint for nutrition-led rural development across India's millet-growing areas.

Cross-group Comparison

This study addresses two interconnected challenges through SL's reciprocal design where students lack real-world experience and tribal women need entrepreneurial skills amid Yercaud's declining millet economy. The same workshop simultaneously solves both by empowering students with improved professional skills and confidence through authentic community engagement, while tribal women received identical entrepreneurial training transforming their traditional skills into market-ready skills. This integrated approach demonstrates SL's unique strength:

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one pedagogical intervention developing students' skills and community's enterprise capacity through mutual knowledge exchange.

Student reflections confirm holistic transformation, where to quote a few: "I feel emotionally content when serving tribal sisters and spiritually uplifted through community impact" (Student D); "I became a team player and now feel sympathetic to their struggles" (Student M); "This opportunity has made me professionally confident teaching adults for the first time and I felt ready for my career" (Student A); "The real-time experience made me feel more confident in handling my stress and manage my time better" (Student R). These reflections demonstrate SL's whole person impact beyond technical skills. On the other hand, the tribal women not only evidenced commercial transformation but they felt empowered, where participant P said "I never imagined I could run a business and now I feel the dream is possible" and participant R told "The students treated as a business women and I felt respected. Now I can earn money more confidently and not depend on anyone".

This convergence demonstrates reciprocal reinforcement where students developed professionally and holistically because the tribal women engaged authentically as adult learners, while the women gained entrepreneurial skills and felt empowered because students delivered structured academic training. This two-way reinforcement created parallel confidence gains, proving SL's impact of transforming both students and the community.

Theoretical Integration

This section demonstrates how study results empirically validate the theoretical concepts. Regarding students, pre-post shifts from 61.5% viewing community projects as equally educational to 73% deeming tasks profoundly meaningful-alongside affirmations of civic sense and societal insight, demonstrate SL's efficacy in operationalizing Kolb's experiential cycle. The SL project fosters reflective growth in cultural sensitivity and entrepreneurship. The post-test scores highlight SL's superiority over traditional teaching models, equipping future professionals for social accountability amid India's nutrition transition.

Community outcomes equally affirm Dewey's democratic mutuality, where tribal women's mastery of value-added millet recipes paired with nutritional awareness and entrepreneurial competencies, ignited their agency for an entrepreneurial set-up in a tourism hotspot of their residence/home town, resolving barriers like market inaccessibility and skill gaps. Heightened confidence, economic empowerment, and celebratory communal responses highlight SL's capacity-building beyond immediate outputs, yielding sustained self-reliance.

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CONCLUSION

The results of the present study established SL's dual transformative potential among both students and tribal women. The students transitioned professionally and holistically, while the tribal women achieved entrepreneurial skills and felt empowered. The success of this workshop was marked by the establishment of two home-based millet enterprises that were initiated within 30 days of the workshop. However, the study had three primary limitations. First, small cohort size constrains generalizability. Second, reliance on self-reported measures introduces potential social desirability bias. Third, short-term evaluation design lacks longitudinal tracking of enterprise sustainability outcomes. The study's results provide foundational insights but suggest the need for studies with larger, multi-site samples using objective measures like validated skill assessments or economic tracking and also calls for studies with longitudinal designs spanning 6-12 months to monitor entrepreneurial sustainability.

For educators considering similar SL projects, key considerations include ensuring identical workshop content across groups, using bilingual facilitators for effective communication and focusing on low-capital enterprises that leverage existing competencies. This SL model demonstrates the potential to simultaneously develop student pedagogy and community entrepreneurship through structured reciprocity.

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Chapter 11
Challenges, Strategies, and Transformative Learning for Community-Based Economic Models (CBEMs)

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EXECUTIVE SUMMARY

Cooperatives, non-profit organizations (NPOs), and social enterprises are models that contribute to socio-economic development. Cooperatives rely on member contributions, while NPOs and social enterprises depend on donations. Although they serve different purposes, the models face similar challenges, such as limited funding and declining participation or staff turnover. They must adapt to market changes and improve members' skills to stay sustainable. Furthermore, they need strong financial management and effective leadership to maintain trust and ensure program continuity. Transformative learning helps learners understand these challenges by connecting theory with real cases, encouraging critical thinking and better decision-making.

INTRODUCTION

Community-based economic models (CBEMs) help reduce social inequality by strengthening equity and participation, highlighting their relevance in the current era.

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According to Thetlek et al. (2024), community-based organizations such as community enterprises play a significant role in local development by generating income and jobs, supporting gender equality, strengthening local institutions, and ensuring environmental sustainability. These models address socio-economic challenges, particularly among marginalized groups, through inclusive and equitable practices. Because they are managed locally, economic activities tend to circulate within the community, while the inclusion of women in decision-making processes enhances their roles both in households and in society. Transparency further strengthens trust among members and serves as a form of social capital that supports long-term sustainability (Davenport and Hassan, 2020).

In practice, CBEMs provide opportunities for communities to address issues in production, resource management, market expansion, innovation, and resilience building (Tariq, 2025). Rather than being passive beneficiaries, communities act as key drivers of socio-economic transformation. Locally driven initiatives are often more effective, as communities are better positioned to identify priorities and optimize available resources (Krishna et al., 2025). Despite this potential, implementation remains constrained by limited understanding and weak integration into policy frameworks, which can hinder sustainability (Sabaruddin et al., 2025; Olmedo et al., 2024). Therefore, bridging the gap between knowledge and practice is essential. Evidence from various case studies shows how communities mobilize local resources, foster collaboration, and develop innovative responses to socio-economic challenges (Filippi et al., 2023; Camargo Benavides and Ehrenhard, 2021; Ammirato, 2024; Tariq, 2025).

Three CBEMs that are generally recognized globally are cooperatives, non-profit organizations (NPOs), and social enterprises. As stated by Filippi et al. (2023), cooperatives represent an alternative economic model within the Social and Solidarity Economy (SSE), emphasizing member participation, equality, and sustainability, in contrast to conventional profit-oriented enterprises. Their success depends on effective management that balances economic and social objectives while maintaining member commitment (Camargo Benavides and Ehrenhard, 2021). Meanwhile, NPOs are described as organizations that support community development with minimal emphasis on generating profit (Kristianti and Ardian, 2022). These organizations do not operate programs to earn revenue but rather to provide benefits to society. Therefore, their financial operations differ from those of profit-oriented enterprises. Donors contribute funds without expecting returns or shares, and the money received by NPOs is fully allocated to program activities and operational costs. In relation to cooperatives and non-profit organizations (NPOs), a social enterprise represents a hybrid approach that combines elements of both models. A social enterprise is an organization that uses business activities to achieve both social and economic goals (Chopra, 2020). It aims to improve people's well-being while staying financially

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sustainable. It earns income from its activities and reinvests the profits to support its social mission, especially by helping vulnerable or underserved communities.

Cooperatives, non-profit organizations (NPOs), and social enterprises share many similarities, as they all fall under the Community-Based Enterprise Model (CBEMs). All three focus not only on profit-making but also on social objectives, namely providing benefits to members or the wider community, rather than enriching owners or outside investors. These organizations are typically democratically managed, involve active community participation, and reuse profits to support social, cultural, or environmental goals. Furthermore, they often exist to address local needs and assist disadvantaged groups, thus promoting more sustainable development. Thus, cooperatives, NPOs, and social enterprises all combine economic activities with efforts to improve community well-being.

Within this context, Mezirow's theory of transformative learning helps explain how such models sustain their dual social and economic roles (Singer-Brodowski, 2025). The theory posits that individuals and communities can transform their perspectives through critical reflection on existing assumptions. This process is particularly relevant, as the success of CBEMs depends on the capacity of members to learn, adapt, and collaborate. Transformative learning encourages communities to challenge conventional economic practices, recognize inequality, and develop collective solutions aligned with shared values, thereby fostering more equitable and locally responsive systems.

This chapter explores CBEMs by examining both their strategies and challenges while drawing lessons from diverse case studies. By integrating theoretical perspectives with practical evidence, it demonstrates how these models can address social, economic, and environmental issues simultaneously, particularly in rural contexts. Beyond offering academic insights into governance, ownership, and the management of multiple objectives, the discussion invites researchers, practitioners, and policymakers to consider CBEMs as actionable pathways for transformative change. Ultimately, it highlights their potential to respond to local needs while contributing to broader efforts toward ethical, equitable, and socially responsible economic practices.

COOPERATIVES

A cooperative is a community-based enterprise that emphasizes collective decision-making to improve economic conditions and promote social equality. Rather than merely representing an organizational structure, it reflects a form of social transformation grounded in solidarity and shared welfare (Mateus and Olival, 2024; Subagyo et al., 2024). By prioritizing social value over profit, cooperatives

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create opportunities for economically disadvantaged groups and can be considered an inclusive business model. Their forms vary widely across regions, as they are shaped by local needs and available resources. Some cooperatives focus on production, others on finance, consumption, or services, covering various sectors such as agriculture, dairy, transportation, logistics, and fisheries. This variety of cooperatives results from their democratic system, which is part of their core principle (Pesci et al., 2025).

Savings and loan cooperatives are commonly established within communities or organizations to improve access to financial services. Their income generally derives from three main sources which are share capital as an initial membership contribution, compulsory savings collected regularly, and voluntary savings with flexible amounts. Meanwhile, producer cooperatives typically operate in sectors such as agriculture, fisheries, livestock, and handicrafts, bringing together members engaged in similar productive activities within a locality. They aim to expand market access while enhancing product value through processing and packaging. Revenue is primarily generated from the sale of members' products. Additionally, consumer cooperatives focus on supplying essential goods at affordable prices to members and, in some cases, the wider community. Instead of maximizing profit, they prioritize accessibility and cost efficiency. Some also integrate savings and loan services, which can supplement their financial sustainability.

Implementation

The International Cooperative Alliance (ICA), founded in London in 1895, has established a globally recognized framework adopted by cooperatives across contexts. Today, it includes around 310 member organizations from 104 countries. The seven principles are outlined below.

1. **Voluntary and Open Membership**. Cooperatives are open to anyone willing to participate, without coercion. Individuals are free to join regardless of location or affiliation, and members may withdraw at any time.
2. **Democratic Member Control**. Decision-making is based on equal participation. Each member has the same voting rights, regardless of capital contribution, ensuring collective governance.
3. **Member Economic Participation**. Members contribute financially through fees and regular savings. Surpluses are distributed fairly which is either equally or based on agreed criteria while supporting the cooperative's sustainability.
4. **Autonomy and Independence**. Although external funding or partnerships may exist, control remains with members. Decisions must be transparent and collectively approved to preserve independence.

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5. **Education, Training, and Information**. Continuous learning strengthens members' capacity to manage operations, adapt to change, and sustain organizational relevance.
6. **Cooperation among Cooperatives**. Collaboration across local, national, and international levels enhances knowledge exchange, capacity building, and collective resilience.
7. **Concern for Community**. Cooperatives prioritize community welfare by designing programs that promote social and economic well-being while considering broader societal impacts.

Each country has different rules and procedures for establishing a cooperative. However, in general, the establishment of a cooperative business follows several key stages (NCBA CLUSA, 2022)

1. **Collective identification of business ideas and goals**. Success depends on aligning business ideas with members' needs and local resources. While participatory approaches such as consensus are central, they may slow decision-making or reflect existing power dynamics, making social cohesion and leadership critical.
2. **Membership formation and governance structure**. Membership requirements vary significantly across countries, reflecting different regulatory. For example, in Indonesia, a primary cooperative must have at least twenty members. Meanwhile, in Germany a cooperative society can be established with a minimum of three members (Cocolina, 2016). This step also involves assigning job descriptions to each member to ensure that the cooperative can operate effectively.
3. **Rule-setting and institutional alignment**. Internal regulations shape accountability and flexibility. Strict rules can strengthen control but limit adaptability, whereas informal arrangements may increase participation while creating ambiguity.
4. **Program and market orientation**. Strategic placement within the value chain influences competitiveness. Downstream activities may yield higher value but require greater capacity and investment.
5. **Financing and profit distribution mechanisms**. Funding sources such as member contributions, loans, or partnerships each carry different implications for autonomy and risk. Similarly, profit distribution must balance fairness and reinvestment needs, often creating tension between short-term member benefits and long-term sustainability.
6. **Legal registration and external linkages**. Formalization provides legitimacy and access to support, though it may introduce bureaucratic constraints. Engagement in cooperative networks can enhance capacity, market access, and long-term development.

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Challenges in Cooperatives

As a voluntary organization, cooperative members can easily leave, putting the cooperative at risk of losing stability when membership declines (Awoke, 2021). Furthermore, from a governance perspective, cooperatives emphasize democratic participation and member control. This can increase accountability and alignment with member interests, but it can also pose challenges such as slow decision-making and potential conflicts between members with differing interests. Cooperatives also face pressures from market competition. Many cooperatives have been established for a long time, but if they fail to adapt to changes, particularly technological developments, their competitiveness will decline and they risk losing relevance in the digital economy (Romprasert et al., 2021). For instance, changes in consumer behaviour toward online shopping could leave producer and consumer cooperatives that still operate conventionally behind.

In terms of sustainability, there is a need to balance economic strength with social and environmental responsibility to ensure long-term viability. Another equally important challenge is funding. Savings and loan cooperatives will struggle to grow if they rely solely on mandatory member savings, while producer and consumer cooperatives risk financial problems if they rely solely on stagnant sales. On the other hand, while external funding can be a solution, it also has the potential to reduce the cooperative's independence and shift its primary purpose.

Strategies in Cooperatives

One reason older cooperatives fail to adopt new approaches is that their management is often dominated by individuals who struggle to operate modern technology. Therefore, cooperatives need to improve the skills of their members by providing training that helps them adapt to changing market conditions. Given today's digital consumer landscape, cooperatives must adapt to changing trends. For example, in addition to selling products on marketplaces, cooperatives can create application that make it easier for consumers to make purchases directly on the platform. Application not only make purchasing easier for consumers but also aid cooperatives in market analysis. For instance, cooperatives can identify which products are frequently purchased, how many customers make repeat purchases, and facilitate offers such as discounts or memberships. Expanding digital payment options is also one way to survive in today's diverse market. For example, cooperatives can provide payment options with e-wallet or QRIS.

With global competition, consumers have many alternatives. If a cooperative cannot offer something that attracts customers, it may lose to competitors who provide more appealing offerings. To increase income, cooperatives can also build

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partnerships with enterprises. This is especially relevant for producer cooperatives, which can establish agreements to supply raw materials to companies. Such arrangements provide a more stable and regular source of income.

The Impact of Cooperatives on Society

Cooperatives are widely recognized for their ability to generate tangible impacts across economic, social, and governance dimensions. As member-based organizations, cooperatives are uniquely positioned to address local needs while promoting collective welfare and inclusive development. Their activities not only support economic improvement but also strengthen social relationships and encourage participatory governance, making them an important mechanism for community empowerment and sustainable development.

Several studies have shown that the size of cooperative loans has an influence on increasing member welfare (Dwiputri et al., 2022; An and Cong, 2017), as cooperative credit can enhance community well-being both directly through increased income and indirectly through improved living standards, particularly when it is used for productive activities and supported by adequate access to financing.

Cooperatives also have social and governance impacts. They not only increase social inclusion and access to resources for small groups (Fakhri and Selvaratnam, 2025) but also build social capital such as long-term networks of cooperation and trust (Saz-gil and Bretos, 2021). The impact on governance is evident in increased member participation in democratic decision-making (Martínez-López et al., 2025).

Transformative Learning

Transformative learning enables learners to develop critical thinking about how cooperatives operate, allowing them to initiate better approaches to management. The use of case studies in transformative learning encourages individuals to question their understanding and to generate potential solutions to the challenges encountered in running a cooperative. Below are the case studies to support transformative learning practice.

Case Study 1:

The decline in income during the COVID-19 pandemic, particularly around 2021, led many individuals across various countries to struggle with meeting their financial obligations. This situation resulted in a significant increase in delayed loan repayments and financial instability. Community-based financial institutions,

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including cooperatives, were not immune to these challenges and experienced similar disruptions.

In this context, an employee savings and loan cooperative that has operated within a company for many years has been facing comparable issues. The cooperative relies on regular contributions and loan repayments from its members, all of whom are company employees. However, in the post COVID-19 period, many members began to delay their mandatory savings contributions, and employees with outstanding loans also became slower in making their instalment payments. These delays have significantly disrupted the cooperative's cash flow. As a result, when other employees request new loans, the cooperative often lacks sufficient funds to provide them because the amount of money circulating within the cooperative has become critically limited.

Discuss the following based on Case Study 1:

1) What actions should the cooperative's management take, considering broader post-pandemic financial behaviour trends?
2) How might this situation affect the cooperative in the long term?
3) What guidelines should be considered when revising the cooperative's membership policies?
4) What alternative funding sources can the cooperative explore aside from member contributions?

Case Study 2:

Across many tourism-based economies, small enterprises are increasingly shifting toward e-commerce and digital payments. A producer cooperative in a tourism village has operated since 2015, selling products made by its members, including processed foods, handicrafts, and other locally produced goods. Throughout its decade of operation, the cooperative has made virtually no changes to its management practices, maintaining the same sales and marketing strategies it used when it was first established. Until recently, the cooperative remained stable because it relied on a loyal base of returning customers. However, beginning in 2024, the number of consumers steadily declined. In contrast, a similar producer cooperative in a neighbouring tourism village which is established only in 2022 has shown consistent and even increasing sales. Unlike the older cooperative, the newer one does not depend on repeat customers. They actively promote its products through online marketplaces and offer digital payment options, making it easier for new visitors to purchase their products.

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Discuss the following based on Case Study 2:

1) The reasons behind the older cooperative's reluctance to change management practices
2) Strategies for the older cooperative to attract new customers without losing loyal consumers
3) What are the recommendations for the older cooperative to remain competitive and sustainable in a rapidly changing market environment?
4) What are the recommendations for government to support cooperative in solving this problem?

Higher education plays an important role in strengthening cooperatives by equipping members with knowledge and skills in governance, financial management, and democratic decision making. Through programs on cooperative principles and practices, participants gain a clearer understanding of collective ownership and fair profit sharing, enabling more effective and sustainable operations. Universities also contribute through research and innovation, helping cooperatives access technology, market strategies, and training to improve competitiveness and resilience. In addition, student internships in cooperatives provide practical experience while encouraging critical thinking and generating useful input for organizational development.

In summary, cooperatives are not only an alternative business model but also a means of promoting inclusive economic growth, strengthening social solidarity, and supporting participatory governance. Their diverse forms, including savings and loan, producer, and consumer cooperatives, show their ability to adapt to local needs and resources. However, sustainability depends on addressing challenges such as low member participation, governance issues, limited finances, and increasing market competition. To remain competitive, cooperatives need to strengthen internal capacity, adopt technology, and build strategic partnerships while maintaining their core values. When managed effectively and able to adapt, cooperatives can empower communities.

NON-PROFIT ORGANIZATIONS

Non-profit organizations (NPOs) aim to generate social value by addressing community needs rather than maximizing profit (Kristianti and Ardian, 2022; Ab Samad et al., 2023). Any surplus is reinvested into programs, as contributors do not expect financial returns. Their activities span multiple sectors, including public health, education, environmental protection, and poverty alleviation. Accordingly, NPOs

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performance is assessed through multidimensional measures such as community impact, goal achievement, efficiency, and long-term outcomes (Kadhim et al., 2026).

In the public health sector, NPOs focus on expanding access to healthcare for underserved populations, particularly in rural or remote areas. These efforts require sustained funding and partnerships with healthcare providers. Common activities include medical outreach, health campaigns, training for community health workers, and the distribution of essential medicines and equipment. Beyond service provision, such initiatives help reduce pressure on formal healthcare systems.

In education, NPOs provide scholarships, improve literacy in marginalized areas, supply learning materials, and support school infrastructure. These initiatives aim to enhance educational quality and ensure equitable access. The challenge to ensuring the long-term sustainability of NPOs in the education sector lies in the availability of competent human resources, as the primary goal of educational movements is to educate and enhance students. Therefore, policies that facilitate and support academics in developing their skills, as well as efforts to promote the importance of education, can support the sustainable development of NPOs in education (Hommel et al., 2024).

Environmental NPOs concentrate on conservation, awareness campaigns, and sustainability initiatives funded largely by donors. Their effectiveness often depends on collaboration with private firms, government agencies, and academic institutions (Bowden et al., 2023). Corporate social responsibility programs can provide financial support, while governments contribute through policy frameworks. Partnerships with researchers further enable the development of innovative solutions, including technologies for managing waste that cannot be processed through conventional methods.

Several countries support the sustainability of NPOs through regulations related to tax payments. In Indonesia, the surplus of NPOs income, particularly in the education and research sectors, is not subject to income tax, referring to Income Tax Law (PPh) Number 36 of 2008 (Fitriya, 2023). However, this applies if the surplus is used for educational facilities and infrastructure and a statement is made that it will be used within four years. Meanwhile, based on Cambodian Tax Law, there is a tax exemption from the government for NPOs in Cambodia that truly carry out their programs for social purposes and not used for personal gain (BNG Legal, 2022). This tax exemption and tax deductibility also apply in various other countries as a form of government support for social movements carried out by NPOs.

Implementation

Although an NPO is a non-profit enterprise, it still requires careful planning to operate effectively. Developing an NPO is not significantly different from establish-

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ing a company in general. From formulating the organizational vision to designing its structure and preparing for implementation, an NPO must conduct thorough identification and planning at every stage (Harley, 2015).

1. **Issue identification and positioning**. Defining the problem is a critical strategic step, as many NPOs operate in overlapping sectors. The ability to identify unmet needs determines whether an NPO adds value or duplicates existing efforts.
2. **Leadership and governance capacity**. The selection of board members significantly influences organizational direction. While strong leadership can enhance strategic clarity, over-reliance on a few individuals may create governance risks.
3. **Legal establishment and legitimacy**. Legal registration provides formal recognition and facilitates access to funding. However, compliance requirements may also impose administrative burdens, especially for smaller NPOs.
4. **Strategic planning and stakeholder engagement**. A business plan is not only a technical document but also a communication tool to attract donors and partners. However, excessive focus on donor expectations may shift the organization away from its original mission, indicating a potential tension between accountability and mission integrity.
5. **Capacity building and human resources**. Training is essential for improving program effectiveness, yet it requires resources that many NPOs lack. Moreover, reliance on volunteers can create variability in performance, raising questions about long-term organizational sustainability.
6. **Program implementation and funding sustainability**. Implementation is an ongoing process that requires continuous fundraising. This dependency on external funding is one of the main structural challenges of NPOs, often leading to uncertainty and short-term program cycles.

Challenges in NPO

NPOs face various interrelated challenges in governance, sustainability, and financing. From a governance perspective, participatory and mission-oriented leadership is considered crucial because it can increase accountability and ensure the organization remains aligned with its social objectives. However, in practice, NPOs governance can sometimes become overly centralized or influenced by leaders and donors, reducing stakeholder participation and risking a shift in the organization's direction. This is further exacerbated by communication challenges, as many NPOs struggle to establish consistent communication with various stakeholders, such as the public, donors, and regulators (Kitanant et al., 2025).

In terms of sustainability, NPOs need to balance operational efficiency with a commitment to social values. On the one hand, organizations are required to

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be more professional and efficient for long-term survival. However, on the other hand, over-focusing on economic aspects can undermine social values and public trust. This challenge is exacerbated when financial resources are limited, forcing organizations to prioritize core programs and often delaying activity development (Wright and Reames, 2020). This situation can impact credibility and undermine long-term beneficiary trust.

From a financial perspective, dependence on unstable donations and grants is a major obstacle for many NPOs. To address this, some organizations try to diversify their revenue sources through ventures or partnerships. However, this also carries risks, as it can reduce the organization's independence and divert focus from its core mission. Furthermore, if stakeholder trust erodes due to weak governance or communication, funding support can also decrease, especially if the organization relies on only a few donors. In such situations, management instability can arise, leading to members or staff feeling insecure and choosing to leave, leading to human resource shortages.

Strategies in NPOs

As finance is one of the main issues in operating NPOs, one strategy to address this challenge is to manage financial resources effectively. Good financial management enables NPOs to survive during difficult periods and remain sustainable in the long term. Moreover, effective financial practices allow the organization to run its programs consistently (Andhityawati and Darma, 2022). Transparency is also crucial for maintaining a strong reputation, as it helps build trust among the public and stakeholders (Bikorin et al., 2025). Therefore, it is advisable for NPOs to publish their financial reports and activity updates publicly. Nowadays, many technological innovations can help companies manage their finances. One example is Enterprise Resource Planning (ERP), a financial system that can improve efficiency and data accuracy for decision-making in company operations. NPOs should start considering using digital systems like this, which are efficient and effective in management.

Strong leadership is essential in managing NPOs. Leaders must be able to communicate effectively both internally within the organization and externally to secure funding and build collaborations. In addition, leaders should possess the ability to manage and allocate organizational resources wisely to ensure the long-term sustainability of the NPOs. Good leadership can also motivate members, encouraging them to stay committed to the organization over time.

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The Impact of NPOs on Society

NPOs are now a vital part of public health systems in many countries, helping to bridge gaps in services that governments cannot fully reach. They typically focus on underserved groups, leveraging community trust and specialized programs to improve health outcomes. Various studies have shown that NPOs play a significant role in increasing access to healthcare for vulnerable groups such as children and remote communities, as well as helping prevent various health problems through ongoing education (Chandrasekaran et al., 2025; Taylor et al., 2021). Research conducted in the United States has shown positive results in improving public health through non-profit hospital programs (Wen et al., 2023).

Apart from the health sector, many NPOs in the education sector have also shown results. Evidence of the impact of NPOs on improving education quality can be seen in research on educational NPOs in Pakistan, which shows that programs implemented by non-profit organizations can enhance both access to and the quality of education in less developed areas, for example through the provision of facilities and active involvement of local communities (Zohra et al., 2023).

Additionally, as many NPOs focus their programs on environmental sustainability, they have reported significant positive impacts. Environmental NPOs play a significant multi-level role in advancing environmental sustainability by influencing policy implementation, corporate behaviour, and public awareness. Study from Vietnam showed that environmental NPOs help translate policies into real action, especially in climate adaptation such as ecosystem-based approaches in coastal areas (Triyanti et al., 2024). At the corporate level, NPOs act as watchdogs and change agents in Ethiopia, encouraging companies to improve environmental performance and be more transparent and responsible (Asfaw et al., 2017). In Indonesia, NPOs contribute to shaping environmental awareness and behaviour, particularly among younger generations through educational programs such as plastic waste processing (Prastiwi and Salira, 2025). From the same country, a study highlights that environmental NPOs play a strategic role as intermediaries between communities, government, and the private sector in addressing environmental issues, while also contributing to the sustainability of natural resources (A'yun and Saptaningtyas, 2023).

Transformative Learning

The challenges faced by NPOs often lead people to believe that this type of organization is not worth developing. Through a transformative learning approach, it is expected that individuals will be able to analyze these issues and identify potential solutions. This method encourages learners to recognize overlooked factors in var-

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ious situations. Therefore, these case studies are intended to support transformative learning and deepen the understanding of how NPOs operate.

Case Study 1

An NPO began facing serious operational problems after several long-serving and highly skilled staff members decided to leave the organization to pursue other job opportunities. Their departure created a significant talent gap, as these experienced employees had been responsible for key programs and possessed valuable institutional knowledge. Meanwhile, new personnel slowed down the organization's workflow because they required extensive training before they could perform effectively. Moreover, the ongoing recruitment process placed additional financial strain on the NPO, as repeated hiring rounds demanded substantial allocations of the organization's limited budget.

Discuss the following based on Case Study 1

1) Analyze the factors that may have caused these experienced employees to leave the organization, considering broader labour market and workforce trends
2) Evaluate alternative strategies that could help management maintain efficiency, including the use of digital tools or knowledge management systems
3) Identify the lessons learned and discuss how they reflect wider challenges faced by NPOs globally
4) Analyze how partnerships or collaborations can support the organization in maintaining program continuity

Case Study 2

Due to the political and socio-cultural instability that has occurred globally since 2022 and continues through 2026, NPOs face increasing financial uncertainty due to the global economic downturn, shifting donor priorities, and reduced funding availability. At the same time, there is growing pressure on NPOs to diversify their funding sources and adopt more sustainable financial models.

The current economic downturn has made it increasingly difficult for an NPO to secure funding from its usual investors. As a result, the organization has been forced to suspend several of its ongoing programs because it can no longer cover the operational costs. The situation has become more urgent, as the NPO estimates that if no new funding is obtained within the next two months, it may have no choice but to lay off some of its staff to keep the organization running.

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Discuss the following based on Case Study 2:

1) What funding strategies should the NPO implement to secure the organization's future and stabilize its financial condition?
2) How can the NPO maintain its reputation and preserve stakeholder trust during this financial crisis?
3) What ethical considerations should the organization weigh when deciding between program discontinuation and staff layoffs?
4) What role can the government play in supporting the NPO during this financial crisis?

Higher education supports NPOs in developing essential skills, including assessing social impact, evaluating programs, and engaging with communities. Academic programs in social policy, nonprofit management, and ethical leadership prepare individuals to address operational challenges and work effectively with diverse stakeholders. This knowledge helps NPOs maximize impact while ensuring accountability and transparency. Collaboration between universities and NPOs combines theoretical knowledge with practical insights, creating synergies that strengthen social programs.

Non-profit organizations play a vital role in addressing social issues by prioritizing community needs over profit. They operate in areas such as health, education, and the environment. Beyond providing services, NPOs raise awareness, foster collaboration, and promote long-term social change. Their success depends on balancing social objectives with operational requirements, including good governance, sustainable funding, and stakeholder trust. To maintain impact, NPOs should enhance transparency, strengthen leadership, adopt technology, and build diverse partnerships and funding sources.

SOCIAL ENTERPRISES

One of the government's efforts to promote social and economic development is through the establishment of social enterprises. Particularly in rural areas, social enterprises are expected to generate benefits for the local community. This is because rural regions around the world tend to face similar challenges, such as slow economic growth, limited investor interest, low employment rates, and an aging population dominated by non-productive groups (Richter, 2019; Ajie et al., 2020; Olmedo et al., 2023). Therefore, with financial support from the government, rural administrations can establish business units to help strengthen the village economy. These enterprises are managed by the community under the supervision of local

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authorities. Rural enterprises cannot rely solely on government funding and must diversify their capital sources, including community contributions (similar to share investments), private sector partnerships, and reinvested profits. Social enterprises are encouraged to expand in both rural and urban areas. Unlike NPOs, they generate profit but reinvest it to address socio-economic challenges, thereby contributing to employment creation.

In Indonesia, one example of a social enterprise model is the *Badan Usaha Milik Desa* (BUMDes) or Village-Owned Enterprise. This institution serves as a source of income for rural residents and is managed independently yet professionally by the community (Ajie et al., 2020). A notable characteristic of BUMDes is that residents can determine the type of business to develop based on regional potential. For instance, if a village has natural attractions suitable for tourism, the BUMDes will focus on developing a tourism-based enterprise. Other villages may prioritize agricultural, livestock, or fishery commodities that serve as their economic strengths. When managed effectively, BUMDes can enhance the welfare of rural communities, attract investors, and increase the market demand for local products.

In the UK, a Community Interest Company (CIC) combines commercial concepts with social objectives. While CICs generate profits, regulations prohibit these companies from seeking solely personal profit, known as asset lock (Liptrap, 2021). The formation of CICs is expected to strengthen the role of the social economy in improving community well-being. Furthermore, policies such as the Public Services (Social Value) Act 2012 require governments to consider social impact when making purchasing decisions (Liptrap, 2021). This creates more opportunities for social enterprises to access public markets. At the European level, various initiatives that support cross-border activities also show increasing recognition of the importance of social enterprises.

Since 2022, the Austrian government has shown its support for social enterprises through the Verified Social Enterprise (VSE) label. The label is targeted at start-ups, small and medium-sized enterprises (SMEs), large companies, cooperatives, and associations whose business activities generate social or environmental value. The Federal Ministry of Labor and Economy (BMAW) is responsible for issuing the label, coordinated by Austria Wirtschaftsservice GmbH (aws) in partnership with the Social Entrepreneurship Network Austria (SENA) and the Austrian Federal Economic Chamber (WKÖ). The VSE label helps social enterprises strengthen their credibility, thereby increasing public trust in their business practices. Enterprises that obtain the VSE label have greater opportunities to attract investors, which is beneficial for their long-term sustainability. To apply for the VSE label, enterprises must submit an application containing information about their operations, vision, and supporting documents for verification (Detering, 2024). Approval is granted once all requirements are met.

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One model of social enterprise in Ireland is the Work Integration Social Enterprise (WISE). This type of enterprise aims to provide employment, training, and labour-market integration for individuals who face significant barriers to employment or experience social exclusion (WISE Ireland, 2022). WISE has become prominent in Ireland because the government prioritises labour-market integration as a key policy goal. These enterprises produce goods and services by employing people who are disadvantaged in the labour market. Their resources are supported by the government, and any surplus is reinvested for social purposes.

Social enterprises operate differently in each country. Even within the same country, various models and organisational styles may exist. Therefore, to implement a particular model, individuals need to gather information about how these enterprises function in each specific context, including the legal framework, cultural norms, and institutional environment that shape their operation. Moreover, each enterprise may also have distinct policies depending on its mission and local conditions.

For rural social enterprises, below is the following policy recommendations which is adapted from the Social Enterprise World Forum.

1. **Trust as social capital, not just a prerequisite**. In rural areas, trust plays a central role due to close-knit social relations. However, while strong social ties can facilitate collaboration, they may also lead to exclusivity or resistance to external innovation.
2. **Contextual financial models and structural constraints**. Adapting financial models to local understanding is essential, yet it may limit the adoption of more sophisticated financing mechanisms. Blended finance offers a potential solution, but its effectiveness depends heavily on government capacity and institutional support. This highlights a structural dependency not always present in cooperatives or NPOs.
3. **Youth engagement and demographic sustainability**. Involving younger generations is often framed as a solution to rural decline. However, this assumes that sufficient economic incentives exist to retain youth. Without competitive opportunities, social enterprises may struggle to prevent rural outmigration, indicating limits to this strategy.
4. **Networking as a pathway to scale**. Expanding networks can improve market access and capacity building. Nevertheless, reliance on external partnerships may reduce local autonomy or create dependency on external actors.
5. **Digital inclusion and technological inequality**. While technology is frequently promoted as a driver of rural development, unequal access and varying levels of digital literacy can reinforce existing inequalities. Therefore, digitalisation strategies must address not only access but also capability gaps.

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6. **Integration of social and environmental objectives**. Embedding social and environmental considerations strengthens the long-term sustainability of social enterprises. However, aligning these goals with market competitiveness can be challenging, as ethical practices may increase operational costs.
7. **Community asset ownership and power dynamics**. Supporting local ownership enhances resilience and prevents external exploitation. Yet it may also limit access to external investment if ownership structures are perceived as restrictive by investors.
8. **Local retention and long-term viability**. Encouraging rural residents to remain engaged in social enterprises depends not only on institutional support but also on the enterprise's ability to generate stable income.

Challenges in Social Enterprises

Social enterprises operate similarly to conventional businesses in that they both seek profit, but their primary goal is to benefit society. Profits earned are not taken for personal gain but rather reinvested to support social goals. This often creates a dilemma between pursuing revenue or focusing on programs that impact society. From a governance perspective, some viewpoints emphasize the importance of maintaining social value through decision-making involving various parties to ensure the organization remains aligned with its mission. However, others point out that when social enterprises begin to collaborate with investors, management can become more business-oriented and less participatory, potentially leading to a shift in the organization's direction.

In terms of sustainability, some viewpoints emphasize that social enterprises must be financially strong and competitive in the market to survive. On the other hand, others argue that sustainability is not only about profit but also about maintaining long-term social and environmental impact. This difference demonstrates that social enterprises must balance business performance with their social goals. In terms of financing, social enterprises often face funding constraints because government grants or assistance are often insufficient for growth. Finding investors who align with their social mission is also challenging. On the one hand, investor support can foster growth, but on the other hand, investor demands are sometimes more profit-oriented and can displace an organization's social goals. This can lead to problems such as loss of identity, complex business models, and budget constraints (Moizer and Tracey, 2010; Millere et al., 2023).

Furthermore, social enterprises face operational challenges. Legal documentation, especially in the early stages, is often time-consuming and difficult without clear guidance. Understanding legal regulations is crucial to avoid risks such as fraud or misappropriation of funds. On the other hand, limited managerial skills are also a

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barrier (Gregori et al., 2024). In today's digital age, the use of technology is crucial for business efficiency, but not all team members are able or willing to adapt. This can leave social enterprises lagging more technologically prepared competitors.

Strategies in Social Enterprises

Formulating strategies is essential for helping social enterprises address the challenges they face. Nunes et al. (2020) propose four main forms of identity work. First, identity as a compass guides the selection of social issues while ensuring alignment with core values. Second, identity as a resource emphasizes the development of both internal and external competitive advantages by strengthening members' capabilities and organizational values. Sustained advantage depends on meeting the VRIN criteria, namely value, rarity, inimitability, and non-substitutability, so that offerings are difficult to replicate. Third, identity as multiplicity reflects the dual role of social enterprises as mission driven actors and market-oriented organizations. This requires balancing legitimacy with distinctiveness through continuous engagement with members and local communities, aligning social needs with income generating activities. Fourth, identity as a source of identification highlights the importance of financial sustainability. Because these enterprises pursue both social impact and economic viability, investment becomes essential. Addressing this challenge involves entrepreneurship education, financial management training, and consistent government support, including long term funding (Chavesta et al., 2025).

To strengthen sustainability, social enterprises can leverage digital tools such as fundraising platforms, for example GoFundMe, to reach broader donor networks. Social media also plays a key role in communicating mission, promoting programs, and increasing public engagement. Effective technology adoption requires capacity building through hands on training and mentoring. Younger members, who often have higher digital literacy, can support older members through guided learning. Incentives can further encourage adoption and improve overall organizational efficiency.

The Impact of Social Enterprises on Society

Social enterprises are transforming the way value is created and shared in society by integrating social and environmental objectives into everyday economic activities, rather than simply making them optional. By combining business logic and social mission, they not only meet community needs but also help strengthen capacity, build relationships, and unlock opportunities for more inclusive and sustainable development. A study from South Korea showed that social enterprises can enhance societal well-being, particularly when community participation in social programs and strong networks are present to reinforce these outcomes (Woo and Jung, 2022).

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Social enterprises are also considered superior to the public sector because they can create flexible programs tailored to individual healthcare needs (Caló et al., 2019). This advantage allows social enterprises to build strong relationships with communities and stakeholders. Social enterprises can even be a sustainable solution for food and nutrition programs because they can generate their own revenue while still making a social impact. This is evidenced by research showing that the average social enterprise can survive for approximately 16.5 years (Fathi et al., 2025).

Transformative Learning

Transformative learning in social enterprise is a process of profoundly changing the way individuals think as they address social problems through innovative business models. Through this process, individuals not only gain new knowledge but also adapt and view problems from a broader perspective. Thus, transformative learning helps individuals address complex social issues more effectively, foster inclusive development, and create impactful change in society and the marketplace.

Case Study 1

The current trend of agri-village-tourism provides socio-economic opportunities for rural communities. However, this opportunity also encourages rural communities to exploit existing resources. A rural social enterprise is losing identity due to a growing desire to generate more profit to improve the welfare of members. To expand the business, the organisation accepts multiple investments. With greater financial support from private investors, the rural enterprise increases production and gains access to wider markets. However, this expansion leads to reduced environmental protection and over-exploitation of local resources.

Discuss the following based on Case Study 1

1. What do you think about the organisation's ambition to develop the enterprise to improve member welfare?
2. Analyze how the rural social enterprise could balance business expansion with environmental sustainability, in the context of increasing global attention to sustainable development
3. Provide recommendations for government intervention, particularly in relation to sustainability policies and regulation of resource use
4. Analyze the possible internal conflicts that could occur when members of the organization have different priorities or interests

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Case Study 2

Many social enterprises, particularly in developing economies, face sustainability challenges due to over-reliance on founders. Founder-centric leadership models often create vulnerabilities when leadership transition is not properly managed. A previously successful social enterprise is experiencing a decline after the founder left the organisation. Some members have lost motivation to continue managing the enterprise, while others lack the necessary managerial skills. As a result, investors gradually withdraw their support.

Discuss the following based on Case Study 2

1. Analyse why founder dependency can significantly affect organizational sustainability, in the context of leadership and governance challenges in social enterprises
2. Propose strategies to strengthen organizational resilience, including leadership development and capacity building
3. Discuss the role of government and institutions in supporting leadership transition and sustainability of social enterprises

Higher education provides an advantage by combining business knowledge and social innovation. Programs that teach entrepreneurship, social impact measurement, and sustainable development principles help social enterprise leaders balance economic sustainability and achieving their social mission. This approach fosters strategic thinking and flexible management skills to address market challenges while maintaining a focus on social goals. Furthermore, higher education facilitates networks and partnerships that expand social enterprises' resources and reach, enabling solutions to scale and drive positive change in communities.

In conclusion, a social enterprise is a business model that combines profit-making with a social and environmental mission. This approach enables social enterprises to address various community needs, both in rural and urban areas, such as reducing unemployment, expanding economic opportunities, and addressing social disparities. However, achieving these two goals simultaneously is not easy. Social enterprises often face challenges in balancing profit-making and maintaining social values, as well as managing the expectations of various stakeholders and navigating complex regulations and operations. To remain successful, social enterprises need to have a clear direction and identity, enhance organizational management capabilities, and leverage innovation, both in technology and social approaches.

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COMPARATIVE ANALYSIS OF CBEMS

Cooperatives, NPOs, and social enterprises share the same goal within the CBEMs, but differ in governance, funding mechanisms, challenges, and strategic focus. Non-profit organizations (NPOs) and cooperatives both aim to serve their members or the community, rather than simply seek profit. However, they differ in structure and purpose. NPOs focus on social, cultural, or humanitarian activities, and any excess funds are reinvested in their mission rather than distributed to members. Meanwhile, cooperatives are businesses owned jointly by their members, where members participate in decision-making and receive economic benefits, including profit sharing. NPOs typically rely on donations, grants, and volunteers, while cooperatives are funded by member contributions and business activities. Social enterprises are like NPOs in that they both focus on social impact but differ in that they operate businesses to generate income and maintain sustainability. Compared to cooperatives, social enterprises are not always owned or democratically managed by their members. However, both combine social and economic objectives. The difference is that cooperatives distribute profits to their members, while social enterprises typically reinvest profits to support social missions. Thus, social enterprises can be understood as a hybrid model between NPOs and cooperatives. Table 1 presents a comparative analysis of these three models.

Table 1. Comparative Analysis of Cooperatives, NPOs, and Social Enterprises

Aspect	Cooperatives	NPOs	Social Enterprises
Primary Purpose	Mutual support of member in improving welfare	Addressing social needs and community welfare	Creating social impact through market-based approaches
Ownership	Owned by individuals who are members of the cooperative	Governed by a board or trustee	Owned by founders, investors, or community stakeholders
Governance	Democratic (one member one vote)	Board of directors/supervisors without profit sharing rights	Hybrid governance that combines business management and oversight of social missions
Funding Sources	Membership fees, business sales, loans	Donations, grants, fundraising, and sometimes earned income	Income from sales, investments, grants, and social impact investments
Profit Distribution	Excess funds are distributed to members or reinvested	Excess funds are reinvested to social mission and there are no dividends	Profits are reinvested or partially distributed to support operations and missions

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Table 1. Continued

Aspect	Cooperatives	NPOs	Social Enterprises
Challenges	Unprofessional management, internal conflicts, members not committed	Dependence on donors, no clear leadership	The blurred boundaries between profit and social mission
Strategic Focus	Member welfare and solidarity	Improve financial and resource management, maintain investor and public trust	Scalability and sustainable impact

KEY THEORIES IN CBEMS

Community participation theory highlights the need for people to be actively involved in decisions and activities that influence their lives. In the context of CBEMs, communities are not just passive recipients but active contributors who bring their knowledge, skills, and resources into the process (David et al., 2025). Such involvement helps ensure that the enterprise reflects local needs and values, while also strengthening a sense of ownership, responsibility, and long-term commitment. It also plays an important role in building trust and reinforcing social connections within the community.

Governance theory, on the other hand, focuses on how decisions are made and how power is distributed within an organization (Sata et al., 2025; Bass, 2022). Applied to CBEMs, it stresses the importance of systems that are transparent, inclusive, and accountable. Clear roles, fair decision-making, and effective conflict resolution are essential elements of this approach. When governance is well managed, it not only strengthens trust among stakeholders but also enables the enterprise to operate efficiently and respond to change.

Sustainability theory centres on the idea that a business should be able to endure over time by balancing economic, social, and environmental priorities (Golubovski and Kantardjieva, 2022). Within CBEMs, this means going beyond profit generation to also protect community well-being and the natural environment. By adopting such a balanced approach, these enterprises can grow responsibly without exhausting future resources, ensuring lasting benefits for the community.

In addition, social capital theory draws attention to the value of relationships, networks, and trust within a community (Chung et al., 2024). Strong connections among members make it easier to collaborate, share knowledge, and work toward shared objectives. Trust further reduces obstacles in cooperation and encourages innovation. By leveraging these social ties, CBEMs can enhance their resilience and better navigate challenges and opportunities.

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SUMMARY

This chapter argues that cooperatives, NPOs, and social enterprises can serve as alternative models for community development, public welfare, and environmental improvement. Despite their potential, these models face various challenges, particularly an overreliance on a single source of income, which can hinder their sustainability. Therefore, continuous innovation is essential, especially in response to technological advancements and evolving societal needs. In addition, weak management is often a key factor contributing to declining performance. Ineffective management practices may lead to employee dissatisfaction and increased turnover. Although social-based economic models do not primarily focus on profit, maintaining professional management standards remains crucial, including the implementation of Good Corporate Governance. Ultimately, these models offer significant contributions to society and the environment, particularly by supporting underserved areas beyond the reach of government services. Their close engagement with marginalized communities further highlights the importance of ensuring their long-term sustainability.

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Chapter 12
Connection and Growth: Cognitive Compassion in Enhancing Teamwork and Learning in Higher Education – A Business School Case Study

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EXECUTIVE SUMMARY

This chapter presents a case study of Compassion-Focused Pedagogy (CfP) in a Business School and examines its relevance for wider higher education and professional practice. CfP conceptualises compassion as a cognitive, trainable capability enacted through micro-skills of inclusive communication, including inviting, validating, and attentive listening. Drawing on compassion science, experiential learning, and Communities of Practice, the chapter outlines a four-pillar model spanning curriculum design, staff development, student engagement, and evaluation. The model is illustrated through the redesign of a postgraduate research project module, where peer-to-peer, discussion-led supervision complemented traditional dissertation support. Mixed-method evaluation using student and staff data indicates gains in psychological safeness, shared leadership, conflict management, and transfer of micro-skills to workplace contexts. The chapter concludes by positioning CfP as a scalable framework for developing measurable, human-centred, and sustainable educational practice.

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INTRODUCTION

The global landscape of work and education is shifting rapidly. As Artificial Intelligence (AI), Digital Automation, and Sustainability pressures reshape economies, graduates are expected to demonstrate not only technical competence but also emotional intelligence, adaptability, and ethical awareness. Employers increasingly value teamwork and leadership, resilience, problem solving and critical thinking, moving away from academic achievements (High Fliers Research, 2025). In the UK context, these expectations are increasingly reflected in national quality frameworks such as the Office for Students' Teaching Excellence Framework (TEF), which evaluates institutions on student experience, outcomes, and progression. These metrics place growing emphasis on engagement, belonging, and successful graduate trajectories, positioning relational and inclusive pedagogies as central to institutional performance as well as student development. Consequently, Higher Education (HE) faces a central question: How can institutions cultivate these human-centred capabilities in ways that are both measurable and sustainable?

This chapter addresses that question through Compassion-focused Pedagogy (CfP), a framework that operationalises compassion as a cognitive and behavioural skill set. CfP equips students and staff to communicate inclusively, navigate discussion constructively, and exercise effective team management through empathy and accountability. Drawing on a case study at a Business School, the chapter presents how cognitive compassion (CC) micro-skills were embedded into postgraduate (PG) teaching, supervision, and staff development. The evidence suggests that CC, when enacted deliberately, enhances employability, wellbeing, and pro-social institutional culture while also supporting staff through reduced interpersonal tension, clearer communication, and more psychologically safe working environments. This case is situated within a Postgraduate module, where students engage in collaborative, project-based learning as a core component of their assessment.

Globally, CfP aligns with increasing calls for ethical and socially responsible professional practice, reflected in frameworks such as the United Nations Principles for Responsible Management Education (PRME, 2018). In business and management education, the capacity to lead with empathy and communicate across diversity has become a core marker of employability, with graduate-attribute research consistently emphasising interpersonal and relational skills (Jackson & Chapman, 2012). Leadership studies similarly highlight relational intelligence – the ability to sustain trust, collaboration, and mutual respect – as central to team performance and organisational effectiveness (Uhl-Bien, 2006; Coronado-Maldonado et al., 2023).

CfP provides one mechanism for bridging academic and professional worlds. Its focus on inclusive communication, active listening, observation and critical reflection mirrors mentoring and coaching practices in contemporary leadership and

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organisational development (Whitmore, 2009; Worline & Dutton, 2017). In this sense, CfP becomes a pedagogy of professional preparedness: students rehearse collaborative behaviours that underpin effective teamwork and innovation, while staff can connect their teaching more explicitly to these capabilities.

The chapter is organised into seven sections: theoretical and pedagogical foundations; cultural and institutional challenges; model design; findings from staff and student experiences; implications for practice, policy, and employability; and conclusion. Short practitioner reflections offer an insider perspective on the lived process of developing and implementing CfP in higher education, illustrating how academic theory is translated into practice.

Overall, the chapter argues that CfP offers a practical, evidence-informed response to the evolving demands of global education and work. CC – understood as disciplined, learnable behaviours that support attention to self and others – can function both as a driver of innovation and as a foundation for ethical, sustainable practice.

The Challenge This Approach Addresses

Despite increasing emphasis on teamwork, employability, and inclusive learning within higher education, many students continue to experience group or team work as uneven, transactional, and, at times, exclusionary. Common challenges include unequal participation, limited psychological safeness, and a lack of shared responsibility for collective outcomes. These issues may amplify in diverse and international cohorts, where differences in communication styles and expectations can create additional barriers to effective collaboration.

While existing pedagogical approaches emphasise structure, roles, or outputs, they tend to under-address the relational processes that underpin effective teamwork. This chapter responds to this gap by positioning CC as a practical, teachable approach to strengthening how students engage with one another, thereby enhancing both learning experience and outcomes.

THEORETICAL AND PEDAGOGICAL FOUNDATIONS

This section brings together interrelated theoretical perspectives that collectively inform the approach taken in this study, including experiential learning, relational practice, and compassion-focused frameworks. These are considered in combination to provide an integrated understanding of how learning processes and interpersonal dynamics interact within collaborative educational contexts.

CfP draws on an interdisciplinary foundation that integrates compassion science, social learning theory, intercultural competence, and critical pedagogy. It is

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informed by P. Gilbert's (2010, 2017) compassionate mind model, which explains how evolved affect-regulation systems shape human responses to social challenge. Compassion is defined here as noticing distress in self and others, alongside a commitment to take wise action to alleviate or prevent it. CC differs from empathy in that it extends beyond understanding another's perspective to include intentional action and relational responsibility, making it particularly relevant in collaborative learning environments.

Building on this foundation in HE, T. Gilbert's work on CfP (2016), alongside subsequent empirical research (Gilbert et al., 2018), positions compassion as a cognitive and behavioural skill set that can be taught, practised, and assessed. Rather than a personality trait or sentiment, compassion becomes an applied capability that supports inclusive, high-trust learning environments and equips students and staff with relational skills needed in complex professional contexts.

Compassion as a Cognitive Skill

Within the compassionate mind framework, compassion functions as a motivational system that draws on affective neuroscience to describe three interacting emotional systems (threat, drive, and soothing). HE environments often trigger threat, particularly in teamwork and assessment; when unaddressed, this can undermine curiosity and collaboration.

CfP responds through micro-skills such as inclusive eye gaze, inviting contributions, validating ideas, attentive listening, allowing silence, and using a warm tone (T. Gilbert, 2016; Gilbert et al., 2018). These behaviours help shift learners from defensive states towards regulated engagement where reciprocity and reflective thinking are more likely. While Table 1 below shows how CfP aligns with Wenger's Communities of Practice, it is helpful to list the key micro-skills associated with CC here.

1. Inclusive attention: eye gaze that sweeps across all members rather than focusing on one or two
2. Manage monopolisers: reduce over-talking without shaming the speaker
3. Disrupt colluding pairs: gently re-channel the conversation to the whole team
4. Validate and redirect: acknowledge a point, then open the floor to others
5. Invite by name: include quieter members regularly and allow them time to respond
6. Permission to 'pass': if they do not wish to respond, they say so without feeling pressure
7. Summarise and check alignment: confirm shared understanding, decisions, and next steps

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8. Accommodate reasonable silence: protect 'thinking space' rather than rushing to fill gaps
9. Respectful challenge: challenge ideas, not people; keep a friendly, curious tone

Principle: There are no 'bad' team members - only anti-team behaviours to adjust for effectiveness.

Their value lies in how they are enacted in practice. For example, inviting was demonstrated when students actively drew quieter peers into discussion - "Would you like to tell us what you think?", helping to redistribute participation. Validating involved acknowledging contributions before building on them, encouraging continued engagement and reducing defensiveness.

Similarly, attentive listening required students to demonstrate presence through eye contact and responsive questioning, while allowing silence created space for reflection, particularly for those less confident in contributing immediately. Inclusive non-verbal behaviours, such as open posture and nodding - signalled attentiveness and respect.

These skills were developed through repeated practice rather than instruction. Students were encouraged to reflect on their use of these behaviours and their impact on team effectiveness, supporting a shift from unconscious communication habits to more intentional and inclusive interaction.

Neff's (2003) work on self-compassion further emphasises mindfulness, common humanity, and self-kindness as mechanisms that support resilience in challenging learning situations. Evidence shows that self-compassion reliably predicts emotional regulation, persistence, and adaptive coping (Neff & Germer, 2013). Framing compassion as a cognitive–affective capacity therefore legitimises structured teaching of micro-skills rather than relying on assumed interpersonal 'instinct'.

Practitioner reflection – When students first encountered CfP micro-skills through live practice rather than explanation, the principles became immediately tangible. One noted: "I didn't understand it until I felt what it did to the conversation." Experiencing reduced social threat enabled deeper insight than theoretical description alone.

Social Learning and Communities of Practice

CfP aligns closely with Wenger's (2000) theory of Communities of Practice (CoP), which conceptualises learning as participation in shared practice, sustained by mutual engagement and a shared repertoire. CfP functions as relational infrastructure here: it enables the trust, curiosity, and belonging that allow members to take interpersonal risks and contribute authentically.

Edmondson's (2019) notion of psychological safeness clarifies why these dynamics matter. Learners are more willing to voice uncertainty, challenge assumptions, and

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offer diverse perspectives when feeling safe from ridicule or exclusion. CfP micro-skills operationalise psychological safeness by providing concrete behaviours that reduce social evaluation threat and create inclusive conversational space.

Table 1.

Wenger's Dimension	Definition	How CfP operationalises it	Examples of CfP micro-skills
Mutual Engagement	The interactions and relationships through which members participate in shared activity.	CfP reduces social threat and structures equitable participation, enabling confidence and psychological safety.	Inviting contributions, inclusive eye gaze, attentive listening, validating contributions
Joint Enterprise	Shared purpose, negotiated meaning, and collective goals.	CfP supports negotiation, constructive disagreement, and shared alignment.	Clarifying questions, validating perspectives, summarising purpose, allowing silence
Shared Repertoire	Tools, language, routines, and practices developed over time.	CfP introduces relational practices that become shared norms.	Micro-skills vocabulary, turn-taking, reflective feedback

Table 1 depicts how CfP functions as the relational infrastructure supporting Wenger's (2000) dimensions of mutual engagement, joint enterprise, and shared repertoire.

In CoP terms, CfP supports:

- Mutual engagement by reducing social threat and promoting equitable participation
- Joint enterprise by enabling constructive disagreement and shared sense-making
- Shared repertoire by establishing a common set of relational tools

Through these mechanisms, CfP operationalises the social learning principles of a CoP, demonstrating how cognitive compassionate communication scaffolds relationships and shared understanding.

Practitioner reflection – Across cohorts, students described shifts in team behaviour. One noted, "Before, I was waiting to be included. Now I know how to invite others in," while another commented that CfP made it "easier to disagree without arguing."

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Experiential Learning and Reflection

Kolb's (1984) experiential learning cycle provides a pedagogical bridge between CfP theory and practice.

Table 2.

Kolb's stage	Application within CfP
Concrete Experience	Practice of micro-skills in live team discussions and supervision
Reflective Observation	Evaluation of intrapersonal effects and teamwork dynamics
Abstract Conceptualisation	Linking experiences to psychological and learning theory
Active Experimentation	Applying micro-skills in new contexts to refine capability

Table 2 shows how CfP aligns with Kolb's experiential cycle, illustrating the relationship between interpersonal experience, reflection, conceptual understanding, and intentional practice. Through this cycle, CC functions as both content and method: learners experience CfP in action, reflect on its effects, connect those experiences to theory, and then reapply micro-skills more deliberately over time.

Practitioner reflection – Students described CfP as a repeatable method for structuring discussion and collaboration, rather than an additional layer of learning.

Intercultural Competence and Inclusive Communication

CfP intersects with models of intercultural competence, particularly Deardorff's (2006) framework, which emphasises empathy, curiosity, perspective-taking, and respect as central to effective cross-cultural engagement (Deardorff, 2015).

In diverse classrooms, expectations around hierarchy, pace, and disagreement vary. CfP micro-skills function as a leveller by slowing the pace of conversation, signalling inclusive attention, and validating contributions. This creates more equitable participation in multilingual and multicultural cohorts and supports staff in managing complex dynamics.

Practitioner reflection – Students described interactions as "more like we were all on the same team," noting that consistent use of micro-skills reduced hierarchy and supported participation.

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Transformative and Critical Pedagogical Perspective

From a critical-pedagogy standpoint, CfP may be viewed as the interpersonal mechanism through which Freirean dialogic learning becomes possible (Freire, 1970). Dialogue is supported through behaviours - inviting, affirming, listening, and allowing reflective silence - that help ensure it unfolds within conditions of dignity and safeness.

Transformative learning theory (Mezirow, 1991) also resonates with this approach. Perspective transformation requires learners to question assumptions within a supportive relational context. CfP micro-skills can reduce defensiveness and support the emotional regulation necessary for such reflection, strengthening both relational and cognitive conditions for adult learning.

Practitioner reflection – Staff reported that CfP raised expectations, requiring more precise listening, questioning, and engagement.

Cross-Sector Parallels: CC a Professional Capability

Although CfP is situated primarily in HE, its conceptual and behavioural foundations mirror practices across sectors:

- Healthcare – Compassion underpins safe, high-quality care and staff wellbeing (Department of Health & NHS Commissioning Board, 2012)
- Corporate leadership – Compassion-related approaches support emotional regulation and performance (Caporale-Berkowitz et al., 2021; Bates & Petouhoff, 2022)
- Coaching and mentoring – Non-judgemental curiosity supports performance and development (Whitmore, 2009)

These parallels challenge the misconception that compassion is incompatible with high performance. Instead, it can be understood as a discipline of attention and relational intelligence that supports sustainable collaboration, ethical decision-making, and organisational resilience.

Research on team effectiveness further reinforces the importance of relational dynamics. Psychological safeness has been identified as a key factor in high-performing teams (Duhigg, 2016), aligning closely with the role of CC in fostering inclusive learning environments.

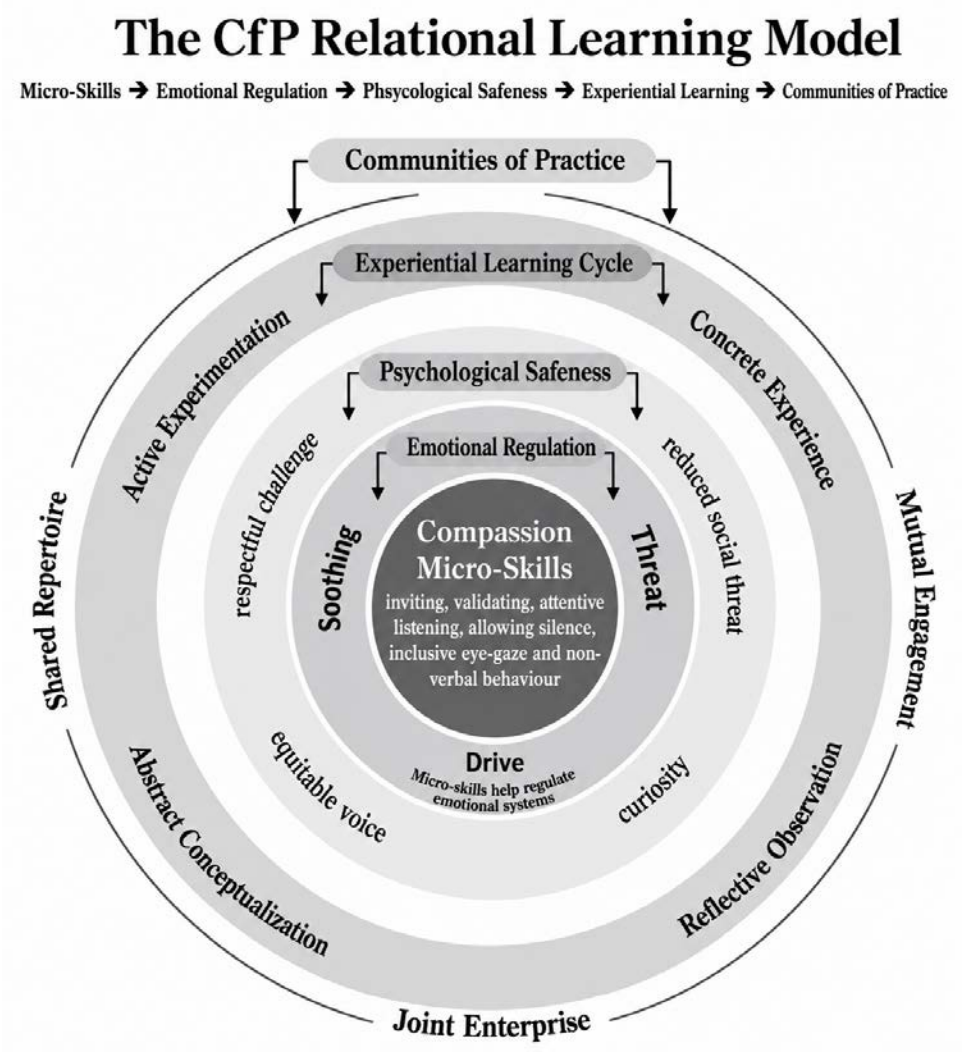
Practitioner reflection – CfP gained traction when framed as practical, trainable micro-skills linked to performance and team learning rather than as a broad culture-change agenda.

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Positioning CfP as Applied Relational Pedagogy

Taken together, these strands position CfP as an applied relational pedagogy: a structured way of using behaviours to shape learning interactions, reduce social threat, and enable deeper cognitive engagement.

Figure 1. The CfP Relational Learning Model



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Figure 1 (CfP Relational Learning Model) represents the synthesis of these theoretical frameworks, illustrating how CC operates across intrapersonal, interpersonal, and community levels.

At the intrapersonal level, micro-skills support emotional regulation. At the interpersonal level, they create psychological safeness. At the community level, they sustain shared norms of attention, respect, and constructive challenge.

For staff, CfP provides a method for managing teaching and supervision while enhancing clarity and relational confidence. For students, it cultivates interpersonal and reflective capabilities required in professional contexts.

Practitioner reflection – Students described CfP as providing a shared language for navigating communication differences and cultural expectations.

Summary

The theoretical and pedagogical foundations of CfP position it as a synthesis of psychological insight, social learning theory, intercultural competence, and critical pedagogy. Compassion, understood cognitively and affectively, becomes an applied capability that supports ethical collaboration, sustainable leadership, and lifelong learning.

THE PEDAGOGICAL CHALLENGE IN HE TEAMWORK

HE has long celebrated collaboration as a graduate attribute, yet in practice often operates through cultures of autonomy and individual achievement. Graduate-attribute frameworks routinely highlight teamwork as a core outcome (Wong et al., 2022), but research on peer learning and assessment indicates that dominant practices continue to privilege individual performance and competition, sometimes framing collaborative effort as problematic or akin to 'cheating' (Boud et al., 2001).

At the University of Hertfordshire (UH), graduate attributes describe students as professionally focused, globally minded, sustainability driven, digitally capable and confident, inclusive and collaborative, and evidence based and ethical (University of Hertfordshire, 2025). These outcomes position collaboration, inclusivity, and ethical practice as central to graduate identity. Within this landscape, CfP raises a sharper question: how can educators and students practise inclusive, compassionate teamwork in institutions whose structures and habits were not originally designed to support it?

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Organisational Culture and Resistance

Universities are complex organisations where performance metrics and accountability frameworks often prioritise outputs over relationships, contributing to cultures of competition, surveillance, and individualisation (Watermeyer et al., 2022). In the UK, this tension is further shaped by national accountability measures such as the Teaching Excellence Framework (TEF), which links institutional reputation and recruitment to indicators of student experience outcomes. While TEF emphasises engagement, continuation, and graduate success, it does not prescribe how these are achieved. This creates a space in which approaches such as CfP can address the relational dimensions of learning that underpin these metrics but are often underarticulated in institutional practice.

In this context, emotional awareness and relational skills may be positioned as peripheral rather than professional, despite growing evidence of the emotional labour involved in academic work and its impact on wellbeing (Leutwiler, 2024). CfP challenges this hierarchy by foregrounding attention, validation, and invitation as central to high-quality learning and graduate capability.

Resistance to CfP is seldom hostile; more often it reflects self-protection. Staff operate within systems shaped by metrics (NSS, PTES, TEF), recruitment pressures, and tightly specified workloads, where what 'counts' is visible output. In such contexts, taking time for CC can feel risky: it is harder to evidence in annual reviews, may not appear explicitly in quality frameworks, and can be perceived as slowing an already crowded curriculum. Colleagues may also worry that adopting CfP could create expectations they cannot sustain emotionally or temporally.

For CfP to take root, it needs to be recognised not as 'extra' but as a legitimate dimension of professional practice, acknowledged in workload, recognition, and leadership narratives. In this sense, educators need to experience CC as a supported institutional priority, not a private responsibility. This aligns with Edmondson's (2019) notion of psychological safeness, where individuals contribute most effectively when they can question, experiment, and dissent without repercussion.

Students, too, often approach teamwork with ambivalence. They may experience it as unevenly distributed labour, social risk, or a space where confident personalities or stronger English speakers dominate (Oakley et al., 2004). International and first-generation students may be wary of being judged on language, accent, or unfamiliar norms. In this context, collaborative tasks can feel threatening rather than developmental. CfP responds by making relational expectations explicit and shared: micro-skills such as inviting, validating, and attentive listening provide a common language for equitable collaboration, rather than leaving students to navigate unspoken norms alone.

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Practitioner reflection – The author observed that colleagues rarely rejected CfP. What they resisted was the perception of 'one more thing' within already stretched workloads. Framing CfP as behaviours already present in good supervision helped shift perception from 'something extra' to 'a way of doing what we already value, more effectively'.

Exposure Versus Implementation

Educators may encounter compassion-focused principles through PGCert or FHEA programmes, but exposure alone does not guarantee sustained practice. Studies suggest that while participants report conceptual shifts and increased confidence, longer-term impact on practice is uneven without ongoing support (Fernandes et al., 2023).

T. Gilbert's work on CC emphasises that CfP is a trainable motivational system whose behavioural pathways are strengthened through rehearsal, feedback, and modelling (T. Gilbert, 2016). One-off workshops are therefore insufficient: staff and students need repeated opportunities to notice threat responses, regulate them, and experiment with micro-skills in real interactions. CfP's impact appears strongest when these behaviours are assessed, a principle revisited later in this chapter.

Earlier CfP pilots reflected this pattern. Staff described workshops as "energising" and "conceptually persuasive," yet follow-up conversations revealed variable uptake in everyday teaching. The issue was less rejection than implementation fatigue, combined with the sense that CfP complemented rather than replaced existing practice. Embedding CC therefore required what Wenger (2000) would describe as a Community of Practice: regular, dialogic spaces where colleagues could share examples, troubleshoot challenges, and normalise these behaviours (Roxa & Martensson, 2009).

From an institutional perspective, this supports broader findings on professional development: exposure raises awareness, but implementation shifts culture. Pedagogical change is more likely to endure when supported by leadership endorsement, opportunities for collaborative reflection, and alignment with evaluation and recognition processes (Fernandes et al., 2023).

Practitioner reflection – Regular brief staff check-ins proved pivotal. Also staff explicitly asking in student reflective conversations, "Which micro-skill did you try, and what happened?" helped translate intention into action and sustain engagement.

Comparative Experience and Evidence

A central challenge in evidencing pedagogical change lies in distinguishing CfP's effects from natural team development over time. Classic models of group

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development suggest that familiarity alone can improve coordination and reduce friction as teams progress (Tuckman, 1965). Without a comparison point, improvements in communication or belonging could therefore be attributed to maturation rather than intervention.

To address this, staff were invited to compare current experiences explicitly with pre-CfP modules. Their reflections indicated fewer unproductive conflicts, quicker movement from discussion to decision-making, and greater willingness among quieter or more anxious students to contribute. Supervisors reported more focused meetings, clearer expectations, and improved peer accountability.

These outcomes align with evidence from other sectors. Compassion-focused approaches in healthcare are associated with improved communication and reduced emotional strain (Sinclair et al., 2020), while organisational research links compassion to collaboration, learning behaviours, and performance (Worline & Dutton, 2017; West et al., 2020).

Practitioner reflection – Students contrasted CfP-informed teamwork with earlier experiences: "Before, group work meant one or two people doing everything… this time it felt like everyone had a way to come in." Several international students reported feeling "more equal in the group" because shared micro-skills provided permission to ask for clarification or slow the pace.

Vehicles for Change

Professional recognition routes such as Senior/Principal Fellowship of Advance HE offers mechanisms for embedding CC institutionally. The 2023 PSF positions Descriptor 4 as sustained, strategic leadership with influence on others' practice (Advance HE, 2023). CfP aligns with this by evidencing leadership through modelling, mentoring, and programme-level change rather than positional authority alone.

Integrating CfP into fellowship narratives, Continuous Professional Development (CPD) frameworks, and promotion criteria legitimises it as scholarly and strategic expertise. At UH, CfP has been positioned within undergraduate (UG) and PG programmes, linking employability, inclusion, and wellbeing. This framing repositions CfP from a pastoral concern to a driver of quality enhancement.

Practitioner reflection – As CfP gained visibility in programme and employability discussions, students began linking micro-skills to future roles, describing them as tools for leadership and communication.

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Culture as Context and Opportunity

Resistance to pedagogical change in universities often reflects inertia rather than ideology (Kezar & Eckel, 2002). CfP both recognises these pressures and offers micro-level practices that can alleviate them for staff and students.

Institutional culture may rarely shift through policy alone; change can occur through interactions. CfP-informed meetings - where contributions are acknowledged, disagreement is respectful, and silence is permitted - become micro-sites of cultural change. Over time, such interactions may shift norms more effectively than top-down directives (Schein, 2010).

This reflects Freire's (1970) argument that dialogue is the medium of transformation. In CfP, dialogue is disciplined through CC: its aim is not comfort but mutual understanding.

Practitioner reflection – Small behavioural shifts - pausing before interrupting, acknowledging feedback - accumulated into a noticeable change in classroom atmosphere.

Linking to Global Agendas and Lifelong Learning

These challenges intersect with global priorities around sustainable growth, ethical leadership, and lifelong learning. CfP develops capabilities such as self-awareness, collaboration, and critical thinking, which underpin responsible management education (PRME, 2018).

It aligns with UNESCO's (2023a, 2023b) emphasis on human-centred approaches to digital transformation, ensuring innovation supports inclusion and meaningful learning.

For students, CfP fosters adaptive expertise: the capacity to listen, negotiate, and co-create solutions across difference. In this sense, it functions as both a learning process and a professional capability.

Practitioner reflection – Students described CfP as "rehearsing how to be a fair manager," recognising its relevance beyond the classroom.

Summary

The challenge of implementing CfP in HE lies less in conceptual acceptance than in cultural translation. Universities are systems built on independence and competition, while CfP depends on interdependence and shared responsibility.

Through deliberate micro-practices - inviting participation, validating contributions, and modelling respectful dialogue - CfP can transform teamwork from procedural compliance into collaborative learning. In doing so, it addresses a central

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tension in HE: sustaining human connection within systems historically organised around individual performance (Chickering, 2010).

THE COMPASSION-FOCUSED PEDAGOGY MODEL

Translating CC from an individual disposition into a shared professional practice required a model that could be replicated, studied, and adapted. The result - a four-pillar framework that integrates CfP as both a learning process and an organisational ethos, as shown in Table 3 below.

Table 3.

Pillar	**1. Curriculum Design and Assessment**	**2. Staff Development and Communities of Practice**	**3. Student Engagement and Practice**	**4. Evaluation, Evidence, and Adaptation**
Focus	Embedding institutional practice into learning design	Building staff capability	Supporting student application	Understanding impact
How CfP is enacted	CfP integrated into assessment tasks and criteria	Staff engage in practice-based development	Students practice micro-skills collaboratively	Mixed-method evaluation
Examples in practice	Reflective teamwork assessment, structured discussions	CPD sessions, Communities of Practice	Speed meet, team discussions, supervision	Surveys, interviews, thematic analysis

The integration of CC was approached as a structured, practice-based process rather than a purely conceptual intervention. Students were introduced to micro-skills (outlined in Section 2) and supported to actively apply these within their collaborative work.

These micro-skills were explicitly modelled by teaching staff and embedded into classroom activities, particularly within team discussions and project-based tasks. Students engaged in iterative cycles of practice, observation and reflection aligned with experiential learning principles (Kolb, 1984), enabling them to move from awareness to intentional application.

Structured prompts encouraged students to consider how their communication behaviours influenced team dynamics and outcomes. Teaching interventions included facilitated discussion, peer interaction, and guided feedback, supporting students to develop more inclusive and effective ways of working.

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Where appropriate, assessment design was adapted to reinforce these behaviours, placing emphasis not only on outputs but also on relational processes. This contributed to a shift in how students approached teamwork, foregrounding engagement, inclusion, and shared responsibility.

The model draws on P. Gilbert's (2010, 2017) conception of compassion as a motivation with intention: sensitivity to distress combined with wise, prosocial action. In HE, this becomes a form of pedagogical intelligence: a way of noticing, interpreting, and responding in learning relationships, enacted through micro-skills rather than personality traits.

Four design principles guide the model: accessibility (anyone can learn the skills), authenticity (compassion is modelled, not only discussed), accountability (behaviours are observable and discussable), and adaptability (the framework can operate across disciplines, cultures, and digital formats).

Curriculum Design and Assessment (Pillar 1)

Curriculum design anchors the CfP model. In the host PG module, assessments were redesigned so that CfP was embedded into the task, the process, and the marking criteria (Pillar 1, Table 3). Evolving from a traditional dissertation and written-report format into more authentic assessment supported by team discussions, students were first introduced through a structured "speed meet", Figure 2 below is intended to lower social threat, equalise participation, and build early familiarity before deeper collaboration in their 'teams'. This format offered a few minutes with as many students as possible in the PG Module Welcome Day.

Figure 2.



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Thereafter, students engaged in supervisor-facilitated team discussions that enabled them to practise core micro-skills while working through key stages of the research process. Over time, reliance shifted from a one-to-one supervisor relationship towards a more dialogic, peer-supported format.

Formative preparation tasks required students to arrive with something concrete to share, while reflection on CfP micro-skills formed part of their summative submissions. Assessment rubrics captured not only outcomes but processes, including inclusive communication, acknowledgement of peers, and constructive disagreement. Embedding CfP in this way positioned it as a rigorous professional behaviour rather than informal consideration for others.

The CfP framework is designed to scale by principle rather than prescription. Its language and processes can be adapted for collaborative learning across disciplines such as business, healthcare, and law, where teamwork and critique are central. In each case, micro-skills function as explicit rules of engagement that support equitable participation and reduce anxiety.

Practitioner reflection – Students quickly recognised CfP as a professional competency rather than a personal quality. One commented, "We talk about emotional intelligence, but this gave me tools to practise it." Making CfP explicit in assessment and reflection normalised it as a skill to be developed and evidenced.

Staff Development and CoP (Pillar 2)

For CfP to become routine rather than a short-lived initiative, staff needed opportunities to experience and rehearse the micro-skills themselves (Pillar 2, Table 3). Staff participated in forums where they practised inviting, validating, attentive listening, and allowing silence within their own discussions.

Colleagues were encouraged to focus students on one or two micro-skills to test immediately in supervision or tutorials, rather than attempting wholesale change. Follow-up check-ins created space to share what had been tried, what felt challenging, and what supported progress. Over time, these conversations evolved into an informal Community of Practice in which colleagues exchanged approaches, activities, and assessment ideas while supporting one another's development.

Practitioner reflection – Colleagues reported that the forums "put a name" to effective teaching behaviours and helped them act more intentionally. One supervisor noted that focusing students on micro-skills "completely changed the tone of meetings" and made time feel "better spent, not longer."

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Student Engagement and Practice (Pillar 3)

For students, CfP was introduced as a practical toolkit for making teamwork and supervision fairer and more manageable (Pillar 3, Table 3). Early in the PG module, students completed the speed-meet, preparation tasks, and small team discussions where they were explicitly asked to practise inviting and validating peers while making research project decisions.

CfP language was then woven throughout teaching, supervision, and formative tasks. Supervisors modelled micro-skills for example, "let's pause and invite each other in", while ground rules encouraged acknowledgement of contributions, minimising interruptions, and using silence as thinking time. Links to employability were made explicit, framing micro-skills as forms of professional communication in diverse workplaces.

Practitioner reflection – Some students described CfP as something they could "carry into any job." One noted that the micro-skills "made it easier to stop the same two people talking," while another reported using inviting and validating in a part-time role to support a quieter colleague. When understood as portable professional behaviour, students were more likely to retain and apply CfP.

Evaluation, Evidence, and Adaptation (Pillar 4)

The fourth pillar treats evaluation as part of the pedagogy rather than an afterthought (Pillar 4, Table 3). To understand how CfP was experienced and where it made a difference, a mixed-method design was used:

- Staff and student surveys on micro-skill use, communication, confidence, belonging, and module design
- Staff interviews exploring experiences of adopting CfP and perceived institutional enablers and barriers

Data were analysed descriptively and thematically, focusing on patterns across staff and student perspectives. The aim was not to isolate a single effect but to build an evidence-informed understanding of how CfP shapes communication and learning, and to refine the model accordingly.

Practitioner reflection – Inviting students to evaluate both the module and the micro-skills shifted engagement. Many reported that this made them "take it more seriously" and see themselves as partners in improving the learning environment.

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Design Aspirations and Institutional Embedding

While CfP began within a single PG module in this case, the longer-term aspiration is to embed it across programmes and professional pathways. Within the Business School UG strategy, CfP is being explored alongside employability, sustainability, and digital fluency as a core strand of practice.

CfP also aligns with Advance HE's Professional Standards Framework (Advance HE, 2023), particularly in evidencing leadership through influence on teaching and learning. Integrating CfP into fellowship mentoring and CPD positions it as a form of relational leadership and strategic expertise.

Externally, the Compassion in Effective HE Teams network, facilitates knowledge exchange across institutions exploring CfP, including work on digital delivery, intercultural adaptation, and impact measurement.

Practitioner reflection – The most credible signs of adoption were subtle shifts in tone: colleagues describing meetings as "more respectful" yet still "dynamic." These changes reinforced that culture evolves through modelling rather than mandate.

While CfP provides a structured relational framework, it does not operate in isolation from other established approaches to developing effective teamwork. In practice, it was often used alongside more familiar pedagogical interventions that make team dynamics visible and negotiable. For example, Some teaching sessions incorporated structured activities such as role clarification, expectation setting, and guided discussion around contribution and accountability.

What distinguishes CfP is not that it replaces these approaches, but that it enhances how they are enacted. Micro-skills shape the quality of interaction within these activities, supporting more inclusive dialogue and reducing defensiveness. This enables students to engage more openly with difference, negotiate roles more effectively, and address imbalances in contribution with greater confidence and mutual respect.

In this sense, CfP can be understood as a relational method that strengthens existing pedagogical strategies by focusing attention on the interpersonal processes through which teamwork is experienced and enacted.

Summary

This section has outlined how the CfP model translates CC into a practical, replicable system for teaching, learning, and leadership. Through four interlocking pillars, CfP forms an iterative cycle that embeds relational awareness at multiple levels.

In the PG module, CfP was integrated into assessment, supervision, and team processes so that it became part of how work was organised, not an optional addition.

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Staff forums and emerging CoP supported adaptation, while student engagement positioned micro-skills as a transferable professional capability.

As the model extends beyond its UH origins, it demonstrates how CC can function as a shared professional language across sectors and prepares the ground for the findings discussed in Section 5.

IMPACT AND INSIGHT: EVALUATING CFP IN PRACTICE

The evaluation of CfP in this case study aimed to explore how embedding CC micro-skills influences student learning, teamwork, and staff practice. The findings presented here are preliminary and will be extended as full quantitative and qualitative datasets are completed. Early evidence nonetheless suggests that when CfP is explicitly practised and modelled, participants report greater inclusion, psychological safeness, and reflective engagement. This section synthesises emerging patterns and situates them within wider scholarship on relational learning and psychological safeness.

Data Sources and Method Overview

Three data strands inform this analysis, drawn from November 2025:

1. Student survey – capturing perceptions of how experiencing CfP micro-skills influenced communication, confidence, feedback, and sense of belonging (30 responses; 27 Likert sets).
2. Staff survey – exploring use of CfP in teaching and supervision, and perceived changes in teamwork and communication (14 responses).
3. Staff interviews – providing contextual insights into implementation across programmes, modules and roles (7 interviews).

Quantitative data were analysed descriptively to identify patterns, while qualitative data underwent inductive thematic coding. Together, these approaches begin to reveal CfP's impact at both behavioural and cultural levels.

These shifts extend beyond observable behaviours to changes in how students understand and engage in collaboration. The findings also resonate with Mezirow's (1997) theory of transformational learning, where critical reflection enables perspective change. Practitioner reflections suggest that students not only developed new interpersonal skills but reconsidered how they engaged with others, indicating shifts in underlying perspectives as well as behaviours.

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Early indications show strong alignment between these data strands and the theoretical foundations of CfP (Section 2). CfP appears to function as a cognitive scaffold for reflection and inclusion, supporting learners to interpret complexity, regulate threat, and work constructively with difference. This reflects P. Gilbert's (2010, 2017) and Kolb's (1984) frameworks, where awareness, feedback, and iterative experimentation underpin adaptive learning.

However, while CfP yielded clear benefits, its adoption was not without challenge. Not all students engaged at the same pace, and some initially found the focus on relational processes unfamiliar. For those accustomed to task-oriented approaches, the emphasis on communication and reflection required a shift in mindset.

There were also variations in how students interpreted and applied micro-skills, influenced by cultural and educational backgrounds. In some cases, students were hesitant to contribute openly or challenge others, highlighting the need for careful facilitation. These findings reinforce that CfP practice develops iteratively and requires sustained opportunities for modelling, practice, and reflection.

Quantitative Highlights

Preliminary descriptive statistics suggest strong endorsement of CfP's influence on belonging and communication.

All Likert-scale items were rated on a 1–5 scale. Among the 27 students who completed the closed questions, mean scores were consistently above 4, indicating strong agreement that CfP enhanced their experience, as shown in Table 4 below.

Table. 4

Indicator	Description	Mean score
Sense of belonging	Students felt included	4.63
Ease of communication	Students communicated more easily	4.30
Improved communication	CfP improved interaction	4.56

These results indicate a heightened sense of belonging and improved communication compared with previous teamwork experiences. The particularly high mean for CoP (4.63) suggests that CfP contributed to shared team identity and mutual support.

Initial staff survey findings indicate broadly convergent perceptions of improved teamwork, inclusion, and ease of facilitation.

Across indicators, both student and staff data associate CfP with clearer communication, more equitable participation, and enhanced belonging. These patterns

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are consistent with research linking psychological safeness to improved learning, performance, and well-being.

Qualitative Themes

Qualitative responses add depth to these patterns. Students frequently described shifts in how they approached teamwork. For example, one student reported moving from "just focusing on getting my part done" to actively checking in with others and supporting quieter members. Another team noted that explicitly inviting input led to more balanced participation and improved output quality.

These examples illustrate how changes in communication behaviours translated into more inclusive and effective collaboration. This pattern is reflected in five cross-cutting themes identified from the data, as shown in Table 5 below.

Table 5.

Theme	Description
Shared Responsibility & Leadership	Increased participation across team members, with students taking initiative to involve others and support collective progress.
Constructive Problem Solving	Greater ability to engage with differing perspectives and navigate disagreement constructively.
Critical Thinking & Reflective Practice	More thoughtful engagement with ideas, supported by reflective dialogue and slower-paced interaction.
Psychological Safety & Belonging	Enhanced confidence to contribute, particularly among quieter students.
Inclusive Communication Practices	Use of micro-skills (inviting, validating, attentive listening, allowing silence) to support equitable participation.

These themes were evident not only in abstract perceptions but in how students described their interactions in practice. Across teams, students reported a shift towards more shared responsibility and leadership, with individuals taking greater initiative to involve others and support collective progress. This redistribution of participation contributed to a stronger sense of accountability and more balanced dynamics.

In relation to problem-solving, students described using micro-skills to navigate disagreement more constructively. Rather than avoiding tension, teams were better able to engage with differing perspectives, leading to more thoughtful and innovative outcomes. This aligns with the role of psychological safeness in enabling productive challenge.

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Students also reported changes in their approach to thinking and reflection. Slowing down interactions through practices such as allowing silence and attentive listening created space for deeper consideration, resulting in more critical engagement with ideas.

Finally, a consistent theme across responses was an increased sense of belonging and psychological safeness. Students described feeling more comfortable contributing, particularly in diverse or unfamiliar teams, suggesting that micro-skills helped reduce social threat and support more inclusive participation.

Comparative Insights

To distinguish CfP's impact, module outcomes were compared with the previous cohort (pre-CfP):

- Failure rate reduced to 0% (previously 4%)
- Mean module grade increased by 8% (64% to 72%)
- Distinctions increased from 30% to 74%
- Academic integrity offences reduced from 6% to 0%

These indicators support the argument that CfP contributes to measurable improvements in engagement, communication, and performance beyond cohort familiarity alone.

Cross-Sector Resonance

The findings parallel outcomes reported in non-academic contexts. In healthcare, compassion training is associated with improved patient experience and relational care (Sinclair et al., 2020). In organisational settings, compassionate leadership is linked to higher engagement, retention, and performance (Worline & Dutton, 2017; West et al., 2020; Ahn et al., 2024).

This convergence reinforces CfP's validity as a transferable model. It suggests that its mechanisms - observable cognitive and behavioural practices - support effective collaboration across contexts.

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Interpreting the Findings

Taken together, the data suggest that CfP enhances both individual confidence and collective confidence in teamwork. Micro-skills provide a behavioural pathway through which trust, accountability, and psychological safeness develop.

These gains appear good when CfP is embedded structurally - through assessment, CPD, and leadership modelling - rather than delivered as a one-off intervention.

Staff interviews reinforced this interpretation. One noted that CfP helped "stabilise uncertainty," enabling more attentive and proactive engagement during institutional change. Students similarly reported becoming "less defensive" and "more curious about others' perspectives," highlighting compassion's cognitive dimension in supporting reflective capacity.

Limitations remain. Response rates vary, and data collection is ongoing. Further research will be needed to track longitudinal effects on attainment, progression, and staff wellbeing.

Organisational Impact and Leadership Development

Beyond classroom outcomes, staff reflections suggest that CfP influenced leadership practice. Micro-skills were applied in line management, feedback, and meeting facilitation. Several reported that acknowledging concerns openly reduced defensiveness and improved team morale.

Links to Sustainable Education and Social Responsibility

CfP's outcomes align with wider goals of sustainable, ethical, and socially responsible education. CfP-informed environments support not only employable graduates but reflective practitioners capable of contributing to inclusive communities and workplaces. These outcomes align with global priorities around quality education, decent work, and well-being (PRME, 2018; UNESCO, 2023a, 2023b).

By operationalising CC as a measurable, transferable capability, CfP provides a pedagogical mechanism for advancing these goals. It highlights that sustainability is enacted through professional interactions - how individuals listen, respond, and collaborate under pressure.

Summary

Preliminary evidence positions CfP as an effective framework for cultivating inclusive communication, shared leadership, and emotional resilience in HE. While

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further analysis will extend these findings, current results indicate that micro-skills enhance both the quality of learning relationships and the climate of collaboration.

From a practitioner perspective, three insights stand out. First, introducing micro-skills early helps inclusive norms take hold. Second, CfP operates as an ongoing practice rather than a static competency, developing through feedback and reflection. Third, it reframes leadership as relational presence rather than control - "less about having the last word and more about creating space for others to speak."

Together, these insights reinforce that CfP is most effective when embedded within systems and practised consistently in teaching, supervision, and academic leadership.

IMPLICATIONS FOR PRACTICE, POLICY, AND EMPLOYABILITY

The case study evidence emerging from CfP has significance beyond classroom practice. It points to a broader shift in how HE understands professionalism, leadership, and employability, aligning with contemporary frameworks for graduate attributes, ethical leadership, and social responsibility (Advance HE, 2023; Jackson & Chapman, 2012; Worline & Dutton, 2017). CfP positions CC as both a pedagogical tool and a strategic capability for sustainable development.

This section interprets the findings through four lenses - teaching practice, professional development and leadership, policy, and employability - before considering sustainability and implementation challenges. Together, these perspectives illustrate how CfP supports the human-centred, relational professionalism increasingly emphasised in HE and employer discourse (High Fliers Research, 2025; Wong et al., 2022).

Implications for Teaching Practice

For educators, CfP frames teaching as a relational practice integrating cognitive, behavioural, and ethical dimensions (Mezirow, 1991; Kolb, 1984). When micro-skills are taught and modelled, the classroom becomes a space for professional rehearsal, where students practise inclusive dialogue, shared leadership, and reflective feedback.

Practically, this involves embedding CfP within existing design cycles:

- by incorporating reflection on communication, teamwork, and psychological safeness into assessment criteria
- and using brief check-ins and validating feedback to attend to team dynamics

Focusing on observable behaviours ensures that CC is enacted rather than abstracted. Small, consistent practices of attention can reduce anxiety and enhance

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persistence, aligning with research on self-compassion and emotional regulation (Neff, 2003).

Professional Development and Leadership

At an institutional level, CfP aligns with frameworks such as Advance HE's PSF, which emphasise strategic influence through mentoring, collaboration, and leadership (Advance HE, 2023). Embedding micro-skills into CPD programmes positions relational intelligence as a marker of senior professionalism. Staff who apply these practices in supervision, meetings, and line management model inclusive leadership for peers and students (Uhl-Bien, 2006; West et al., 2020; Worline & Dutton, 2017).

This reframes CfP as a mechanism of organisational effectiveness. Teams adopting micro-skills report fewer interpersonal tensions, more constructive feedback cycles, and improved morale. In units where CfP informed meetings, staff feedback indicated increased trust and perceived fairness - patterns consistent with research linking compassionate leadership to improved engagement and performance.

Policy and Institutional Strategy

Policy implications extend beyond individual CPD. CfP supports strategic priorities across inclusion, wellbeing, and sustainability agendas. At the Business School, its integration into UG and PG strategy demonstrates how relational pedagogy can contribute to institutional indicators such as engagement, progression, and staff satisfaction.

CfP also aligns closely with national regulatory frameworks such as the TEF which evaluates student experience, continuation, and graduate outcomes. The improvements observed in this case - enhanced belonging, more effective collaboration, and stronger academic outcomes - map directly onto these dimensions. By making inclusive communication and engagement observable through micro-skills good, CfP provides institutions with a practical mechanism for influencing TEF-related indicators in ways that are both measurable and pedagogically meaningful.

Embedding CfP at policy level can also strengthen equality, diversity, and inclusion (EDI) agendas. By making participation behaviours explicit, micro-skills establish transparent expectations for respectful communication - central to both EDI frameworks and broader organisational culture development (Kezar & Eckel, 2002; Schein, 2010). CfP thus helps bridge policy and practice, translating abstract commitments into observable behaviours.

CfP also aligns with global frameworks such as the UN Sustainable Development Goals and PRME (2018), alongside UNESCO's (2023a, 2023b) emphasis on human-centred innovation. By foregrounding attention, empathy, and responsible

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action, CfP contributes to developing ethically aware graduates capable of navigating complexity.

Employability and Graduate Attributes

From an employability perspective, CfP represents the human dimension of professional competence. Employers consistently prioritise communication, teamwork, and adaptability (High Fliers Research, 2025; Jackson & Chapman, 2012; Wong et al., 2022). CfP operationalises these through observable behaviours that students can evidence in interviews, portfolios, and workplace contexts.

Student feedback suggests that CfP is both personally transformative and professionally valuable, with many reporting the use of micro-skills in leadership tasks, teamwork, and cross-cultural interactions. This transferability positions CfP as a portable capability aligned with relational leadership and compassion-at-work frameworks (Worline & Dutton, 2017).

As organisations increasingly emphasise inclusive leadership and psychological safeness (West et al., 2020), CfP may help bridge the gap between graduate capability and workplace expectation. It becomes a form of employability literacy - a shared language of inclusion, accountability, and reflective practice.

Sustainability and Long-Term Impact

Sustainability in CfP concerns maintaining practice under pressure. Initial engagement may diminish as workloads intensify or priorities shift. To address this, CfP emphasises embedding reflection and practice through:

- Communities of Practice (Wenger, 2000; Roxa & Martensson, 2009)
- Mentoring structures supporting ongoing development (Fernandes et al., 2023)
- Practical toolkits integrating relational behaviours into teaching design

These mechanisms help embed CC into organisational memory, increasing resilience to leadership or curriculum changes. They also support staff wellbeing by normalising discussions of stress and support within professional boundaries, aligning with research on emotional labour in academia (Leutwiler, 2024) and compassion training in healthcare (Sinclair et al., 2020).

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Challenges and Recommendations

Despite its potential, implementing CfP presents practical challenges, including:

- time constraints within already crowded curricula
- inconsistent leadership support
- uncertainty around assessing CC

These reflect wider challenges in HE change processes, where institutional culture and incentives shape adoption (Kezar & Eckel, 2002; Schein, 2010). To address these, institutions might consider the strategies outlined in Table 6 below.

Table 6.

Strategy	Focus	Implementation approach
Curriculum Integration	Embedding CfP into learning	Align with assessment & outcomes
Leadership and Modelling	Establishing norms	Leaders practice CfP behaviours
Professional Development	Staff capability	CPD and mentoring
Communities of Practice	Shared learning	Regular dialogue opportunities
Evaluation and Evidence	Demonstrating impact	Staff and students' testimony to sustain momentum

These steps support the transition from individual practice to systemic implementation, positioning CC as an institutional capability rather than an optional enhancement.

Summary

The implications of CfP extend across all levels of HE. For practitioners, it offers a practical toolkit for inclusive, reflective teaching. For institutions, it provides a pathway to align policy with wellbeing, inclusion, and employability priorities. More broadly, it supports the development of graduates capable of leading with integrity in complex environments.

From a practitioner perspective, colleagues adopting micro-skill routines reported reduced cognitive load, clearer dialogue, and more constructive leadership conversations. Students became more articulate about collaboration, while sustainability appeared to depend less on policy than on practice. As one colleague noted, "when CC became the default on the module, not an initiative, we knew it had taken root."

Together, these insights reinforce that CfP is most effective when embedded in systems and continually practised in teaching, supervision, and leadership.

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CONCLUSION

The development and implementation of CfP at the Business School demonstrates that it is a practical, evidence-informed method for improving learning, leadership, and organisational culture. Across the chapter, cognitive compassion has been presented as a discipline of attention: a way of perceiving and responding that reshapes how people relate in educational and professional contexts. When micro-skills are deliberately embedded into pedagogy and leadership, the effects can be observed in inclusion, communication, and staff–student team cohesion.

Integrating Theory and Practice

The chapter began by situating CfP within compassion science, experiential learning, social-learning theory, intercultural communication, and critical pedagogy. Subsequent sections translated this theoretical base into practice through a four-pillar model encompassing curriculum design, staff development, student engagement, and evaluation.

Findings from Section 5 suggest that CfP fosters inclusive, reflective, high-performing teams by making compassion observable, teachable, and assessable. Micro-skills such as inviting, validating, and allowing silence to move the discourse from values to behaviours and from aspiration to evidence. In doing so, CfP responds directly to the question posed in the introduction: institutions can intentionally cultivate human-centred capabilities in measurable and sustainable ways when cognitive compassion is built into assessment, feedback, and leadership routines rather than added as an optional extra.

Reframing Professionalism and Leadership

The evidence also invites a redefinition of professionalism in HE. Traditionally associated with detachment, autonomy, and subject mastery, professionalism here is reframed as including relational intelligence: awareness, empathy, and courage in communication. This aligns with wider debates on emotional and social competencies as central to contemporary leadership and collaboration.

For academic leaders, cognitive compassion shifts influence from control to example. When leaders model transparency, curiosity, and validation in meetings and mentoring, staff report greater psychological safeness and fewer defensive behaviours. Teams are more willing to surface concerns early, share ideas, and challenge convention constructively. In this sense, cognitive compassion is not opposed to rigour; it provides the trust and inclusion required for genuine intellectual risk-taking.

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Institutional Transformation

At institutional level, CfP offers a means of embedding relational quality into the structures that shape learning and work. Integrating CfP into UG and PG agendas reframes compassion from pastoral care to strategic capability, supporting employability, sustainability, and inclusion simultaneously.

Data show more productive supervision environments, more balanced participation in group discussions, and improved cross-cultural collaboration. These outcomes illustrate how cognitive compassion can function as organisational practice as well as pedagogy, giving institutions a way of attending to an often-invisible dimension of educational success.

This grassroots dissemination complements Wenger's (2000) concept of CoP: sustainable change occurs when values are enacted collectively, not imposed hierarchically. CfP's integration within fellowship mentoring, CPD, and leadership programmes suggests how cognitively compassionate professionalism can become institutional habit rather than an individual preference.

Global and Cross-Sector Resonance

CfP also sits within global movements for human-centred, sustainable innovation. UNESCO's work on the futures of education and the UN Principles for Responsible Management Education call for learning that develops ethical reasoning, collaboration, and a concern for wellbeing; the World Economic Forum (2023) highlights emotional intelligence, resilience, and complex problem-solving as critical employability skills. CfP offers a method for cultivating these attributes systematically through concrete micro-skills practised in authentic teamwork.

Across sectors, effective teamwork is recognised as essential to ethical sustainability: it underpins patient safety in healthcare and drives engagement, innovation, and trust in business and public service. By adopting CfP, HE positions itself as a conduit between these domains, preparing graduates who are both competent and conscientious. As the model is principle-based, it can be adapted across cultural and professional contexts while retaining its core focus on attention, wise action, and shared accountability.

Researcher–Practitioner Perspective and Future Directions

Practitioner reflections throughout the chapter have illustrated how academic insight and lived experience informed each other in this work. Writing from the dual standpoint of researcher and leader, the author's journey embodied CfP's own principles: curiosity, humility, and shared learning. Leading and studying CfP

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became an act of cognitive compassion, requiring patience, attentiveness, and the courage to listen and respond wisely.

This stance aligns with Schon's (1983) conception of the reflective practitioner. CfP changed not only how teaching was designed but also how leadership was experienced: decisions became slower but more deliberate; meetings shifted from reporting forums to spaces for sense-making; micro-political tensions became sites for inquiry rather than avoidance.

Future research should now focus on longitudinal impact: how sustained exposure to cognitive compassion affects graduate outcomes, staff wellbeing, and institutional resilience. Quantitative analyses can establish effect sizes and explore differential impacts across groups; qualitative work can trace how cognitive compassion reshapes identity, belonging, and professional confidence over time.

Attention could also be given to how CfP is experienced by neurodivergent staff and students, as relational pedagogies may be interpreted and enacted differently across diverse cognitive and sensory profiles. Emerging practitioner evidence suggests that, in team-based contexts, some neurodivergent participants experience structured relational practices not as an additional demand but as a relief, with clearer expectations reducing ambiguity and social strain. In some cases, these practices have been quickly normalised within culturally diverse teams. Understanding these perspectives is important to ensure that CfP works for everyone, rather than those more at ease with particular ways of communicating.

Comparative studies across disciplines and national contexts, including through the Compassion in Effective HE Teams Network could further clarify how other institutions mediate CfP's implementation and effects.

A further frontier lies in digital pedagogy. Embedding micro-skills into online with cameras on shared backgrounds (Jayasundara et al., 2022) and hybrid environments – through AI-assisted feedback, virtual teams, and online mentoring – will test CfP's adaptability in mediated spaces and help ensure that technology amplifies rather than erodes human connection.

Summary and Practitioner Reflections

CfP represents a significant evolution in the philosophy and practice of HE. It bridges theory and action, care and rigour, individual and institution. By operationalising cognitive compassion as a set of teachable, assessable micro-skills, CfP offers a model for re-humanising learning in an era dominated by automation, metrics, and competition. It positions cognitive compassion not as an optional extra but as a foundational competence for employability, leadership, and lifelong learning.

The Business School experience suggests that sustainable change begins with attention: one conversation, one meeting, one deliberate act of noticing at a time.

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When educators, students, and leaders practise deliberately, they cultivate environments in which people can think, speak, and grow in psychological safeness. In such spaces, learning becomes more than knowledge acquisition; it becomes a collective act of courage.

From the practitioner perspective, several lessons stand out. Having a shared language for what CfP looks like enabled colleagues to hold one another gently accountable: as one senior lecturer reflected, "once we had a shared this compassion became a marker of professionalism rather than personality." Cognitive compassion also transformed leadership from coordination to cultivation: "I learned that influence happens in the pauses and in how you make space for others to think aloud." Finally, change appeared to spread less through policy than through presence: "People copy tone before they copy templates; once colleagues experienced cognitive compassion, they began to replicate it instinctively."

Taken together, these reflections return us to the core questions that opened the chapter: how can institutions cultivate human-centred capabilities in ways that are measurable and sustainable, and how can higher education sustain human connection and shared purpose in systems historically organised around private enterprise? CfP does not offer a single solution, but it does offer a credible, evidence-informed response: start with micro-skills, practise them deliberately, embed them structurally, and allow cognitive compassion to become a quiet, rigorous discipline at the heart of educational life.

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Chapter 13
The Paradox of Information Destroying Curiosity:
The Impact on Learning for HE Students and Tutors

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EXECUTIVE SUMMARY

We have almost unlimited access to all forms of information. Why does this access kill curiosity – or at least diminishes it? Experiential Learning is a journey for everyone at all stages of learning, career and even life itself. Once it starts it never stops – or it shouldn't. The structure is built around case studies that have happened in real life, the workplace and the classroom/formal learning environment. There are no boundaries to experiential learning, only opportunities to keep stretching our knowledge and curiosity. The chapter also considers the way AI is impacting (even dominating) conversations on education, business and society as well as the way we assess and value individual and organisational learning. There are opportunities and threats from this rapidly evolving and, at times contentious, technology. To look into the future it is necessary to learn from the past. The chapter will consider where the ideas of experiential learning come from, why they are still relevant and how might they be adapted and developed to meet both current and future challenges.

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INTRODUCTION

This chapter is written by a practitioner who has worked and collaborated with a range of Higher Education (HE) and Further Education (FE) institutions over many years building and delivering innovative learning programmes.

The chapter uses academic theories and ideas to support the practical application of experiential learning. The focus is on approaches to experiential learning which help learners develop curiosity in the face of unlimited volumes of information ranging from relevant and useful to dangerous.

How do students and tutors (tutors are learners as well) manage these challenges to build individuals with relevant skills for employment in a market which is in not just highly competitive but even questions the relevance of higher education qualifications?

You may (will) find many of the issues raised in the chapter do not give clear neat answers and may fill your head with questions. This is intentional. Curiosity is a key driver of experiential learning – regardless of what the curriculum prescribes. All of the case studies were designed to prompt curiosity not to provide any clear-cut answers or prescriptions.

I have deliberately not gone into any depth around specific academic theories. The underpinning thinking in the chapter is to create curiosity in a world where information is available in many formats and volumes. If it sounds useful and interesting check it out – this will be your own experiential learning experience.

If this makes sense reach out and we can explore even more avenues to explore and get out of the trench that formal education techniques can trap you in.

USEFUL THEORY

The problem with theory is that it is usually wrong.

Two useful quotes from academics (anonymous):

"All theory is wrong but some is useful."

"Don't apply theory, plunder it."

Virtually all relevant theory is based on wide research into relevant topics and sources and the research is often designed to support or substantiate a hypothesis. This is a valid approach but can sometimes lead to bias and a pursuit of results that focus on supporting the hypothesis. Curiosity can help overcome doubts.

Given the scale of research the results are often simplified into a generic outcome and model. This is particularly relevant in social sciences such as management and education.

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The outcome is usually pleasing and appeals to the reader's logic and even common sense – but it's generic so it never matches each individual situation in real life.

There is a massive volume of useful academic theory relating to experiential learning. This chapter considers some of the well known topics and attempts to plunder these resources to build a useful framework for designing and implementing experiential learning. This is supported by a number of case studies from a variety of learning situations.

If this has triggered your curiosity then read on.

Kolb (1975) is often credited with providing a platform for understanding different learning styles and how this can impact on experiential learning. The Kolb cycle explains the overall learning process and recognition of individual learning styles and learning preferences start to emerge. Each individual is unique and will have different strengths and weaknesses in the cycle of learning.

Some people approach every situation (including learning) with a "hands on" let's just get the job done approach. Others will walk around the situation assessing the known elements and issues and perhaps challenging the assumptions from the "activist". Others will step away and apply what has been called abstract conceptualisation – perhaps the "dreamers" who come up with the radical new ideas. Then there are those that want to try new ideas and experiment with all the available information from the three other stages. This is turn leads to a new action based on the new knowledge and so the cycle starts again. In good experiential learning it should never stop.

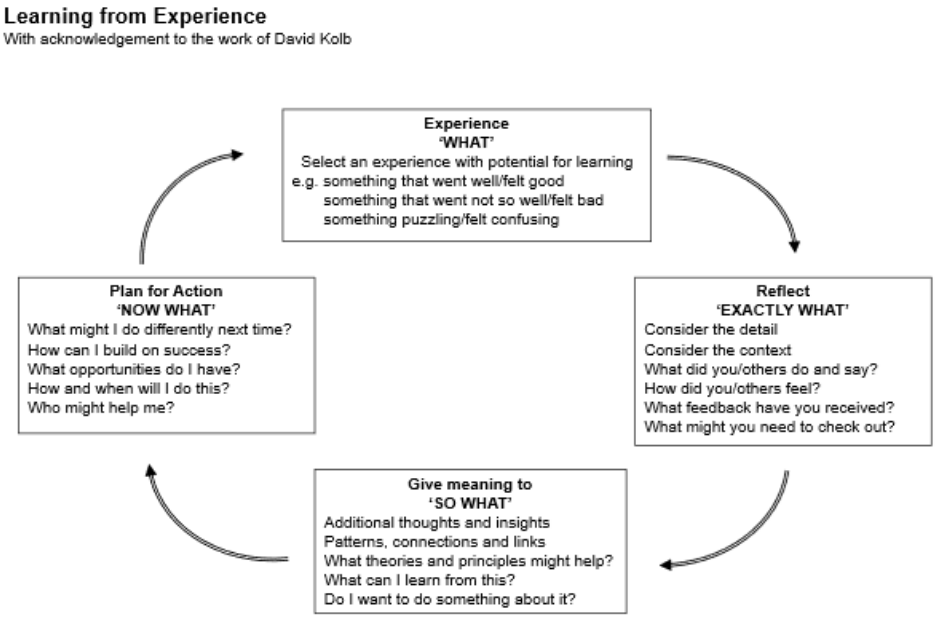
The logical development from this is that "good" learning is a very open process with teams of players who are from a range of backgrounds with different views and experiences. Put simply, diversity is a vital component for good learning.

The driver for all of this is curiosity. It is then necessary to provide the structure (loose framework) and resources to enable the learning to start and develop. Experiential learning can provide this loose framework and environment for learning based on problem solving and critical thinking.

Kolb can be summarised in four basic stages:

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Figure 1.



This model gives us a useful framework and checklist for creating an experiential learning process. It has been used to help identify preferred learning styles among students but the idea that learners can be neatly categorised is perhaps simplistic. There will be many overlaps and individual styles may change and develop over time and with new experiences.

Malcolm Knowles (1980) used the term Andragogy to help define the issues around adult learning and set out Six Principles:

1. Need to know

Adults need to know why the need to learn something – what's in it for me?

2. Experience

All adults arrive at a learning situation with experience. This may be directly relevant to the learning experience or unrelated – but it will have an impact on the learning experience for all involved.

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3. Self-Concept

Adults need to be responsible for how they respond to the learning process. Giving them control of their learning is an important component in providing this responsibility.

4. Readiness

Are they ready? Is the learning relevant to an immediate, real life situation?

5. Orientation

Adult learners tend to be disinterested in generic content and are more interested in specific knowledge and skills that solve a real life problem – particularly if the problem is immediate.

6. Intrinsic motivation

Adults learn best when internally motivated. Does the learning help them feel better, more confident and more confident? External motivation (eg learn this or you fail/get fired) may be a factor but it is not as effective.

In HE learning situations these issues can help us understand the learning process.

Any student committing to at least 3 years study and the potential for significant debt has an immediate link to the "what's in it for me?" but this only goes so far. Students also want a secure future, career prospects and some may want to change the world. The motivation factors can be complex and peer/parental pressure can add to the complications.

Experience is an interesting issue as many HE learners have little or limited experience of work and even life. Just out of school where they have been conditioned to a specific type of learning and perhaps have expectations of continuing this process but with a greater technical/professional focus. Experience may be enhanced by a gap year, external activities, volunteering and even caring responsibilities.

Having control of the learning process is an important factor. But raises issues about how an 18 year old can impact on a prescribed curriculum. Their focus will be on how they organise their time and engagement with the requirements of the curriculum. This may be less of an issue with experienced learners such as those studying an MBA or executive development.

Readiness and linking to real life situations is a critical element in motivation as well as stimulating curiosity. It can prompt asking the simple question Why? The learning framework must accommodate this by being both up to date and relevant to

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real life. Just sticking to prescribed reading and study material is unlikely to create significant learning benefits.

Problem orientation builds on this realism and relevance. But there is also a potential risk with the unlimited availability of information. Is the relevance and realism being distorted by biased reporting, misleading interpretation of information – the list is long and getting longer and underpins the reason behind this chapter.

Intrinsic motivation is critical in maintaining engagement between the learner and the learning process. Tutors and pastoral care can be important factors and the community of students working together with a common purpose is also critical in building and maintaining this motivation. This needs to be aligned with the "what's in it for me?" drivers. Conflict between the learning environment which works for many learners and the individual student needs can create disruption and even alienation of students who "don't fit in".

These core concepts of Kolb and Knowles should be highlighting both the value and the limitations of basic prescribed learning programmes based on slide shows, text books and online support materials. These are all valuable in a learning process that relies on what has been described as ladder learning – you learn something and then progress to the next step on the ladder. However, they do not meet all the needs of learners who want to be challenged, motivated and are looking for a valuable and even life changing outcome from their studies. Experiential learning brings this new dimension to the learning process.

SELF-DIRECTED LEARNING

The volume of information available to learners provides great resources for developing routine expertise. It can be resource for adaptive expertise but this requires the learner to challenge the validity and relevance and truth of the information presented.

Bereiter and Scardamalia (2006) emphasise that knowledge-building classrooms foster students' awareness of how knowledge develops and expands. Their work suggests that, in traditional classroom settings, students often view learning as a process that gradually reduces what remains to be understood, reflecting the structured and finite nature of a fixed curriculum. In contrast, students engaged in knowledge-building environments tend to recognise that learning generates new questions and areas for inquiry. As their understanding deepens, they become increasingly aware of the growing scope of what they do not know. This perspective highlights how knowledge building encourages learners to extend their thinking, connect learning to real-world problems, and continuously push the boundaries of their understanding.

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What Does "Desirable Difficulty" Mean?

The concept of desirable difficulty was introduced by Robert Bjork (1994) in Memory and metamemory considerations in the training of human beings. It describes a learning theory that emphasizes the importance of challenge in strengthening long-term learning.

Bjork distinguishes between short-term performance—such as cramming for an exam—and deeper learning, where knowledge can be recalled later and applied in new situations. Desirable difficulty promotes strategies that involve repeated exposure to material throughout a course to enhance recall and long-term retention. The real driver is curiosity – the learning is seen as a challenge which prompts new ideas and pushes new avenues of learning.

Below are several strategies commonly associated with desirable difficulty, along with suggestions for using them in the classroom.

Retrieval Practice

Retrieval practice involves regularly prompting students to recall previously learned material. This process helps strengthen memory and deepen understanding over time. Instructors can incorporate retrieval practice by revisiting key topics throughout the semester.

Interleaved Practice

Interleaved practice refers to learning related or overlapping concepts in a mixed sequence rather than studying each topic in isolation. Switching between ideas can feel demanding, but it prevents students from depending on a single method and promotes flexible understanding of broader concepts.

To apply interleaving, instructors can combine multiple concepts within a single assignment or assessment. For instance, asking students to use several approaches to literary criticism in one task encourages comparison and deeper analysis instead of simple memorization. Rather than teaching topics strictly in sequence (A, then B, then C), mixing them can lead to a richer and more connected understanding of how ideas differ and interact. Making it messy can also be fun and help the learner feel empowered.

There are several practical ways to apply this thinking.

Learners teaching other learners.

- Small groups of learners are given a topic to research. This may be a specific theory or a problem/challenge.

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- The group study and research the issue and then present to their peers highlighting their own challenges and critical evaluation in achieving understanding.
- The peers provide their own critical feedback (not criticism) and the learning cycle progresses.

This approach is used in encouraging second year students to talk to first year students about their experiences. The process is also behind experienced entrepreneurs talking to aspiring entrepreneurs.

Revision Techniques which help embed learning

- It is still necessary for learners to learn certain concepts, techniques and skills.
- Start with an A4 notebook.
- On the first page list a range of concepts, theories, techniques that need to be learnt.
- On the next clean page write one topic/theory title at the top along with the day's date. Draw a vertical line down the centre of the page.
- On the left side the learner writes down everything they know about the topic – without reference to any notes or material. This is what is embedded in the learner's head.
- Get the notes and materials and write in the right column all the relevant material which is missing from the left side. Only what's missing.
- Put to one side and perhaps repeat this first stage with other topics from the front page index.
- A few days later, start a fresh page, repeat the process for the first topic.
- The "missing" material in the right column should be less than the first iteration.
- Completing perhaps 4 iterations will result in very few missing elements in the right column.
- The learning has become embedded. However, learning can decay if not used and so the process may need to be revived to reinforce the learning at a later stage.

A recent paper in Harvard Business Review by Chengwei Liu et al (2026) while focusing on effective ways to using AI in the learning process highlighted an important feature that can be effective in most learning environments. The idea is to slow the process by introducing friction. They suggest that too little friction undermines exploration while too much slows everything down. Some learning situations need minimum friction – eg, formatting a slide deck, summarising meeting notes etc.

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Strategic friction has most benefits when used for the tasks require people to think and learn – not just produce output.

HOW DO WE TRIGGER CURIOSITY?

A paper by Alan Castel (2026) highlights some interesting and useful ideas on curiosity and how it is an important component in the learning process.

Some of the key observations indicate:

- People have a strong desire to learn answers to the questions that garner their curiosity.
- The longer you wait to get the answer, the better you will remember later. This links to the ideas on friction above.
- Curiosity is often stimulated when something unusual, interesting or unexpected happens. This can trigger a brain response that triggers dopamine and pleasure. This perhaps explains the excitement when a learner has a "light bulb moment".
- Boredom can be useful as it gives the brain space to reflect and filter ideas without any pressure.
- Keep asking "Why?"

The principles applied in these examples highlight some important features of effective experiential learning:

- Repeating the retrieval process can reinforce learning over time.
- Introduce a "challenge" to every learning situation.
- Develop progressive cycles to build progressive learning.
- Introduce friction into every learning situation.

DRIVERS OF EXPERIENTIAL LEARNING – KNOWLEDGE AND LEARNING

Experience is often a key component of tacit knowledge. "we can know more than we can tell" (Polanyi, 1983).

The whole subject of explicit and tacit knowledge is extensive and complex with many competing ideas and this goes beyond the scope of this chapter. But there are important links between the components that drive effective experiential learning.

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The internet, social media and AI combine to create a massive and growing resource of explicit knowledge. The reality is that it is not really knowledge, rather it is information which has been packaged in various formats including videos, presentations, diagrams, templates etc. The common theme is their attempt to promote the content as a 'perfect solution' to a perceived problem. A common theme is "follow these simple rules to build a successful business – it worked for……"

These can be interesting and fun but they can also be a dangerous source of misinformation and even manipulation of vulnerable people or those looking for a quick fix. Artificial intelligence compounds these issues by combining data and information using complex algorithms to produce even more credible outputs. These apparently credible outputs are reinforced time and again until they start to resemble forms of brain washing and in extreme situations even build cults and groups of extreme views. This is a downside of repeating the message. This is when group think (Janis, 1982) can kick in to reinforce the consensus within the group.

This goes to the heart of the Chapter Title – Information can destroy curiosity and critical thinking that requires much more than easy solutions – which are often wrong or misleading. The clock can't be turned back – nor should it be. For all the risks and frustrations, technology in various forms is impacting and even driving the way learning takes place and the way the learning is utilised in every area of life.

One of the challenges of this format of learning is the impact of repeated messages which seem to reinforce arguments without providing supporting evidence. The validity of the messages needs to be checked and confirmed. This creates its own cycle of critical evaluation which underpins the learning process.

This might provide some clues of ways to design experiential learning to minimise the downsides, such as:

- What is the original source of the ideas being put forward?
- Are the ideas/materials referenced?
- Is there an element of "everyone knows that……" without explaining who "everyone" is?
- Are there strong influencer inputs which might create a biased approach?
- Influencers include traditional media as well as social media.
- Is there evidence of group think (Janis, 1982)?

Curiosity is a form of tacit knowledge. It's difficult to understand where it comes from and it is often unstructured. It can often start as apparently crazy ideas and even involve playing like children. What drives curiosity might be a mystery but it probably covers many hours/years of doing things and accumulating insights into situations which can't be codified into explicit knowledge. Malcolm Gladwell provides some good insights into this aspect of knowledge and the way it is applied in practical

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situations in Blink (Gladwell, 2005). Instinct, gut reaction, intuition – feelings that are difficult to define but are important dimensions in learning.

These feelings work across all boundaries and are important for tutors and course designers to recognise to support a wide variety of students. Stating "I don't know" should not be seen as a negative response but a trigger for further enquiry and investigation and an ongoing search for the 'right questions' rather than the 'right answers'.

The information held within the formal control systems is just that – it is data and information. It is not knowledge. Knowledge is created by the way that individuals (at all levels) and groups of people apply the information and data to create improvements or change. For this to be effective the information and data must be shared and disseminated throughout the group/organisation. This can be quite challenging and sometimes it is necessary to limit access to some of the commercially sensitive information. Some of these limitations can be overcome by applying a simple factor to the original data so that the actual numbers are camouflaged.

How can all this information and data be developed into knowledge and learning which can help to drive the intrapreneurial culture?

There are some useful models which help the process of Knowledge Management. This is quite a complex range of theory which extends beyond the scope of this book but here's a summary which may help your thinking. We start with the well known principle that there are two main types of knowledge – explicit and tacit.

Explicit knowledge is the documented and codified information which is structured in systems and processes to make it meaningful and useful to people doing their work. Examples will include the on-screen prompts used in call centres which is based on the accumulated experience of dealing with customer enquiries, complaints etc. Training manuals, quotation and tendering procedures along with the associated costing systems are also examples.

Tacit knowledge is what's in people's heads. It's difficult to codify because it is linked to the way the individual thinks and their experiences in dealing with certain situations. Tacit knowledge helps us to understand why different people can take the same information and interpret it in different ways. If used creatively these different thinking processes can drive innovations – and are key to building the intrapreneurial culture.

A well documented approach to a progressive process was developed by Nonaka and Takeuchi (1995) with the SECI model.

During any learning experience knowledge is generated. This is particularly true of experiential learning where the process encourages research, investigation, review and critical reflection within the learning group.

The key objective was to understand how tacit knowledge can be converted to explicit knowledge. The thinking is that by codifying tacit knowledge into explicit

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knowledge its is possible to expand the available knowledge available through codified systems available to everyone.

The SECI model provides a dynamic, spiral process that explains how knowledge is created and developed within groups and organisations. The model illustrates how knowledge moves between tacit and explicit forms through four interconnected stages.

The first stage, socialisation, involves the transfer of tacit knowledge from one individual to another through shared experiences. Individuals working in groups share ideas in a relaxed environment without strict rules or restrictions.

This is followed by externalisation where tacit knowledge is expressed in a more concrete and communicable form such as notes and shared experiences. It's critical that individuals are encouraged to be open and honest and they are not subject to criticism although challenging discussion is an important part of the process for shared understanding.

Then comes combination, where different sources of explicit knowledge start to develop. Information is codified through activities such as meetings, documentation, discussions, or communication networks.

Finally, internalisation occurs when individuals take this new information and apply their own thoughts, interpretation and beliefs. This starts the cycle again and is linked to the whole process of learning through practice, as individuals apply new knowledge in real-world situations and gradually embed it into their skills and experiences which can then be shared with the group.

Source: Nonaka and Takeuchi, 1995

The model was presented as a way of building knowledge and implies that it creates a neat, codified process of converting tacit to explicit knowledge. This is the limitation of the model – tacit knowledge always exists and some can't be codified. You can't codify how people think. However, there are useful elements that help support experiential learning. The socialisation process is great for team building and sharing individual experiences and different perspectives.

Externalisation builds on this by encouraging open discussions, enquiry and critical thinking.

Combination pulls it all together into codified components which build the shared body of knowledge – group and individual notes, links to relevant concepts and theories with potentially new interpretation.

Internalisation enables each individual to share and utilise the explicit knowledge created. But each individual will interpret, process and utilise this explicit knowledge in their own unique way. This is the tacit knowledge element which is always present.

Further SECI cycles will bring out more insights and conversion of tacit to explicit knowledge but the tacit element is always there. Experiential learning is a perfect platform utilising this thinking process

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CASE STUDIES

3 Day Director Training and Upskill

Context

Family owned business with three second generation family directors plus nine senior managers being groomed for building the business. The MD (one of the three directors) wanted the whole team to understand and manage the complexities and challenges of growing an already successful business. The founder was proud of never having debt and always maintaining a substantial positive bank balance. The founder had stepped back from the business on a day to day basis.

The three day programme was based on the Institute of Directors development programme for company directors which was delivered by various universities:

Day 1 – Developing strategic skills
Day 2 – Building an implementation process for the strategy
Day 3 – Review of control and governance issues as the business grows

Ongoing support and mentoring.

Participants

Three family members taking over the direction of the business from the founder.

Senior managers from the three divisions of the business with a range of skills and expertise – sales, production, finance, quality control etc.

Technique and Process

The programme started with an introduction to the core principles of strategy and started the group working in 3 teams independently. Resources were available but no significant formal teaching. Teams were encouraged to think creatively with few boundaries imposed.

The second day introduced each team to a computer simulation which enabled them to translate each of the three strategies into financial forecasts. Each team was given space to work with the simulation with minimum guidance.

About one hour into the process one of the three directors (who had appointed himself as a team leader) suggested that the simulation had a fault. Everything stopped.

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Facilitator – Can you explain the problem?

Team Leader – We have this great strategy developed yesterday which has driven much higher profits but the bank balance is showing big overdraft. This can't be right.

Group discussion – What's going on here?

The challenge of the "error in the simulation" highlighted the importance of balance sheet and cash flow management rather than just profit and loss. Given the principles of the founder, this had never been a critical issue for the current directors and senior managers. It was a "blind spot"

The simulation contained a core data sheet that automatically applied key ratios to the figures entered by the teams. This was available to them but no one had appreciated the importance or asked about it. Seeing the ratios and the impact of changing them was a lightbulb moment for all twelve participants.

Strategies were reviewed and adapted.

The final day integrated the learning into the role of directors and boards in the management and governance of the business.

Outcome

The programme and follow up mentoring built a management team with broader understanding of the skills needed to run a sustainable business rather than just functional departments.

Some months later the MD was able to restructure to create a formal group structure with greater independence for each division under the umbrella of a holding company. Each division was run by confident and professional managers who were not afraid to push boundaries.

The business enjoyed significant growth in turnover, profits – and cash generation – enabling on-going investment in product development and associated capital spend.

Key issues for Experiential Learning

They were there as instructed by the family directors – but they knew it was part of career development so they were committed. Their experience and the culture created by the founder had resulted in several blind spots and even limitations in the accepted practices in the business.

The process challenged them with new ideas and approaches and this triggered their curiosity. Challenging the status quo in the organisation had not been encour-

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aged – this is the way we do things here. The three family directors wanted to change this but were too closely involved in the status quo that external support was needed.

The challenge of the cash flow problem created uncertainty which in turn triggered curiosity which started discussions starting with "Why?" The group then embraced the new knowledge and started pushing their boundaries.

The actual learning about "over trading" was a trigger but the real learning was the importance of asking the right questions and being prepared to challenge the status quo.

Critical to the success of the learning was creating a problem (the cash flow) which required a stop and challenge. This was the friction needed to enable each individual to take control of their own learning, work with the team, challenge the original assumptions and find new ideas and solutions which became embedded in their future work.

Innospace Negotiating Workshop

Context

A well established start-up incubator linked to a university created a follow up programme from a two day bootcamp which helped aspiring entrepreneurs build businesses from initial ideas and vision. The bootcamp was deliberately generic to provide a broad introduction to the realities and necessities of building a sustainable business or social enterprise. Follow up mentoring helped move beyond the generic and to focus on the specific needs and support for each individual business. Follow up workshops on specific topics (often requested by the entrepreneurs) were provided throughout the year. Each participant had their own unique quest.

Developing negotiating skills was an important topic requested by many. The focus was on negotiating in both buying and selling situations.

Participants

Ten entrepreneurs took part with a broad mix of backgrounds and different stages of development.

Technique

The key skill to develop was the ability to ask questions, listen and avoid obvious quick answers. The negotiations were held in short sessions (sometimes as short as 10 minutes) to give the participants the opportunity to reflect and consider the next stage. The short bursts also helped limit closed loop discussions between the

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opposing teams which initially just focused on price. The facilitator prompted the reflections and potential choices for the next sessions.

The immediate response to the briefing for each team was to focus on price. The sellers wanted the highest price. The buyers wanted the lowest price. How to break the deadlock – the gap seemed insurmountable? This is common feature of many negotiations.

Process

The participants were formed into two groups – buyers and sellers, There was a general briefing document about the overall negotiation with specific briefings for each group giving more detailed information about their own requirements and situations. The briefings were short leaving a clear need to gather more information by each group and to develop a strategy for both the process and outcomes. As the negotiations proceeded the teams started to realise the importance of taking time to explore issues other than price such as long term relationships, the personal objectives of the negotiators and a more detailed breakdown of the nature of the products and the impact on value (not price).

The briefings were often interrupted or disrupted to help the teams manage unexpected events – a reality in any negotiation. This created friction which enabled reflection and critical review.

Outcome

The initial position was the buyers wanting to pay £100 per unit with the sellers wanting £300 per unit.

The deal was agreed with both sides believing they had got a good deal at £310 per unit.

This was achieved by asking the right questions and listening to the answers without making assumptions and guesses. The groups achieved a "meeting of minds" with the real prospect of a long term relationship to benefit both groups – at every level including the individuals involved..

Key Experiential learning

Don't make assumptions based on limited initial information/briefing.

Listen and ask questions to understand the needs of the other side. Open ended questions are important tools in the process.

Price is rarely the only factor.

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Use available information as a starting point to build on, using open questions and listening. Sometimes called active listening. Feedback the understanding of each issue at regular intervals. This creates more friction.

Don't jump to conclusions.

Don't try to close too quickly.

Some months after the workshop one of the participants (a sole trader start-up) had a supplier problem from a major multinational and used the techniques to negotiate a substantial rebate – from a company with a reputation for never giving discounts.

OUBS MBA Creativity Module

Context

The MBA Creativity Module ran from 2000 to 2010 as a 6 month in depth module focusing on creativity and innovation. The course team built a life changing experience for both students and tutors.

The module consisted of blended learning with online study, online and face to face tutorials and a weekend residential school where students from around the world came together for several days of intense activity in several tutor groups. Most residential schools for the MBA modules were highly structured with case studies and group activities. The creativity residential was different and much less structured and reversed many conventional approaches.

It was normal on other modules for students to be allocated to specific tutors on a random basis. The creativity residential started with a "Tutor Fair". Tutors set up a stand to promote their skills, approach and even likes and dislikes. The students arrived at the "Tutor Fair" surprised and intrigued. They were encouraged to check out each tutor stand, ask questions and even challenge some of the ideas of the tutors.

The tutors came from a wide range of backgrounds and had different professional skills and approaches. They all had practical skills in building creativity in the workplace. The students then selected their preferred tutor(s) by allocating 1st, 2nd and 3rd choices. This was the basis for forming the tutor groups.

Another unique approach was a requirement that in addition to the structured programme each tutor was required to provide additional workshops. Students were free to pick whichever workshops they wanted to attend. The only rules for these workshops were:

- They had to be on a topic that the tutor was skilled at and/or qualified in.
- The topic must not be covered in the module syllabus.
- It must encourage creativity and/or innovation.

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The range of workshops was enormous – hypnosis, NLP, modelling, to name just a few.

Each workshop had to be signed off as appropriate by the school director and one workshop caused a debate: Creativity on the Dark Side – Fraud and created a lot of curiosity with a large group signing up for the session.

The workshop was designed and facilitated by a tutor with direct experience of several corporate fraud cases with different scenarios. The tutor had worked with senior police engaged with pursuing organised crime, local police involved in arrests and prosecution and discussions with SOCA (now the National Crime Agency).

Workshop Structure

The workshop usually attracted 30 plus students. After the initial introduction about the nature of fraud, motivations, different types etc, the students were given a short briefing document to provide a common context and self-selected into two groups. A group to prevent fraud and a group to design and implement a fraud. This created some great fun and banter as the two groups split into breakout areas. This created some effective socialisation.

The process was deliberately loose and flexible with the tutor on hand to answer questions and provide a few hints. The students were encouraged to apply relevant techniques from the module. Time was limited but each group presented back to the other group and the tutor. Everyone was amazed at the outcomes which highlighting some major creative thinking. The final short session had the groups reversing roles and reflecting on what they might do differently having seen both sides.

Key Experiential Learning

The tutor selection process encouraged fact finding, critical evaluation and making choices based on available information as well as feelings and trust.

The Fraud workshop created curiosity and provided students with an opportunity to start with a completely blank sheet – everyone thought they knew about fraud but no one had (knowingly) experienced it. There was no material anywhere in the MBA programme covering fraud even though Enron had happened.

The introduction to the workshop discussed what motivates fraud in all shapes and sizes from petty theft from the stationery store to major high value fraud. Sometimes fraud is not triggered by immediate personal gain but to keep a failing business alive. This developed into establishing key characteristics of many frauds – there are often common characteristics and triggers. It even considered the features of people in the organisation who might be able to commit a fraud – not always the obvious candidates.

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This was experiential learning from a blank sheet with a lot of information and ideas to process and reflect on – without a clear and codified outcome. That's the nature of fraud.

Nobody became an expert in fraud. They were exposed to a problem which was difficult to define and required critical thinking with collaboration to explore as many options as possible. This applied to both groups. It is often in plain sight but it's not seen. We don't know that we don't know.

Often the role of a company director (particularly the non-executives) is to spot clues and ask the challenging and critical questions. This is a skill that requires the use of explicit data to analyse facts combined with tacit knowledge which comes from experience. Many of the students were actual or aspiring company directors, The workshop didn't make them experts in fraud but it gave them insights into some of the drivers as well as the confidence to challenge the explicit data presented. Many frauds pass through several levels of corporate systems, audits and investor evaluations. They are often created with significant knowledge about the way the organisation and individuals work. Combatting this requires an equal or superior understanding of the possibilities and even an intuitive approach to things that don't feel right. This is open ended experiential learning.

Innospace and Bootcamp

Context

The whole programm built a long-term ecosystem for entrepreneurs in HE. The programme was developed and launched in 2012 and ran until the end of 2024 when it was shut down. It was initially developed as an innovative and exciting programme centred around a two-day bootcamp, follow up mentoring from a range of industry experts and complementary workshops, pitching events and funding opportunities.

The programme was part of the facilities provided by Innospace, the incubator facility supported by Manchester Metropolitan University. The businesses based in Innospace joined in many of the events and also provided support and advice to many of the bootcamp members. The bootcamp ran twice each year with around 100 start-ups attending each year.

Structure

Over the twelve years the programme evolved and developed as needs changed and the facilitators adapted and went through their own experiential learning process. Several alumni came back to the programme as facilitators, speakers and mentors after starting and building successful businesses. This community continues to

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function and is expanding even after the programme was terminated with some new workshops evolving.

The two-day bootcamp was deliberately designed to be different to most similar HE endeavours. The programme was activity and problem solving focused with minimal use of powerpoint and maximum use of group activities.

Day 1 focused on core skills and knowledge needed for any business and was intense, energetic and fun. The day concluded with an inspirational speaker and networking which helped to bring practical reality to the entrepreneurial dream.

Day 2 started with the Enterprise Bazaar – a quick fire round of sessions where a relevant topic was presented and discussed for 15-30 minutes with no powerpoint allowed. The objective was to encourage each participant to think about critical issues to their business idea. It didn't provide solutions but helped each one to be critical and ask the right questions.

This flowed into a free format afternoon with around eight local business owners being available to answer questions and provide advice. The participants were able to wander around talking to the facilitators and mentors and building their own ideas. They took control of their own learning as well as sharing ideas with others in the bootcamp. Feedback showed that this was regarded as a great way to pull things together and consolidate all the learning and knowledge sharing. This was self-directed learning within a supportive environment.

An important timing issue – the bootcamp was deliberately run on a Friday and Saturday. Some academic comments expressed the opinion that the Saturday drop out rate would be very high. The reality was the opposite – indeed on the first bootcamp 40 people turned up on Friday and 41 turned up on the Saturday. One of the participants (a student) was so excited she brought her sister to the Saturday session. This level of engagement was normal throughout the twelve years. The thinking behind this design was that being an entrepreneur requires flexibility and commitment. Just working on a Monday to Friday basis was too easy.

This reflected Desirable Difficulty as well as friction throughout the two days.

When Covid hit, the programme we quickly converted to an online bootcamp running two hour sessions over two weeks covering 7 days. This also proved successful and was continued after Covid to provide both face to face and online versions. The protracted period created space for reflection and independent learning as well as introducing friction.

Early in the overall programme it was realised that some participants were at a very early stage in their entrepreneurial thinking and some did not have a clear business idea – but they had a real passion for starting a business. A pre-start programme was introduced which created some great business ideas some of which have developed into successful businesses. This was how the ecosystem evolved and developed.

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Each element of the programme was an experiential learning process in its own right and built into a complete and long-term experience which has supported many successful start-ups.

The entire programme was complemented by regular workshops – often developed in response to requests from the participants. These were not academic lectures but interactive learning and knowledge sharing session ranging from two hours to full day.

Running through all workshops were issues on:

- Mindset
- Effective research
- Communication
- Being authentic
- Having fun and sharing ideas
- Making mistakes
- Taking responsibility

Outcome

This programme demonstrates the importance and value of long term and sustainable learning programmes where every element focuses on:

- Identifying challenges and problems.
- Critical analysis and reflection.
- Building a community where knowledge and experience is shared in a supportive environment.
- Pushing boundaries, experimenting and learning from mistakes.

These all combine to create a complete learning system with a flexible structure that accommodates different learning styles and capabilities.

Warehouse Initiation

Context

While this project was based in an FE college rather than HE it is still relevant as it highlights the way experiential learning can be successful in diverse groups with limited academic background. Inclusion is key and this can then drive economic activity.

A major national logistics business was recruiting warehouse staff for the run up to Christmas. These were low paid jobs and a local college got the contract to take

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long term unemployed people and prepare them for the recruitment process and an introduction to working in a warehouse. The training lasted 5 days and consisted of writing CVs, interview and presentation skills and basic behaviour expectations. Each session was heavily reliant on powerpoint presentations by college teachers with handouts and notes.

The final session was focused on preparing them for working in a warehouse. This was the experiential learning challenge.

Participants

Around 25 people of mixed ages and backgrounds were engaged in each of 4 cohorts, giving a total of around 100 participants. Most had low basic education background but many with strong intelligence (not formally assessed). Several were from eastern Europe and Asia but generally had good English language skills. Some appeared to have a history of various substance abuse issues and some with criminal records. Behaviour was an issue with some of them.

Technique

The facilitator had agreed with the college to break the traditional "classroom cycle" of formal teaching and create a practical and hands on experience. The process was fully documented.

The participants arrived at 9am expecting a lecture but were confronted with a large room with various tables and chairs in no particular layout. This caused some comments – but they were curious and the facilitator had their attention.

What followed was a practical process of setting up 4 departments – sales, production, warehouse and distribution and the systems and processes to run the operation. This was all done from scratch.

Process

The participants volunteered for each department – with the understanding they could be moved during the day to meet peaks in workload in each department. Each department set up their work area with the tables and chairs. This was simple and an easy ice breaker which started them working together.

Key tasks – Stage 1

- Create a product coding system to enable tracking of orders from sales through to delivery along with stock control.

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- Generate sales for each product (a range of vouchers for events).
- Produce vouchers for initial stock levels.
- Process sales through the warehouse and distribution functions.

After about 90 minutes the whole room was buzzing with lots of confident (even over confident) chat between the groups. Then disaster strikes.

They were tasked with doing a stock check to ensure nothing was missing.

Products were missing – but how and where had they gone missing?

Perhaps they were just lost or mislaid in the system. Was there an error in the system?

Or had they been stolen?

The groups came together to do a simple audit with minimum direction. They found errors in the system, misplaced product, miscounted product – but there were still products missing.

The facilitator had "stolen" a few products – which were then returned. This created some friction and highlighted a feature in most warehouse - theft. Each group then did a reset of the system which required them to resolve their own issues as well as working with the other groups to build a more robust system.

This got to lunch with a real buzz of achievement.

The aternoon continued to run the system with much greater smoothness and collaboration between the groups. With a final audit around 4pm and few problems and lots of enthusiasm.

Outcome

A group of nervous individuals had worked in teams on a flexible basis and developed skills and understanding of the realities of not just working in a warehouse but also the way a warehouse worked and interfaced with every element of the business. Confidence was high.

The programme was a success with around 95% of participants offered jobs (over 100 people).

Pulling it all together

Each of the case studies highlights the value of friction in the learning process. It should be designed into every programme but it can also be a spontaneous reaction to an issue which emerges during the learning.

It is important to encourage this friction and not to stifle this with artificial time and structure issues. Cramming too much information into a programme can limit or even destroy the opportunity for friction. Learning should be designed to

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accommodate friction. It is better that a learner absorbs 90% of a limited amount of knowledge rather than 10% of a large amount. It's important to recognise this in the design of complete modules and courses rather than just the individual components.

Having considered a range of case studies built around experiential learning it is possible to build a framework which highlights the key features and structures of successful experiential learning projects. This is not a definitive framework as it will evolve in the same way that experiential learning evolves with new situations and opportunities. The boundaries are constantly being stretched.

The role of the facilitator is critical in many situations. The facilitator must be comfortable with the "experience" and able to communicate in a down to earth and practical way without jargon. The student experience is to learn new ideas and techniques so they can't be expected to know all the jargon and technical wording that may be available to the facilitator.

The facilitator may need to be very experienced in the topic of the learning. For example, the facilitator in the warehouse project had a background of running a large factory with a warehouse and national distribution. But this should never be a reason to lecture or even talk down to students demonstrating some form of superior knowledge. This blocks the learning process and can even create strong negative reactions rather than stimulating curiosity and learning.

All good learning environments feature:

- Details of all those impacted by the experience
  - Students/learners
  - Teachers/professionals with relevant knowledge and expertise
  - Mentors
  - Inspirers
  - Employers (actual and/or potential) supporting the learning
  - Regulators and professional bodies (eg for CPD)
- The context within which the learning takes place
  - Part of an academic module/programme with formal assessment
  - Induction with a new employment
  - Workplace training
  - Apprentice training
  - Redeployment
  - Upskilling for job progression
  - Succession planning/preparation
- The assessment criteria which may be quantitative as well as qualitative
  - Attendance for specific events both face to face and online
  - Engagement with group activities
  - Completion of formal assignments (reports, reflections etc)

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- Competencies acquired and developed during the programme
- Use/abuse of AI support and acknowledgement

At each stage and at each interaction the experience creates an opportunity to re-evaluate the learning and how well it is meeting needs of the learners as well as the overall (high level) objectives.

Attempts to stifle or even kill this on-going evaluation and assessment will result in a failure of the project – even if the initial evaluation might seem misguided. Getting things wrong and learning how to fix them is a fundamental part of successful experiential learning.

Every student arrives at university with a unique package of expectations, hopes, dreams and aspirations. These will develop and change as the experiences and learning develop each year and each year creates a new transition with opportunities and challenges. This process continues from graduation to employment and career building whether as an entrepreneur or an employee. The process for each individual will be different. Some may leave HE after graduation, others pursue a masters or doctorate and may even stay on as a researcher or academic and teacher.

What if experiential learning replaced the formal learning process?

This is a big challenge which will require:

- Skill and knowledge development for academics and teaching staff.
- Changing the expectations of students at entry level as they are conditioned to expect more formal teaching.
- Finding appropriate Deep Smarts (not just experts but people with deep insights) to help build the necessary insights and understanding.
- Total commitment to inclusion at all levels in the organisation.
- Elimination of all processes, structures and culture that enables any form of exclusion.

The further challenges flow from the paradox in the chapter title.

Everyone is confronted with massive and increasing volumes of data and information some of which is packaged as knowledge. There are many clever people using technology to influence the way we all think and behave. This noise can create and distort different versions of reality. Self-directed learning is enabled by access to enormous volumes of information but this also creates the need for a supportive environment to encourage questioning, critical reflection and curiosity rather than just acceptance of questionable "facts" that at best may be misleading and at worst dangerous.

As AI technology evolves and improves the risks of distortion increases but there are also opportunities. The current development of some of the major AI models

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seek to access every possible source of information regardless of the background or credibility. Searches based on this breadth of information can produce what is becoming known as "word soup/slop" and can even create dangerous conclusions and suggestions. The algorithms can then present this information with significant bias which may be unintentional but may also be deliberate in promoting different campaigns and objectives.

Depending on our personal profile and thinking process this will often reinforce established views. The individual can deliberately filter out any material that they find disagreeable or uncomfortable which reinforces and confirms their original views. Thes people are in a world where the objective is to win arguments rather than consider options and choices.

Experiential learning can flourish when the information available is achieved through critical enquiry and questioning in a proactive manner rather than just responding to suggestions based on previous "likes" and searches. Technology and AI can't be stopped but the challenge is to develop skills in the students to filter out the noise and use the strengths of technology to push critical thinking and enquiry as far as possible. This should be a core objective of experiential learning in this new era of technology.

One possible approach is to create more limited information databases which have restrict the data accessed to more relevant topics. This approach is being developed in some specialist areas such as local government and public services.

Creating specialist databases for topics such as fashion, climate change, etc may help to create focus while leveraging the power of AI which will enable the data to grow and (hopefully) improve in a similar way to the SECI model (Nonaka and Takeuchi, 1995).

Tacit knowledge and the ability for individuals to build and develop what's inside their heads is the key to building curiosity and challenging the noise and distortions of current systems. But this can be developed in many ways and the individual has the power to use their tacit knowledge in any way.

The nightmare that some predict is where the tacit knowledge is taken over by the machines and humans lose control…….

Final thoughts

One effective approach to experiential learning in the classroom is to have small groups (or individuals) provide a training/learning session to their peers. They choose a specific topic, theory or area of interest and present to their peers. The objective

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(and basis for assessment) is they extent they can make it interesting and relevant without just presenting data/information in a conventional framework.

Both the presenter and the audience gain deeper insights and understanding. They have created a “desirable difficulty”.

Feedback from peers is an important part of the learning process – for everyone.

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KEY TERMS AND DEFINITIONS

Core Competencies: A great strength of any organisation, team or individual which is often built up from years of experience and collaboration between individuals. This can be a great asset to any experiential learning but beware of core rigidities.

Core rigidities: When core competencies become embedded they can create a negative environment for curiosity and change. “That’s not the way we do things” can block learning and curiosity. This is particularly relevant when this thinking and culture is driven from the top.

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Explicit Knowledge: Data and information which can be combined into knowledge which can be codified and shared.

Inclusion: All experiential learning benefits from inclusion at all levels. Any form of exclusion will limit the full benefits of experiential learning.

Inversion/Reversal: A creative thinking technique for deliberately looking at an issue from a different (opposite) direction. This creates a new perspective and can help understand alternative points of view which can help the experiential learning process.

Tacit Knowledge: Knowledge which exists in peoples' heads. While it is possible to develop some tacit knowledge into explicit knowledge (eg SECI model), 'pure' tacit knowledge can't be transferred as it is closely linked to the individual and their experiences and values.

What we know and What we don't know: The challenge of recognising that there are many things an individual doesn't know and some times the not knowing is not known or recognised. This is why the widest possible range of inclusion can benefit any learning process.

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Chapter 14
Skills for the Future Economy:
Rethinking Pedagogy and Learning Pathways

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EXECUTIVE SUMMARY

Technological advancement, globalisation, and increasing competition are profoundly reshaping the global economy. Consequently, it has become evident that traditional approaches to work must be re-evaluated, as new skill sets are required to meet the demands of an emerging economy characterised by green industries and AI-driven automation. This chapter critically examines contemporary pedagogical theories and learning pathways, with the aim of rethinking them to better equip learners with the skills necessary for the future economy. Through a review of interdisciplinary literature and analysis of emerging trends, the chapter identifies the skills gaining relevance across various sectors. It evaluates the conventional education system and proposes learner-centred approaches that foster experiential and lifelong learning.

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Furthermore, the chapter offers recommendations for educators, educational institutions, and policymakers to ensure that learners are adequately prepared for the evolving economic landscape.

INTRODUCTION

The global economy is currently undergoing rapid transformation, driven by technological innovation, demographic changes, and evolving models of work. Traditional skill sets are increasingly inadequate for the demands of highly digital, interconnected, and knowledge-based industries (Rikala et al., 2024). Employers now seek individuals who are not only technically competent but also adaptable, creative, and capable of lifelong learning (Muzam, 2023; Fajaryati et al., 2020). According to Thi & Thi (2020), both technical and soft skills occupy distinct yet equally important positions in the employment landscape. Soft skills such as empathy, flexibility, emotional intelligence, and other interpersonal competencies are becoming particularly valued (WEF, 2025). Moreover, the ability to think innovatively is essential in today's global economy (Fajaryati et al., 2020). WEF (2025) states that the major skills that are required for the future include: critical thinking and creativity skills, communication and collaboration skills and global awareness. The organisation further emphasises that technology is not only a driver but also an enabler.

Fourth Industrial Revolution (Industry 4.0) is majorly technological driven whereas the emerging fifth Industrial Revolution (Industry 5.0) emphasises human-centric approaches (Xu *et al.*, 2021). However, a significant skills gap exists in relation to the demand of Industry 4.0, and it is expected to widen with the emergence of Industry 5.0, posing a major challenge to the global economy (Baier et al., 2025; Tee et al., 2024). The role of educators, higher education institutions, and policymakers in preparing learners for the future economy is therefore to ensuring both economic competitiveness and social resilience. This skills gap is closely linked to shortcomings within educational institutions, particularly their failure to regularly review graduate attributes and ensure that graduates possess the employability skills required for the future workforce (Fajaryati et al., 2020; Karishma & Dirk, 2018).

Higher education has a clear responsibility to equip learners with the necessary skills for the future (Kumar & Hooda, 2024). While experiential learning is already a key component of university education, there is a pressing need for institutional leaders to work in partnership with the industry in rethinking pedagogical approaches and learning pathways. Such collaboration is essential if universities are to produce graduates who are well-prepared to meet the evolving demands of the future economy (Li, 2024). All stakeholders including policymakers at governmental and institutional

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levels, educators, the business community and learners, have significant roles to play in ensuring that the learners are ready for the future economy.

Gaps in the Literature

Despite the growing body of research emphasising the importance of future-oriented skills, there remains limited consensus on how these competencies should be effectively operationalised and integrated into educational and workforce training systems. Existing policy frameworks often prioritise technical proficiencies such as coding and artificial intelligence while underrepresenting equally critical soft skills, including resilience, empathy, and ethical reasoning, which are indispensable for navigating the complexities of the future economy.

Furthermore, much of the current scholarship is concentrated on developed economies, leaving a significant gap in understanding how future skills can be cultivated within emerging markets and developing countries. This imbalance restricts the global applicability of proposed pedagogical models and skill development strategies. Addressing these gaps requires a comprehensive approach that not only identifies evolving skill sets but also critically evaluates existing pedagogical frameworks and explores innovative, inclusive methods for teaching and learning. Such approaches must consider contextual differences across regions and socio-economic environments to ensure equitable access to future-ready education.

Chapter Objectives and Structure Overview

The primary aim of this chapter is to critically examine contemporary pedagogical theories and learning pathways, with the objective of rethinking them to ensure that learners are equipped with the essential skills required for the future economy. This chapter adopts a primarily conceptual approach supported by illustrative cases drawn from the extant research.

In pursuit of this aim, the chapter addresses the following specific objectives:

1. Identify the evolving skill sets necessary for success in the future economy.
2. Critically evaluate existing pedagogical models and learning pathways, highlighting their strengths and limitations.
3. Explore innovative and inclusive approaches to teaching and learning that effectively prepare learners for the demands of Industry 4.0 and Industry 5.0.
4. Clarify the roles and responsibilities of key stakeholders, including educators, higher education institutions, policymakers, and industry partners, in equipping learners with future-ready competencies.

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To achieve these objectives, the chapter is organised into five key sections. It begins with an exploration of the future economy, focusing on its principal drivers and transformative forces. The subsequent section identifies and analyses the essential skills required to thrive within this emerging economic landscape. The fourth section provides a critical review of traditional pedagogical approaches and introduces contemporary models designed to foster the competencies necessary for Industry 5.0. Finally, the chapter concludes by examining the shared responsibilities of stakeholders in shaping a responsive and inclusive education system that prepares graduates for a dynamic and interconnected future economy.

UNDERSTANDING THE FUTURE ECONOMY

Globalisation remains a key determinant of the future economy, facilitating cross-border business activities and enabling the exchange of technology, values, economic systems, and ideas across continents (Cornali & Tirocchi, 2012). According to Gangele and Kumar (2025), globalisation transforms the global economy by reducing barriers to trade and intensifying competition. This phenomenon has contributed to substantial growth in foreign direct investment (FDI), market expansion, economic development, and poverty reduction in numerous economies (Verbeke et al., 2018; Gangele & Kumar, 2025). The business landscape shaped by globalisation is characterised by technological adoption and heightened global competition. Consequently, the workforce must continuously upskill and acquire new competencies to meet the demands of an evolving market.

The influence of climate change on the global economy is significant and cannot be overstated. Its adverse effects on productivity and financial markets pose significant threats to economic growth and exacerbate existing inequalities (Baker, 2025). Projections by Green Central Banking (2025) indicate that, without substantial progress towards a green economy, global economic growth could slow by as much as 30% by the year 2100. Consequently, the adoption and transition to a green economy are imperative for achieving sustainability and mitigating the detrimental impacts of climate change (Shahzad et al., 2022). Furthermore, Gangbe and Idowu (2025) underscore the pivotal role of technology and education in facilitating the integration of green business practices. Considering these challenges, there is an urgent need to cultivate a workforce equipped with green skills to meet the demands of the future economy.

The current transformation of the global economy is profound and driven by multiple factors. Among these, the Fourth and Fifth Industrial Revolutions play a pivotal role in reshaping business practices. Industry 4.0 is primarily associated with technological digitalisation and automation, whereas Industry 5.0 seeks to

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harmonise technological advancement with resilience, sustainability, and human-centric approaches, with generative artificial intelligence at its core (Mosaku et al., 2025; Hosseinian-Far et al., 2025; Nahavandi, 2019; Noble et al., 2022). The rapid technological innovations underpinning Industry 4.0, coupled with the integrative strategies of Industry 5.0, are driving significant changes in business operations, thereby necessitating the acquisition of new skills for the future economy (Ross & Maynard, 2021). In response to the challenges introduced by Industry 5.0, substantial investment in workforce training is imperative, as employees must reskill and upskill to remain relevant in this dynamic economic environment (Gamberini & Pluchino, 2024). Addressing these challenges requires a comprehensive review of evolving skill requirements, pedagogical models, and inclusive teaching strategies, alongside a clear emphasis on the shared responsibility of key stakeholders.

SKILLS FOR THE FUTURE ECONOMY

To be relevant in the future economy, both individuals and organisations require evolving skill sets that enable adaptability, innovation, and sustained competitiveness. Wu (2025) identifies these skills as spanning cognitive, digital, interpersonal, and technical domains, forming the foundation of a resilient future workforce. Furthermore, economic success will increasingly depend on meta-category skills, human-centred capabilities, and advanced problem-solving competencies. Jackson and Chapman (2012) emphasise that weak metacognitive skills must be addressed, as they constitute a vital component of effective management. Collectively, these dynamics underscore the necessity for continuous learning and adaptability in an increasingly complex global economy.

Analytical Thinking and Problem-Solving

One of the most critical competencies for the future economy is the ability to analyse complex issues, which is intrinsically linked to analytical thinking and problem-solving skills. Matthee and Turpin (2019) argue that integrated knowledge is essential for addressing future challenges. A systems approach enables individuals and organisations to comprehend and manage complex problems, particularly in contexts characterised by rapid change. Unlike puzzles with predetermined solutions, real-world problems often yield multiple potential outcomes, contingent upon contextual factors, constraints, and assumptions. Similarly, Md (2019) asserts that problem-solving entails applying understanding, evaluation, and logical reasoning to resolve complex issues. This process can be further decomposed into observation skills and critical thinking. Butterworth and Thwaites (2013) concur that problem-

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solving represents a higher-order cognitive challenge, requiring the recall of factual knowledge and demanding independence and initiative from the problem solver. While problem-solving shares certain characteristics with puzzles, it fundamentally involves employing logic to address real-life situations and support informed decision-making. Additionally, Lyver and Lees (2025) highlight that business simulations offer significant potential for developing soft skills.

Digital Literacy

Digital literacy constitutes another indispensable skill for the future economy. Thelma et al. (2024) contend that digital competence equips students for the modern workplace, encompassing critical thinking, problem-solving, basic computer operations, internet research, and proficiency in productivity software. Addressing socio-economic disparities is imperative to ensure equitable access to digital skills, which are essential for academic and professional success. Reddy et al. (2023) observe that many learners encounter difficulties adapting to technology-enhanced learning environments due to limited digital proficiency, which can adversely affect academic performance and contribute to high dropout rates in online programmes. Strengthening digital competency not only facilitates student success but also ensures graduates are adequately prepared for the digital workplace. Furthermore, research by Hanan (2020) demonstrates that employees with robust digital skills exhibit higher productivity and efficiency. Consequently, organisations increasingly acknowledge a substantial gap (Kolding et al., 2018; Mhaske et al., 2025) between current workforce capabilities and the advanced digital skills demanded by contemporary industries.

Creativity as a Cornerstone of Future Competence

Creativity occupies a pivotal role in equipping individuals for success in the future economy. Ruppert (2010) contends that creativity facilitates the integration and synthesis of knowledge across diverse disciplines, thereby promoting innovative thinking. This form of creativity is underpinned by curiosity, intrinsic motivation, persistence, and a willingness to embrace risk in the face of uncertainty. Holford (2019) extends this perspective by linking creativity to tacit knowledge and heuristic processes, which enable individuals to discern meaningful connections among seemingly unrelated phenomena. Consequently, creativity remains a uniquely human advantage in an era of increasing automation. Thornhill-Miller et al. (2023) add that effective creative practice requires access to digital technologies, which support contextual adaptation, implementation, and resource availability.

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Interpersonal Skills and Organisational Effectiveness

Interpersonal skills continue to be indispensable for organisational success in the evolving economic landscape. Riggio and Tan (2013) assert that these abilities are integral to core management functions, particularly in motivating employees and fostering collaborative working relationships (Kruchina et al., 2020). Complementing this view, Hayes (2013) conceptualises interpersonal skills as goal-directed behaviours encompassing relationship-building and communication competencies, which facilitate desired outcomes in interaction episodes. Mahmood and Baskaran (2021) reinforce the argument by highlighting the role of interpersonal skills in cultivating enthusiasm, enhancing workplace efficiency, and improving team communication. Empirical evidence from Schirf and Serapiglia (2017) reveals that employers often identify deficiencies not in technical expertise but in soft skills among new recruits specifically initiative, communication, collaboration, and adaptability. These competencies are essential for conflict resolution, teamwork, and effective leadership.

Leadership and Social Influence

Leadership and social influence represent critical future-ready skills. Mahmood and Baskaran (2021) stress that these capabilities should advance organisational effectiveness and uphold principles of good governance rather than serve individual interests. Leaders who actively engage team members in collective tasks foster organisational cohesion and improved performance. Human-centred attributes such as emotional intelligence, adaptability, and persuasive ability are increasingly vital for managing diverse and dynamic workplaces. Ruben and Gigliotti (2016) further argue that leadership transcends hierarchical authority; effective leaders inspire and influence others through shared vision and collaborative engagement. Managers and leaders who demonstrate strong interpersonal skills contribute to positive organisational climates, enhanced productivity, and strengthened employee engagement.

Vocational Education and Technical Skills

In addition to interpersonal and digital competencies, vocational education and technical skills remain indispensable for sustaining the future economy. Murray Kiernan et al. (2022) observe that an emphasis on face-to-face learning, particularly on-the-job training combined with the limited adoption of digital training methods underscores the importance of geographical proximity and localisation in shaping training models and their long-term development. A critical factor for success lies in maintaining consistent feedback and intervention mechanisms; without these, training providers risk becoming passive, especially if the input of knowledge and

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the management of learning pathways through demand-pull forces are not actively sustained. Shah and Dixon (2018) predict that future labour shortages, particularly those driven by retirement trends, will be concentrated in skilled technical occupations such as technicians, mechanics, carpenters, and electricians. Consequently, vocational education and training (VET) will remain essential for cultivating the technical expertise required to meet the demands of future labour markets.

RETHINKING PEDAGOGY

Education has always been deeply intertwined with the social, cultural, and economic conditions of its time. The nineteenth-century industrial revolution shaped schools into institutions designed to produce disciplined, literate, and efficient workers. The structures of age-graded classrooms, standardised curricula, and examinations were deliberate responses to the needs of industrial economies (Tyack & Tobin, 1994). These structures, often referred to as the "grammar of schooling," have proven remarkably resilient, persisting into the twenty-first century despite profound social, cultural, and technological changes (Chun et al., 2025; Kamens & Benavot, 1991).

Today, however, the world is marked by volatility, uncertainty, complexity, and ambiguity. Rapid technological advancements, globalisation, climate change, and shifting labour markets have created conditions that the industrial model of schooling was never designed to address (Chun et al. 2025; Oben & Hui, 2025; Teschers et al., 2024). Students are expected not only to master knowledge but also to think critically, collaborate across cultures, adapt to modern technologies, and navigate ethical dilemmas. Traditional pedagogy, with its emphasis on rote memorisation and standardised outcomes, is increasingly inadequate for preparing learners for such futures (Oben & Hui, 2025; Yongxu & Dinghong, 2025).

This chapter argues for a rethinking of pedagogy that moves beyond the industrial model. It begins by examining the limitations of traditional pedagogy, then explores the promise of constructivist and experiential learning. It considers the role of Work Integrated Learning and technology-enhanced learning, including artificial intelligence (AI), virtual reality (VR), before turning to the importance of culturally responsive and inclusive pedagogy. Together, these perspectives suggest that pedagogy must be reconceptualised as a dynamic compass rather than a static map, guiding learners to navigate uncertainty and cultivate meaningful lives.

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Limitations of Traditional Pedagogy

Traditional pedagogy is often characterised as teacher-centred, content-driven, and efficiency-oriented (Oben & Hui, 2025). Teachers are positioned as the primary source of knowledge, while students are expected to absorb and reproduce information. Assessment is typically standardised, privileging measurable outcomes over deeper forms of understanding. This model reflects the industrial age's emphasis on uniformity, predictability, and control (Tyack & Tobin, 1994). One limitation of this approach is its tendency to reduce education to the transmission of information. As Biesta (2022 and cited in Gourlay, 2023), the "language of learnification" has reframed education as the acquisition of competencies, often for economic productivity, while neglecting broader purposes such as socialisation and subjectification. Students are treated as consumers of knowledge rather than as active participants in meaning-making.

Another limitation is the neglect of diversity. By privileging standardisation, traditional pedagogy often marginalises students whose cultural backgrounds, learning styles, or abilities do not align with dominant norms. Pozo-Armentia et al. (2020) note that inclusive education initiatives sometimes falter because they are grafted onto pedagogical models that fail to recognise difference as a resource. Instead of fostering equity, traditional pedagogy can reproduce social inequalities by rewarding conformity to narrow definitions of merit.

Traditional pedagogy also struggles to prepare students for the unpredictability of contemporary life. The industrial model presumes a stable world where knowledge and skills stay relevant for long periods. Yet in today's environment, the shelf life of skills is increasingly short (Penprase, 2018). Students need to learn how to learn, adapt, and innovate, but traditional pedagogy often discourages risk-taking and creativity by emphasising correct answers and compliance.

Finally, traditional pedagogy contributes to disengagement. Rising truancy rates, student boredom, and teacher burnout are symptoms of a system that prioritises efficiency over meaning (Teschers et al., 2024). Munoz-Oyarce et al. (2025) argues that students are excluded in schools unintentionally by teachers due to social situation, and educational standard which calls for more deepen pedagogical intervention. When education is experienced as irrelevant or alienating, students are less likely to develop the motivation and agency needed for lifelong learning.

Constructivist and Experiential Learning Approach

Constructivist and experiential learning approaches provide clear alternatives to the limitations of traditional pedagogy. Central to constructivism is the principle that learners are not passive recipients of information; rather, they actively construct

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knowledge through interactions with their environment and with others (Pass, 2007). This perspective, rooted in the works of Jean Piaget and Lev Vygotsky, underscores that learning is an active process of sense-making and engagement (Fernando & Marikar, 2017; Pan et al., 2023). In practice, these approaches shift the teacher's role from being the sole transmitter of knowledge to acting as a facilitator of learning. Teachers design environments that promote inquiry, encourage collaboration, and foster problem-solving. Within these settings, students are prompted to ask questions, test ideas, and reflect on their experiences, which contributes to deeper understanding and retention (Amina & Younes, 2024). This model aligns with contemporary educational goals that emphasise the cultivation of critical thinking, creativity, and adaptability among students (Biesta, 2020). Research has shown that project-based and constructivist learning methods can significantly enhance students' entrepreneurial competence, particularly in the areas of creativity and problem-solving (Wiyono et al., 2025). Similarly, when physical education is reoriented towards values-based and cooperative learning approaches, it can foster important outcomes such as social responsibility and self-esteem (Salter, 2017).

Experiential learning, as described by Dewey (1938) and later developed by Kolb (2015), emphasises a cyclical process that is central to effective learning. This process involves four key stages: concrete experience, reflective observation, abstract conceptualisation, and active experimentation. Through this cycle, learners engage directly with experiences, reflect on them, develop conceptual understanding, and apply their insights in practice. The significance of this model lies in its focus on reflection and practical application, ensuring that learning is meaningful and transferable across contexts. By encouraging students to participate actively, whether through real world projects or internships, experiential learning brings Dewey's principle of learning by doing to the forefront. This approach highlights the transformative potential of hands-on involvement in authentic tasks, fostering deeper engagement and understanding (Lankton et al., 2025; Park et al., 2025).

Moreover, experiential learning stands in contrast to traditional pedagogical approaches by placing strong emphasis on context, reflection, and the practical application of knowledge. While other complementary theories will be discussed later in this chapter, it is important to recognise that experiential learning fundamentally challenges the conventions of teacher centred instruction by prioritising active participation and the situated nature of learning (Kolb, 2015).

Through constructivist and experiential learning approaches, students develop a more profound grasp of both the subject matter and the methods by which they learn. These pedagogical strategies encourage learners not only to focus on the acquisition of knowledge, but also to engage in ongoing reflection regarding the processes involved in their learning journey. By considering both how and why they learn, as well as exploring ways to apply their learning to real-world situations, students are

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positioned to make meaningful connections between theory and practice (Kolb and Kolb, 2005). This emphasis on reflective practice plays a vital role in supporting the holistic development of learners. Instead of limiting educational outcomes to the accumulation of factual knowledge, these approaches nurture the growth of critical thinking skills and the capacity to navigate complex and unpredictable situations (Lankton et al. 2025; Oben and Hui, 2025; Park et al. 2025). As a result, students become adept at collaborating effectively with diverse groups and innovating in response to new challenges.

The adaptability and openness fostered by these pedagogical methods are particularly important in contemporary settings, where uncertainty and rapid change are constant features. By preparing students to embrace lifelong learning, this approach ensures they are equipped to thrive in a world that demands flexibility, creativity, and resilience (Benade, 2017).

Work Integrated Learning

Work Integrated Learning (WIL) has gained significant recognition among researchers as a robust pedagogical approach and a compelling response to the limitations of traditional pedagogy. Its value lies in preparing graduates for future professional environments by uniting theoretical knowledge with the practical demands of the workplace (Ashman et al., 2021; Sunnemark et al., 2024; Jackson, 2025). WIL is distinguished by its deliberate placement of learning within genuine, real-world contexts. By engaging students in authentic tasks, addressing actual problems, and interacting with real stakeholders (Lester & Crawford-Lee, 2023), WIL ensures that learning is not confined to abstract concepts but is rooted in lived experience.

Research by Sundset et al. (2025) highlights that work integrated learning strengthens the connection between theory and practice. It fosters the development of transferable skills essential for the modern workforce and supports a deeper level of learning through mechanisms such as reflection, collaboration, and immersion in situated experiences. This approach resonates with foundational work on experiential learning, reinforcing the notion that meaningful education arises from direct engagement with one's environment and the challenges it presents (Kolb & Kolb, 2005). WIL encompasses a diverse array of practices rather than adhering to a single, uniform model. These practices include placements, consultancy projects, community engagement, apprenticeships, and internships (Crosbie et al., 2024; Jackson, 2025). Professional mentoring could also be considered as WIL as there is alignment in the outcomes especially when professional mentoring has a clear structure to link academics to practice (Smith-Ruig, 2014). By integrating a variety of experiential opportunities, WIL supports the development of practical skills in authentic contexts, bridging the gap between academic theory and professional practice.

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The advantages of WIL are evident across all key stakeholders involved: students, universities, and employers (Crosbie et al., 2024; Chadwick et al., 2025). For students, WIL plays a crucial role in the formation of professional identity (Jackson, 2017). Participation in these experiences leads to notable increases in self-efficacy, confidence, and readiness for professional practice (Sundset et al., 2025). These benefits prepare graduates not only for immediate entry into the workforce but also foster long-term professional growth. Employers also derive significant value from WIL initiatives. These programmes provide employers with early access to emerging talent, supporting recruitment strategies and contributing to business development and financial objectives (Lantu et al., 2022). Through their involvement, employers can influence the preparation of future professionals, ensuring that graduates possess relevant skills and experience.

For universities, WIL offers strategic pedagogical differentiation (Crosbie et al., 2024). It enables higher education institutions to build sustainable partnerships with industry, strengthening their relevance and impact. Additionally, WIL contributes to positive outcomes in productivity and social mobility, enhancing the role of universities as agents of societal advancement (Quew-Jones, 2023). These benefits indicate that WIL presents a compelling alternative to traditional pedagogical approaches, offering a more dynamic, inclusive, and practice-oriented pathway for preparing students for the complexities of the modern world.

Technology-Enhanced Learning: Artificial Intelligence and Metaverse

The integration of technology into education has frequently attracted criticism for its superficial application, particularly when the focus lies more on hardware rather than on sound pedagogical practice (Kirkwood & Price, 2014). Despite these concerns, technology enhanced learning (TEL) has the potential to significantly enrich constructivist and experiential learning approaches when implemented thoughtfully and with clear pedagogical intent. TEL encompasses the use of digital tools, online environments, and technology supported pedagogical strategies, all aimed at improving learning outcomes (Kirkwood & Price, 2014). Rather than merely supplementing traditional teaching methods, TEL represents a fundamental shift in how knowledge is created, accessed, and applied within educational contexts.

A variety of tools have become widely accepted across the education sector, each supporting different facets of the learning experience. Virtual Learning Environments (VLEs), for example, function as central hubs for course materials, assessments, and communication, facilitating seamless interaction between students and educators (Allen & Seaman, 2017; Kennedy & Dunn, 2018). Additionally, multimedia and interactive content tools, such as Articulate 360, enable the creation of engaging,

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interactive learning experiences. These tools cater to diverse learning preferences and help to increase overall learner engagement (Donnellan, 2021). Researchers have also highlighted the role of TEL in improving learning and accessibility for students with disabilities and specific learning differences (SpLD), demonstrating its capacity to support inclusivity and diverse learner needs (Kennedy & Dunn, 2018; Muriira et al., 2025). Looking to the future, innovative pathways such as Artificial Intelligence and metaverse promise to further advance technology enhanced learning, offering new opportunities for personalisation, immersion, and motivation.

Artificial intelligence (AI) is increasingly recognised as a transformative force in education, offering notable opportunities in personalisation, assistive learning, and the promotion of equality (Mullan et al., 2024). One of the central advantages of AI lies in its capacity to support tailored learning experiences. Intelligent tutoring systems, for example, can deliver adaptive feedback, track individual student progress, and foster self-regulated learning (Ren & Wu, 2025). Through these mechanisms, AI can address diverse learner needs more effectively and promote student autonomy in the learning process. Additionally, the integration of AI in educational settings has the potential to alleviate the administrative workload that often falls upon teachers. By automating routine tasks, AI allows educators to redirect their efforts towards the facilitation of learning and the provision of mentorship, thereby enhancing the overall quality of educational engagement (Mullan et al., 2024).

Despite these benefits, the use of AI in education also raises significant ethical concerns. The impact of generative AI on students' learning and assessment submission reveals that there is need for educators to review their teaching and assessment styles. Researchers highlight issues relating to data privacy, misuse and the potential for algorithmic bias, and the risk that educational objectives may become narrowly defined by what is easily measurable through technology (Mullan et al. 2024; Wilson, 2025). Such concerns underscore the importance of a critical approach to the adoption of AI tools within educational contexts. Educators must rigorously assess these technologies to ensure they contribute positively to educational aims rather than undermining them (O'dea et al., 2025; UNESCO, 2021).

The term 'Metaverse' collectively refers to a suite of technologies designed to provide immersive experiences, with virtual reality (VR) and augmented reality (AR) standing out as the leading innovations in this arena (Ren et al., 2025). These technologies create environments that simulate real-world experiences, offering students opportunities to engage with content in ways that traditional methods cannot replicate. Researchers such as Makransky et al. (2020) and Lowell and Yan (2024) highlight that VR fosters a sense of presence and embodiment, supporting situated learning by allowing students to immerse themselves in scenarios otherwise inaccessible in the conventional classroom. Through these immersive environments, learners can interact with complex concepts and situations, enhancing their under-

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standing and capacity for critical engagement. A systematic review conducted by Radianti et al. (2020) found that the application of VR in higher education leads to increased student engagement, heightened motivation, and improved knowledge retention. Despite these clear benefits, challenges related to cost and accessibility persist, presenting obstacles to widespread adoption across all educational settings.

Technology-enhanced learning should not be seen as a cure-all solution for educational challenges. Its success relies fundamentally on being thoughtfully integrated with robust pedagogical principles and underpinned by systems thinking. As highlighted by Lowell and Yan (2024), the effectiveness of technology in education is contingent upon careful consideration of the wider educational ecosystem. This includes essential components such as adequate infrastructure, comprehensive teacher training, and the alignment of technological tools with the curriculum. When these factors are neglected, the risk arises that technology may function more as a distraction than as a catalyst for meaningful educational transformation. Therefore, the adoption of technology must be approached with a holistic perspective, ensuring it serves as a supportive tool within a coherent educational framework rather than an end in itself.

Culturally Responsive and Inclusive Pedagogy

Rethinking pedagogy also requires careful consideration of cultural diversity and inclusion. While inclusive education is frequently presented as a moral imperative, it is important to recognise its potential limitations. As Pozo-Armentia et al. (2020) point out, inclusive education can fall short when it does not account for variations in ability, effort, and cultural context. This highlights the need for a more nuanced perspective that moves beyond a one-size-fits-all approach. Culturally responsive pedagogy offers such an approach by actively affirming students' cultural identities and providing them with the tools needed to successfully navigate different cultural settings. Rather than treating diversity as a challenge to be managed, this pedagogy values and leverages students' backgrounds as strengths. In doing so, it supports learners in developing the capability to engage across multiple worlds, fostering both a sense of belonging and the adaptability required in diverse educational and social environments (Gay, 2018; Ladson-Billings, 2021).

Culturally responsive pedagogy is centred on the integration of students' cultural backgrounds into the curriculum. This approach employs teaching methods that reflect a diverse array of ways of knowing, ensuring that classroom environments are inclusive and that all voices are valued. By challenging deficit perspectives, culturally responsive pedagogy reframes diversity not as a challenge to be managed, but as a valuable resource for learning (Florian & Beaton, 2018). Research in work integrated learning has highlighted the barriers that marginalised groups often en-

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counter in accessing transformative educational opportunities. For instance, Lasrado et al. (2024) found that international students, indigenous learners, and those from low socio-economic backgrounds frequently experience exclusion from internships and placements. Addressing these inequities necessitates the adoption of flexible and inclusive pedagogical strategies that are designed for diversity from the outset.

Florian and Beaton (2018) argue that inclusive pedagogy should go beyond merely accommodating different needs; instead, it should fundamentally reframe teaching so that it is inherently inclusive, catering to all learners from the beginning. This perspective aligns with UNESCO's (2021) advocacy for a "new social contract for education," which emphasises the principles of equity, sustainability, and collective responsibility. Furthermore, culturally responsive and inclusive pedagogy is closely linked to the broader aims of social justice. Education extends beyond preparing individuals for employment, it also plays a crucial role in fostering democratic participation and upholding respect for human rights. By affirming diversity and actively promoting equity, inclusive pedagogy contributes to the creation of more just societies (Ladson Billings, 2021). UNESCO (2021) underscores the importance of reimagining education as a collective endeavour, ensuring that every learner can flourish, regardless of background or circumstance. This vision calls on educators to move beyond tokenistic approaches to inclusion and to embed equity and cultural responsiveness into the core of teaching and learning practices.

In conclusion, the industrial model of schooling, with its emphasis on efficiency, standardisation, and control, is increasingly inadequate for the challenges of the twenty-first century. Traditional pedagogy, while historically effective in producing uniformity and measurable outcomes, limits creativity, neglects diversity, and struggles to prepare students for unpredictable futures. Constructivist and experiential approaches provide more promising alternatives, emphasising active learning, reflection, and relevance. WIL is also highlighted as an effective alternative to traditional, theory-based pedagogy by connecting academic learning with real-world professional contexts. Technology-enhanced learning, when critically integrated, can extend these approaches through personalisation, immersion, and motivation. Culturally responsive and inclusive pedagogy ensures that education serves all learners equitably, affirming diversity as a resource rather than a barrier. Rethinking pedagogy requires moving from a static map to a dynamic compass. Education must guide learners not only to acquire knowledge but also to cultivate the dispositions, values, and skills necessary to navigate uncertainty, engage ethically with others, and shape meaningful lives. This involves balancing qualification with socialisation and subjectification (Biesta, 2021), ensuring that students are not only prepared for work but also for democratic participation and personal flourishing.

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Cases

Case Study I: Experiential Learning in Digital Marketing Analytics (Zhang & Scribner, 2024)

This case study examines how experiential learning can bridge the theory–practice gap in Digital Marketing Analytics (DMA) education. The authors refine a practice informed model that emphasises three essential dimensions for DMA capability: knowledge, hard skills, and soft skills. They then apply this model to two versions of the same DMA course, one using a simulation and the other a client-based project.

Core Findings

- The simulation created a "risk free, virtual environment" where students could make iterative decisions and receive "immediate feedback", helping them develop tool based hard skills and structured problem solving.
- The client-based project exposed students to "authentic marketing problems", requiring deeper critical thinking, creativity, and communication as they analysed real client data and produced recommendations.
- Quantitative student data showed a slight performance advantage for the simulation group, but qualitative reflections highlighted the richer, more complex learning produced by the client project.

The two methods emphasised different aspects of the practice informed model:

- Simulation: breadth of knowledge, tool skills, structured problem solving
- Client project: depth of knowledge, technical analysis, creativity, communication

Contribution

The study demonstrates that experiential learning must be intentionally aligned with course goals. Simulations are efficient and structured, while client projects cultivate deeper, more reflective learning. As the authors note, their aim was to "offer insights and recommendations for marketing educators considering incorporating a practice informed approach integrated with experiential learning methods".

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Case Study II: Experiential Learning in International Law (Mitchell et al., 2011)

This case study presents an innovative experiential model for teaching international law through offshore, field-based learning. The courses Institutions in International Law and Global Lawyer take students to Geneva, Washington DC, and New York to engage directly with international organisations such as the United Nations, the World Health Organisation, and the World Trade Organisation.

Core Findings

International law courses delivered within the traditional classroom settings tend to provide students with less insight than those that involve them directly in international institutions.

The course design integrates:

- Pre departure seminars to build foundational knowledge
- Two-week intensive field immersion inside international institutions
- Reflective assessments to connect experience with theory
- Each institutional visit functions as a "micro internship", giving students first hand exposure to professional roles, organisational mandates, and real legal problems.

Students consistently describe the experience as "transformative", reporting stronger professional identity, deeper understanding of institutional complexity, and improved communication and analytical skills.

The model also enhances employability, with many students pursuing internships or careers in international organisations.

Contribution

This case demonstrates that immersive experiential learning can develop not only legal knowledge and skills but also professional judgement, ethics, and identity. The authors argue that despite logistical and financial challenges, the "substantial educational outcomes" justify the model.

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STAKEHOLDER ROLES IN DEVELOPING FUTURE-READY GRADUATES

To build a workforce equipped with the skills required for the future economy, all stakeholders must play an active and collaborative role. Their contributions are essential to ensuring graduates can adapt and thrive in an evolving global landscape.

Mahmood and Baskaran (2022) note that as public policy and administration become increasingly complex and contested, public servants face mounting challenges and heightened expectations. In this evolving economy, leadership and other key actors play a crucial role in helping employees adapt to changing work contexts, thereby ensuring the effective implementation of principles and functions.

Universities must respond to the changing demands of the labour market by strengthening collaboration with employers to ensure curricula remain aligned with industry requirements. Practical measures include expanding WIL opportunities, enhancing the integration of soft skills training, and promoting interdisciplinary learning. Helyer (2011) argues that students should be able to identify and clearly demonstrate to prospective employers the skills and attributes gained through higher education beyond subject-specific knowledge. It is insufficient for employability skills to be embedded silently or implicitly within the curriculum; they must be explicit, well contextualised, and ideally build upon foundations established during earlier schooling.

Furthermore, Burgess et al. (2012) state that educators deliver a range of teaching programmes designed to address the future skills gap. In addition, Bilderback and Thompson (2025) argue that such exposure enables students to appreciate the real-world applications of their academic learning and encourages them to pursue careers aligned with global workforce demands. The role of educators in equipping graduates with future-ready skills includes acting as holistic evaluators, facilitators, active users and supporters of technology, lifelong learners, and problem formulators (Jukes et al., 2010).

According to Ingraham and Getha-Taylor (2004), policymakers play a crucial role in shaping new curricula, assessments, and instructional frameworks. They should strongly advocate for professional development and teacher training. Furthermore, policymakers need to reconsider approaches to skills development, such as encouraging industry-recognised certification programmes for emerging skill areas and promoting partnerships between community colleges and local employers.

Assefa (2024) advocates for collaboration among educators, policymakers, and local communities to design curricula that foster experiential and lifelong learning, enabling students to become active and responsible global citizens.

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Concrete Learnings and Actionable Recommendations for Educators

Drawing on the preceding conceptual discussion and illustrative case studies, this section synthesises key insights into practical and actionable recommendations for educators and higher education institutions. These recommendations are intended to support the development of future-ready graduates capable of navigating the demands of a rapidly evolving, technology-driven, and socially complex economy.

Strengthening Digital Literacy Across Disciplines

Digital literacy must be positioned as a core graduate capability rather than an optional skill. Universities should adopt a cross-curricular approach that embeds both foundational and advanced digital competencies across programmes of study. This includes the purposeful integration of digital tools, data analysis techniques, and online collaboration platforms within teaching, learning, and assessment activities.

Importantly, institutions must recognise and address disparities in students' digital proficiency. Targeted diagnostic assessments, scaffolded learning resources, and tailored support mechanisms should be implemented to support learners who enter higher education with lower levels of digital confidence. Such interventions are particularly critical within technology-enhanced learning environments, where insufficient digital competence can negatively affect engagement, academic performance, and retention. By embedding digital literacy holistically and equitably, universities can enhance student success while narrowing digital inequalities.

Embedding Constructivist and Experiential Learning Across the Curriculum

Higher education institutions should systematically integrate constructivist and experiential learning principles into curriculum design to move beyond transmission-based models of teaching. This can be achieved through the use of project-based learning, inquiry-led activities, simulations, authentic assessments, and structured opportunities for reflection, all of which encourage students to actively construct knowledge rather than passively consume information.

Embedding Kolb's experiential learning cycle within modules provides a coherent framework for connecting experience, reflection, conceptual understanding, and application. When embedded intentionally, this approach supports deeper learning, the development of critical thinking and problem-solving skills, and the meaningful transfer of knowledge to real-world contexts. Such pedagogical alignment also re-

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inforces the relevance of academic learning to professional and societal challenges, thereby enhancing student motivation and engagement.

Promoting Culturally Responsive and Inclusive Pedagogical Practices

Preparing learners for the future economy requires pedagogical practices that are both culturally responsive and inclusive. Educators should adopt teaching approaches that recognise, value, and leverage students' diverse cultural backgrounds, prior experiences, and learning preferences. Curriculum design should incorporate multiple perspectives through inclusive reading lists, global case studies, and learning activities that enable students to draw upon their own contexts and identities.

Inclusive pedagogy should move beyond reactive accommodation towards the proactive design of learning environments that are inherently accessible to all learners. This involves reconsidering assessment methods, participation structures, and learning technologies to ensure equitable engagement and opportunity. By fostering a strong sense of belonging and respect for diversity, educators not only enhance learning outcomes but also contribute to broader goals of social justice, civic engagement, and democratic participation within higher education.

CONCLUSION

Considering the rapid technological, demographic, and economic changes shaping the global landscape, it is evident that traditional educational models and skill sets are no longer sufficient to meet the demands of the future economy. The widening skills gap, particularly in relation to Industry 4.0 and the emerging Industry 5.0, underscores the critical role of educators, institutions, and policymakers in preparing learners for a dynamic and interconnected world of work.

The future of pedagogy lies in integration: blending constructivist and experiential learning with technological innovation, while grounding practice in cultural responsiveness and inclusivity. Such an approach recognises that education is not a one-size-fitsall endeavour but a relational, context-dependent practice. By embracing diversity, leveraging technology responsibly, and fostering critical, reflective, and creative learners, pedagogy can move beyond the limitations of the industrial model. In doing so, it can help chart the course towards more just, sustainable, and fit for the future economy.

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Chapter 15
Can Embedding Peer-Mentoring in the Curriculum Positively Impact Employability Skills Amongst Postgraduate Students?

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EXECUTIVE SUMMARY

Peer mentoring is widely recognised for enhancing the transition outcomes of students at university. However, there is a gap in knowledge about the impact of being a student mentor upon the mentors' outcomes. This research investigated a one-year employability mentoring programme, embedded in a postgraduate module at a UK Business School, to explore whether being a peer-mentor develops the mentors' employability skills. One hundred and fifty student mentors completed surveys regarding their mentoring sessions identifying themes within their mentoring practice impacting employability skills development. Graduate employability skills were found to have been developed in the mentors through peer mentoring. This research centres mentors' experiences of a peer mentoring programme, providing a transferable method

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of developing employability skills amongst postgraduate students. Limitations are discussed regarding the success of a mentoring group, and a framework is offered to mitigate challenges in any future replication of the programme.

INTRODUCTION

Peer mentoring has become an increasingly important pedagogical strategy within higher education. This strategy supports students' academic transition, social integration, and professional development. In this context, peer mentoring refers to a structured relationship in which a more experienced student (mentor) provides guidance and support to a less experienced or newly enrolled student (mentee). Through these interactions, mentees gain insight into academic culture, institutional processes, and the expectations of university study, while also developing a stronger sense of belonging within the academic community. Research consistently demonstrates that peer mentoring programs can enhance academic performance, improve student retention, and support emotional well-being (Le et al., 2024; Venegas-Muggli et al., 2021).

Beyond supporting mentees, mentoring relationships also create developmental opportunities for mentors themselves. Participation in mentoring activities can enhance mentors' communication skills, leadership capabilities, and professional confidence, contributing to the accumulation of both human capital (individual skills and competencies) and social capital (professional relationships and networks). Within contemporary employability debates, these competencies are increasingly recognised as essential for graduates navigating complex and competitive labor markets.

Although peer mentoring has traditionally been explored in relation to academic transition and student wellbeing, there is increasing recognition that mentoring relationships may also contribute to the development of entrepreneurial and employability competencies. Entrepreneurial capability frameworks frequently highlight creativity, opportunity recognition, networking ability, and resilience as core competencies developed through experiential learning environments. Peer mentoring programs may therefore provide an informal yet structured platform through which students practice many of these competencies, including leadership, initiative, relationship management, and collaborative problem-solving.

While existing research has explored the benefits of mentoring for student transition and academic success, much of this work focuses primarily on undergraduate contexts or on mentee outcomes. Comparatively little attention has been paid to how mentoring experiences contribute to employability skill development among international postgraduate student mentors. In the context of international postgraduate education, these competencies are particularly significant. International students

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frequently face structural disadvantages in host-country labor markets, including limited professional networks, unfamiliar recruitment processes, visa constraints, and employer bias toward domestic experience. Mentoring initiatives that strengthen social capital and professional confidence may therefore help mitigate some of these barriers while also supporting broader economic participation among international graduates. This chapter addresses that gap by examining a postgraduate peer mentoring initiative embedded within a business school curriculum, exploring how mentoring participation may function as an experiential learning platform for developing transferable employability competencies among international postgraduate students.

PEER MENTORING IN HIGHER EDUCATION: CONCEPTUAL FOUNDATIONS

It is widely recognised that shared peer support through mentoring can significantly enhance students' overall university experience (Andrews and Clark, 2011, p.13). Within higher education, peer mentoring typically involves a structured relationship in which a more experienced student provides guidance and support to a less experienced student. Through these interactions, mentees gain insights into academic expectations, institutional culture, and strategies for navigating university life. Peer mentoring programs have therefore been widely adopted as mechanisms for supporting student transition, fostering engagement, and strengthening academic belonging.

Theoretical perspectives on mentoring in higher education generally draw upon three main conceptual traditions: developmental theory, learning theory, and social theory (Dominguez and Hager, 2013). Developmental theories emphasise the role of mentoring in supporting individuals as they navigate life and career transitions. Within this perspective, mentoring relationships provide opportunities for mentees to reflect on evolving identities and professional aspirations. Developmental mentoring practices often involve mentors drawing upon their own experiences to guide mentees through goal-setting processes and reflective questioning (Lancer et al., 2016; Law et al., 2007). In this way, mentoring facilitates the gradual construction of professional identity as students progress through different stages of their educational and career trajectories.

Learning theories provide a complementary perspective by emphasising mentoring as a collaborative and reflective learning process. Rather than viewing mentoring as a one-directional transfer of knowledge, learning-oriented frameworks conceptualise mentoring relationships as spaces in which knowledge is co-constructed through dialogue and shared reflection. This approach aligns with experiential learning principles, where participants develop skills through active engagement and reflection

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on practice. Social learning theory further extends this perspective by emphasising the role of observation, modelling, and interaction in developing competence and self-efficacy (Bandura, 1977). Within mentoring relationships, mentees observe how mentors approach challenges, communicate ideas, and navigate institutional structures, thereby acquiring tacit knowledge about effective professional behaviour.

Figure 1. Theoretical Underpinnings of Mentoring in Higher Education

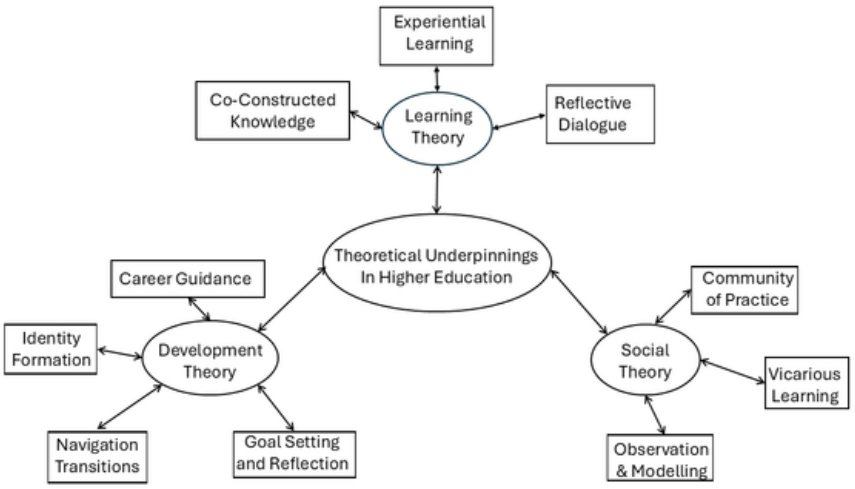


Figure 1 illustrates three theoretical underpinnings of mentoring: developmental, learning and social frameworks, as explained above. Despite their theoretical differences, these frameworks share several common assumptions about the value of mentoring relationships. As Dominguez and Hager (2013) observe, effective mentoring typically involves the development of professional identity, the transfer of knowledge and experience, the establishment of supportive relationships, and the encouragement of self-reflection and goal setting. Mentors act as enablers of progress, helping mentees interpret their experiences and develop strategies for overcoming academic and professional challenges.

Beyond developmental, social and learning frameworks, mentoring is also increasingly examined within entrepreneurship and innovation education. Coaching and mentoring approaches are frequently used within entrepreneurial ecosystems to support opportunity recognition, venture development, and professional networking. While coaching is typically performance-oriented and focused on goal achievement, mentoring relationships tend to emphasise longer-term developmental guidance and knowledge transfer. In higher education contexts, peer mentoring programs may

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combine elements of both approaches, creating experiential environments in which students develop both professional and entrepreneurial competencies.

Traditionally, universities have drawn upon alumni or industry professionals to mentor students as part of employability development initiatives (Bates et al., 2007). Such programs are often designed to provide students with insight into professional expectations and career pathways. At the same time, peer mentoring programs have emerged as complementary approaches that support students' transition into university life. In these contexts, peer mentors typically guide incoming students through institutional processes, provide practical advice, and offer emotional support during periods of adjustment.

Effective mentoring relationships require mentors to demonstrate empathy, encouragement, and a willingness to support mentees in navigating complex institutional environments. George and Mampilly (2012, p.140) describe mentors as guides through the "political labyrinth" of organisations, helping mentees interpret unwritten rules and expectations. While the primary objective of mentoring is often framed as the development of the mentee, research increasingly highlights that mentoring is also a developmental experience for mentors themselves. Rekha and Ganesh (2012) note that mentors frequently develop leadership capabilities, interpersonal awareness, and reflective skills through their mentoring roles.

Mentoring relationships also provide opportunities for mentors to develop leadership behaviours, including initiating conversations, facilitating discussions, and modelling professional conduct. Through these activities, mentors learn to influence the attitudes and perspectives of others while reflecting on their own practices. Importantly, mentoring leadership tends to be collaborative rather than directive. Starr-Glass (2013) argues that mentoring relationships are most effective when mentors adopt a consensual leadership style characterised by dialogue, mutual exploration, and shared responsibility. This collaborative dynamic can sometimes challenge expectations among mentees who may initially assume hierarchical authority structures similar to those experienced in earlier educational settings.

Beyond skill development, mentoring relationships can contribute to the formation of meaningful social connections and learning communities. Crawford et al. (2013) emphasise that mentoring relationships often extend beyond formal guidance, enabling friendships and networks to develop within structured educational encounters. Such connections can be particularly important for international students, who may face additional challenges when adjusting to new academic and social environments. For business schools that attract large numbers of international students, mentoring programs may therefore play a critical role in facilitating transition and retention. However, research also indicates that international students may encounter barriers when forming friendships within host institutions. For example, Vickers et al. (2017,

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p.89) found that stronger ethnic orientation among international students may reduce opportunities for cross-cultural peer interaction, potentially limiting social integration.

Mentoring programs in higher education can follow either formal or informal structures (Cornelius et al., 2016). Formal mentoring programs involve structured relationships with clearly defined goals, training, and monitoring mechanisms, often established through written agreements between mentors and mentees. Informal mentoring relationships, by contrast, emerge more organically and may lack structured oversight. Implementing formal mentoring programs within universities can require significant institutional resources, including staff time dedicated to mentor training, program coordination, and evaluation.

Universities in the United Kingdom frequently use mentoring schemes to address multiple institutional objectives, including improving student retention, supporting international student acclimatisation, strengthening academic engagement, and enhancing employability outcomes (Saich, 2009). Participation in mentoring programs may also be recognised through certificates, academic credit, or professional development opportunities that contribute to students' personal development portfolios. However, when mentoring programs operate purely as voluntary extracurricular initiatives, students who seek mentoring support may be perceived as lacking confidence or competence. Embedding mentoring activities within academic curricula can mitigate such deficit perceptions by ensuring that all students participate in mentoring as a structured learning activity (Jackson and Price, 2019, p.106).

Although peer mentoring is often described as a supportive relationship between individuals of similar academic status, mentoring structures may still contain hierarchical elements. Mentors often assume responsibility for setting meeting agendas, facilitating discussions, and guiding conversations. Gender dynamics may also shape mentoring relationships. Bogat and Liang (2005) suggest that male mentors are more likely to focus on instrumental career guidance, whereas female mentors often provide greater emotional support. Understanding such dynamics is therefore important when designing mentoring programs which aim to support diverse student cohorts.

Cornelius et al. (2016) identify three critical design considerations for mentoring programs: effective mentor-mentee matching, appropriate training for mentors, and regular interaction between participants. Cultural differences can also influence mentoring relationships, particularly in international educational environments where participants may hold different expectations regarding authority, communication styles, and career aspirations. Vickers et al. (2017) highlight the importance of acknowledging such cultural variability when preparing mentors to support diverse student populations. Coaching models such as the Universal Integrated Framework (Law et al., 2007), which draw upon cross-cultural research in business coaching, may therefore provide valuable guidance when designing mentor training programs.

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At the same time, mentoring programs must address potential risks associated with mentoring relationships. Christie (2014, p.962) notes that mentees may sometimes develop unrealistic expectations of mentors, expecting academic tutoring or direct intervention in academic matters. Mentor training should, therefore, clarify boundaries and encourage mentors to support mentees in developing independent problem-solving strategies. Additionally, power dynamics related to race, gender and cultural background can shape mentoring interactions. Johnson-Bailey and Cervero (2004, p.18) argue that mentoring programs should acknowledge such differences openly rather than ignoring them. Tuladhar et al. (2021, p.319) further suggest that some students may prefer mentors who share similar cultural or ethnic backgrounds, which may influence matching processes within mentoring schemes.

Mentoring experience can also hold direct relevance for graduate employability. Mentoring is widely used within professional organisations as a leadership development practice that supports knowledge transfer and talent development (Ramaswami, 2018, p.48). Consequently, experience gained through mentoring activities may serve as valuable evidence of leadership, communication, and interpersonal competencies when graduates enter the labor market.

Group mentoring arrangements may be particularly beneficial for international students who arrive in the United Kingdom without established professional networks. Hey (2005, p.860) emphasises that developing interpersonal connections is essential for professional success in contemporary organisational environments. Embedding mentoring within the curriculum therefore provides students with opportunities to develop social capital while simultaneously practising professional skills.

Previous research also suggests that employability learning is most effective when integrated directly into academic curricula rather than offered as optional extracurricular activities (Knight and Yorke, 2004, p.2). However, mentoring participation may also involve significant emotional labor for both mentors and mentees. Rosselot-Merritt and Bloch (2020, p.23) note that mentoring relationships introduce additional relational responsibilities within academic contexts. Universities must therefore consider appropriate forms of recognition or reward for mentoring participation, such as academic credit, professional accreditation, or financial compensation.

More recent studies reinforce the value of mentoring for employability development. Nuis et al. (2024) demonstrate that mentoring can enhance reflective practice and the development of professional competencies when mentors provide autonomy support, empathy and trust. Similarly, Nabi et al. (2025) highlight mentoring as an important mechanism for supporting career development, particularly among underrepresented student groups. In addition, Le et al. (2024) identify mentoring as contributing to improved academic performance, retention, and social integration, all of which indirectly strengthen employability outcomes.

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Taken together, this body of literature suggests that peer mentoring programs may serve multiple educational functions: supporting student transition, strengthening community connections and facilitating the development of professional competencies *in mentees*. However, relatively little research has examined how mentoring experiences contribute specifically to employability skill development among postgraduate *mentors* themselves. The present study, therefore, seeks to address this gap by exploring how participation in a peer mentoring initiative shapes the employability competencies of postgraduate international student mentors within a business school context.

ENHANCING EMPLOYABILITY: POSTGRADUATE CASE STUDY

The Outer London Business School at the centre of this study has experienced substantial growth in postgraduate applications, particularly for the MSc International Business program. This two-year course, which incorporates a paid placement (internship) year, expanded significantly from approximately 170 students in 2018 to a peak of 850 in 2021, before stabilising at 790 in 2025. The cohort is predominantly international, with students mainly from India, Nigeria, Pakistan, Bangladesh, and Malaysia.

To be eligible for placements, students must achieve a threshold grade across their first-year modules. However, only 35% of the 2020–21 cohort met this requirement and, even among eligible students, many were unable to secure placements due to high labor market competition. As a result, an alternative 'advanced research route' was introduced in the second year. This route includes a credit-bearing Professional Consultancy Skills module, within which an assessed peer mentoring project is embedded to support employability development for students without direct workplace experience.

For students following the research route, developing employability skills is essential for demonstrating professional readiness. Acting as mentors throughout the academic year enables these students to bridge this gap by supporting incoming cohorts to navigate the UK internship market, sharing insights and strategies drawn from their own experiences. This dual-purpose model benefits both groups: mentors enhance their own transferable skills such as leadership, communication, and teamwork (Wagner and du Toit, 2020), while mentees receive contextualised guidance on placement applications.

The mentoring program was intentionally designed with an employability focus rather than purely pastoral support. Previous research highlights that peer mentoring and personal tutoring contribute significantly to student retention and success (Thomas et al., 2017). In this context, mentoring also supports mentors

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in articulating and evidencing transferable skills aligned with UK graduate labor market expectations (Mello et al., 2017). Additionally, it promotes leadership and social influence, increasingly valued by employers seeking graduates with broad, generalist competencies (World Economic Forum, 2025)

Mentors were randomly matched with first-year students and received four hours of preparatory training. The mentoring experience was assessed through reflective assignments, which also formed the primary data source for this study. Participation was mandatory for academic credit, although students could opt out of the research component.

While peer mentoring is well established at undergraduate level (Jacobi, 1991; Haeger and Fresquez, 2016; Leavitt, 2021), research on postgraduate mentoring - particularly focusing on mentors' experiences - remains limited. This study addresses that gap through three research questions: whether peer mentoring enhances employability skills, which factors contribute most to this development, and what limitations exist within embedded postgraduate mentoring schemes.

WHY EMPLOYABILITY IS IMPORTANT IN HIGHER EDUCATION

Employability is demonstrated through graduates being able to use their knowledge and transferable skills from their degree, sustain these skills in employment relevant to their level of study and flourish in changing labor-market contexts (Suleman, 2016). Cheng et. al. (2022) state that the concept of employability is based on the expectation that universities should equip graduates with the skills needed to thrive in the labor market. In the context of higher education (HE), employability has become a key measure to identify institutional ranking, running concurrently with disciplinary knowledge, critical thinking and research skills throughout the curriculum. From an institutional perspective, universities are increasingly accountable for graduate outcomes; employers, students and policymakers expect HE to deliver more than simply academic credentials. From a broader economic and societal viewpoint, the supply of 'work-ready' graduates who can contribute to productivity and innovation is important in many national policy agendas. One of the rationales for studying a postgraduate degree is for the student to upskill themselves professionally and increase their future global mobility. For this specific study, employability is defined broadly as the capacity to manage and uplift one's career and apply the new learning to current business trends.

Divan (2016) used reflective diaries of postgraduate taught students to explore how they viewed their employability, aspirations and career resources, finding that the postgraduate context invites different reflections compared to undergraduates. The development of distinctive employability is attributed to advanced discipline-

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specific graduate competencies, research-informed skills and professional networks. If a postgraduate degree does not integrate employer-facing skill development it risks accusations of credential inflation rather than genuine career enhancement. For example, Dickinson, Binns & Divan (2015) observed that while many postgraduate programs claim employability enhancement, research shows that there is limited employer engagement in curriculum design and delivery.

In the global market, employability is increasingly understood as the ability to implement new changes and be agile and resilient (Robson, 2023). Research thus far recommends that employability is not provided as an optional add-on, but postgraduate degrees should instead implement employability competencies into taught modules and assessments. Karadzhov et al. (2024) describe the importance of embedding a learning development project systematically into the curriculum. They identified discipline-specific employability competencies and built them into the core online curriculum of a postgraduate program, which boosted the students' awareness and skill development. Postgraduate programs should provide opportunities for students to reflect on their learning and skill development, helping them transfer disciplinary knowledge into wider professional contexts (Gunn et al., 2017).

FUTURE-FIT CURRICULA

In a fast-changing political and technological world, where sustainability and the climate crisis are prominent in young people's and industrial employers' agendas, postgraduates need to be adaptable, agile, reflective, digitally skilled and highly communicative. Students must develop self-awareness, complex problem-solving skills and demonstrate lifelong learning potential (Advance HE, 2025). Modern higher education curricula should be designed to empower students to critically evaluate their own values and beliefs, leading them to become agentic citizens and empowered solution-focused designers. In essence, all vocational degrees at any level need to be 'future fit' and relevant to the graduate employment or entrepreneurial environments graduates will progress into, ready to meet the challenges of the twenty-first century.

Mentoring others provides a key training opportunity for postgraduates to develop and practice intercultural communication, teamwork and leadership skills applicable to workforce development in their future graduate roles. Embedding mentoring as a core skill within future-fit university curricula, whether undergraduate or postgraduate, or even doctoral level, is an efficient and effective use of internal resources for experiential learning. Mentoring is always active, so students are enabled to practice skills rather than simply reading about them and can use their experiences as case studies when asked to demonstrate their higher-level oral communication skills at

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job interviews. For many present-day students, study is only one part of their complex daily lives, and co-curricular or extra-curricular activities are not possible to accommodate in their pressured schedules. Therefore, embedding mentoring as an assessed learning activity within a future-fit curriculum provides a route for students to practice and evidence skills that employers seek without relying on privileged time availability, which eludes many international and home students who balance work and commuting commitments.

From an entrepreneurial perspective, mentoring activities also support the development of competencies associated with entrepreneurial thinking. Mentors must demonstrate initiative, opportunity recognition, leadership, and adaptive problem-solving when guiding mentees through complex employability challenges. These competencies mirror the behaviors required by entrepreneurs when navigating uncertain markets and building professional networks. Thus, mentoring participation may also support the development of entrepreneurial mindsets, including resilience, creativity, and proactive engagement with opportunities.

METHODOLOGY

This research employed a qualitative methodology to explore the impact of peer mentoring on employability skill development among postgraduate international students. Qualitative methods are particularly suited to studies aiming to understand complex social phenomena from the perspective of participants (Kushnir, 2025). This study adopted an exploratory qualitative research design to examine how participation in a peer mentoring initiative contributes to the development of employability competencies among postgraduate international students. Rather than testing a predefined hypothesis, the research sought to generate insights into how mentoring experiences shape participants' perceptions of professional skill development.

Ethical approval for the study was obtained from the University's Social Science, Arts and Humanities Ethics Committee with Delegated Authority (2018). All participants were provided with a digital participant information sheet outlining the purpose of the research, the voluntary nature of participation, and data confidentiality procedures. Written informed consent was obtained prior to data collection, including consent to use anonymised participant data in publications.

The study was conducted within the MSc International Business program, where second-year students acted as mentors for incoming first-year students as part of an embedded employability initiative. Due to the expanding cohort size, each mentor supported at least two mentees. Approximately 150 mentors were paired with small

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groups of two to three mentees, indicating that the program engaged several hundred postgraduate students across the two cohorts.

Data were collected from 150 postgraduate student mentors across one academic year. Two primary sources of qualitative data were used: (1) structured survey questionnaires, recorded as mentoring meeting logs early in the mentoring process and (2) reflective assignments submitted at the conclusion of the mentoring project. The survey instrument was semi-structured, combining open-ended responses with targeted questions designed to elicit reflections on employability skill development. Participants were asked to identify the transferable skills they developed through mentoring, describe how these skills were enacted during mentoring interactions and analyse their mentoring performance using structured reflection frameworks.

The reflective assignments incorporated SWOT (Strengths, Weaknesses, Opportunities, Threats) and STAR (Situation, Task, Action, Result) frameworks, which are commonly used within business education and employability training to support systematic reflection and professional skill articulation. Clarke (2018) highlights that graduate employability is shaped by individual attributes and behaviors, each of which requires students to systematically reflect on and articulate their skills and experiences. This assignment supports the use of structured frameworks such as SWOT and STAR, which operationalize reflective and evidence-based articulation, enabling mentors to critically examine their experiences and identify areas of professional development.

Data analysis followed Braun and Clarke's (2006) thematic analysis framework. An inductive approach was employed, allowing patterns and themes to emerge from the data rather than imposing predefined categories (Braun & Clarke, 2006; Mohamad et al., 2025). Initial codes were generated from mentors' meeting logs and reflective assignments, which were then organised into broader conceptual categories representing recurring employability competencies.

FINDINGS: EMPLOYABILITY SKILLS DEVELOPMENT

Through this process, five core skill themes were identified: communication skills, planning and organisational skills, problem-solving skills, teamwork and interpersonal skills, and resilience and self-management. While reflective self-reporting provides rich insight into participants' perceived learning, it also presents limitations in terms of objective measurement of skill acquisition. Accordingly, the analysis focuses on patterns across the dataset rather than individual accounts.

All quotations presented in the findings section are reproduced verbatim from participants' reflections, with the notation [sic] used where grammatical inconsistencies occur due to English being an additional language.

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Communication Skills

Communication in mentoring is best understood as a comprehensive set of interpersonal abilities rather than a single skill. As noted by graduate jobs website TargetJobs (2023), "Communication is really more of a package than an individual skill", which involves not only what is said but also how it is expressed, how individuals present themselves, and how effectively they understand and respond to their audience. Active listening plays a vital role in this process including knowing when to pause and allowing mentees the space to express their thoughts.

Several mentors highlighted the importance of encouragement in facilitating effective communication. One mentor stated*: "It is shown that encouragement is the most crucial part of the mentoring process. Likewise, my mentees [sic]."* Another reflected that *"Communicating and encouraging skills played a key role in peer mentoring as active listening, verbal communication, written communication, and finally sharing knowledge is the success of my mentoring journey."* Reflective practice also improved communication strategies. For example, one mentor explained: *"I have learned to avoid interrupting mentees while they are sharing their problems and doubts and conclude the main points of what each of my mentees said."* Non-verbal cues were also considered important as *"using appropriate verbal and nonverbal language, such as nodding head or looking directly into mentees' eyes, helps me to build trust with my mentees."* However, effective mentoring requires reciprocal dialogue; where this was absent, communication weakened as one mentor noted: *"less openly talk among meetings, more of informative talks, quite less discussion [sic]."*

Planning and Organizational Skills

Planning and organisation emerged as an important theme within the mentoring process, particularly among mentors who adopted a proactive approach to structuring their sessions. Rather than responding only to questions raised during meetings, some mentors prepared activities in advance to encourage engagement and purposeful discussion. For example, one mentor explained that they *"gave mentees a quiz so that the session was livelier, mentees found this interesting."* Structured planning also extended to goal setting practices. One mentor reported using SMART goal techniques to guide mentees' progress, noting: *"Set a SMART goal and start working towards that. Eligibility for internship. Prepare resume and start applying for internship [sic]."*

At the beginning of the academic year, mentees were particularly concerned with understanding their new academic environment and organising postgraduate assignments. In response, one mentor designed a session focused on assignment planning and provided practical examples, as one mentee commented: *"We went*

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through some of the past assignments of our mentor and analysed the structure of his draft following what was asked in the assignment brief and learnt about the professional words used in place of formal words. This meeting added a lot to our knowledge and will help with our future assignments." In addition, mentors and mentees discussed employability-focused action plans including *"planning to get connected around the globe with international recruiters and jobsites."*

Problem-Solving Skills

Problem-solving emerged as another important aspect of the mentoring process. According to TargetJobs (2020b), problem-solving skills involve "using logic, as well as imagination, to make sense of a situation and come up with a sensible solution." Within mentoring relationships, mentors often supported mentees by guiding them through challenges rather than providing direct answers. One mentor reflected on this responsibility, stating: *"As a part of my mentoring role, I have to clarify the issue, suggest the best solutions and review the final result to satisfy the mentee's needs."* They further explained that "*both I and my mentees work together on exploring the range of options and solutions for future actions."* However, some mentors encountered limited opportunities to demonstrate this skill, as one noted: *"She said that she can do her work by herself and doesn't need help from me [sic]."*

Teamwork and Interpersonal Skills

Teamwork in this context refers to the ability to collaborate effectively with others, build relationships, and work towards shared goals within diverse groups. Mentors demonstrated teamwork by engaging regularly with mentees and fostering supportive interactions, as reflected in: *"being able to know my mentees every week offers the opportunity to build friendship with people from different countries with diverse culture and experience and help me to expand my social network, which can be useful for future career path [sic]."* Mentees were said to have benefited from their mentors' motivational interpersonal skills, as can be seen by the comment on one reflective log: *"Need more support from mentors for better results; time management & keeping good efforts; never quit attitude [sic]."* Working across cultures further strengthened teamwork through 'meaning exchanges' (Louis, 2015, p.19): *"cross-cultural mentoring has been essential."*.

Resilience and Self-Management Skills

Resilience refers to the ability to manage setbacks without becoming overwhelmed, while self-management involves regulating one's emotions, behaviours, and respons-

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es in professional contexts (Sadler et al., 2017; Bharwaney, 2015). Together, these skills include patience, accountability, and the capacity to function under pressure.

Within mentoring, these competencies were developed through real interpersonal challenges. Some mentors demonstrated persistence when working with unengaged or shy mentees, maintaining contact and support despite limited interaction. This required adaptability and emotional control. As one mentor reflected: *"I had understood to improve my adaptability skill by being open-minded and flexible to learn new things from mentees, which can help me to perform my mentoring tasks in an efficient way [sic]."*

DISCUSSION: NAVIGATING CHALLENGES

Mentors identified several challenges that influenced the effectiveness of the mentoring process, particularly in relation to mentee engagement and evolving expectations. Early interactions revealed that many mentees were uncertain about the purpose of mentoring and hesitant to participate fully. As one mentor observed, *"The mentees seemed stressed about the whole mentoring process."* However, continued engagement often led to increased confidence and openness over time, with another mentor noting that *"They seemed to feel a lot more comfortable than in the previous meeting."* This suggests that mentoring relationships require time to develop trust and clarity of purpose.

Mentoring within this program can also be interpreted through an entrepreneurial lens, as it requires mentors to demonstrate initiative, adaptability, and opportunity recognition in navigating uncertain situations. Acting without formal authority, mentors effectively manage relationships, solve real-world problems, and create value for mentees, reflecting key entrepreneurial competencies such as innovation, resilience, and self-direction. The experience of not securing placements can itself be reframed as an entrepreneurial trigger, encouraging mentors to leverage setbacks as developmental opportunities. In this sense, mentoring functions not only as employability training but also as a form of entrepreneurial skill development, aligning with broader expectations of graduates as proactive and opportunity-oriented contributors in dynamic labor markets.

Sustained engagement remained inconsistent over the time of this study. Some mentors reported that their role became less relevant once mentees adapted to university life, reflected in comments such as *"Mentees seemed like they did not need me as they were all settled and adapted to university life."* In other instances, mentees demonstrated passive participation or presenteeism, prioritising academic tasks over mentoring interactions. This indicates that maintaining engagement across

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the lifecycle of mentoring programs is a significant challenge, particularly when mentees perceive diminishing value.

Structural aspects of the program also shaped mentoring effectiveness. While mentors were provided with resources and prompts, the mentee-led design meant that the quality of engagement depended heavily on mentees' own initiative. Although sessions were relatively frequent and longer than standard personal tutoring appointments, this did not guarantee meaningful interaction. Feedback from mentees further highlighted limitations in mentors' ability to provide specialised guidance, particularly in areas such as interview preparation, reinforcing the need for clearer role boundaries and effective signposting to institutional services.

From an employer perspective, the skills developed through mentoring align closely with competencies valued in graduate recruitment, including communication, teamwork, problem-solving, and adaptability. Employers increasingly prioritize candidates who can demonstrate applied experience and reflective capability rather than solely academic achievement. Mentoring enables students to evidence these attributes through practical examples, strengthening their ability to articulate skills in interviews and professional contexts. This alignment suggests that structured mentoring programs can enhance graduate readiness and better meet employer expectations within competitive labor markets.

Interpersonal and cultural dynamics added further complexity. Mentors reported challenges arising from personality differences, communication styles, and cultural expectations regarding authority. For example, one mentor stated: *"I assured to give a reference for him [sic],"* suggesting differing perceptions of the authority of mentoring roles. Others reflected more critically on power dynamics, questioning how to motivate without overstepping boundaries. Language barriers also influenced communication, with mentors noting difficulties in understanding colloquial expressions or navigating sensitive phrasing. The matching process did not sufficiently consider cultural and gender power dynamics, an area identified for improvement to enhance inclusivity and effectiveness in future iterations.

Logistical constraints, including scheduling conflicts, group coordination, and time zone differences, further disrupted mentoring continuity. In some cases, meetings were poorly attended, while in others, mentors adapted by using alternative communication methods such as recorded videos. Additionally, the selection of mentors - students who had not secured placements - introduced limitations in terms of their confidence and depth of feedback, despite their valuable experiential knowledge.

The challenges identified in the mentoring process highlight the need for a more structured, inclusive, and strategically designed approach to enhance both engagement and employability outcomes. Drawing on these findings, the following recommendations are proposed to strengthen the effectiveness and sustainability of employability-focused mentoring programs.

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Incentivizing Mentee Participation Equitably

A critical finding highlights the importance of incentivizing mentees to the same extent as mentors. While mentors often receive recognition or tangible benefits for their contribution, mentees' engagement is frequently assumed rather than actively encouraged. Equal valuation of both roles fosters an equitable dynamic which positions mentees as active contributors rather than passive recipients. For students who may be late adopters of mentoring or are uncertain about its relevance, some pragmatic incentives such as recognition within academic records, employability credits, or access to exclusive career support will be beneficial motivators. This approach reframes mentoring as a mutually beneficial partnership rather than a hierarchical exchange.

Strategic Matching and Cultural Sensitivity Training

Effective matching between mentors and mentees is fundamental to the success of mentoring relationships. Aligning pairings with mentees' specific career aspirations, academic interests, and developmental needs, alongside mentors' expertise and industry experience, enhances relevance and engagement. The integration of an online matching system could streamline this process, ensuring transparency and efficiency. Furthermore, cross-cultural sensitivity training should be embedded within mentor preparation programs, given the diverse cultural backgrounds of international postgraduate cohorts. Such training would support the mentors with skills to navigate cultural distinctions and foster inclusive, compassionate interactions. On the other hand, offering similar training to mentees prior to matching can further promote mutual understanding and empathy, which will strengthen the foundation for more productive and respectful relationships.

Professional Development Support for Mentors

Mentors themselves require targeted support to fulfil their roles effectively. Training and additional employability skills sessions should be offered to mentors by qualified Careers Consultants to build their confidence in supporting the professional development of their mentees and to bridge any knowledge gaps experienced in their own unsuccessful applications for placements in the previous year. Addressing these gaps not only strengthens mentors' own employability but also ensures that mentees receive evidence-informed, practical guidance grounded in current labor market trends.

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Embedding Mentoring within the Curriculum

Employability mentoring should be embedded within curriculum time, including both the training and the matching, plus scheduled times for mentees to meet with mentors after simultaneous delivery of their modules. Without such institutional commitment, first-year postgraduate students often face competing academic and personal demands which can lead to limited engagement. Embedding mentoring within the curriculum positions its role as an integral component of employability development, strengthening its authenticity and ensuring equitable access for all learners.

Creating a Systemic Framework for Engagement

Collectively, these recommendations underscore the need for a systemic approach to employability mentoring that recognizes the interdependence of incentives, training, cultural competence and institutional support. By adopting these strategies, higher education institutions can cultivate mentoring ecosystems that not only enhance individual student outcomes but also contribute to broader organizational goals of diversity, inclusion, and graduate employability.

BARRIERS TO SUCCESS OF THE MENTORING PROGRAM

Analysis of the survey data highlighted several interrelated factors that influenced both the development of employability skills and the overall effectiveness of the mentoring process. These included:

- **Mentee engagement** – the extent to which mentees attended sessions consistently, participated actively, asked questions, and collaborated with their mentors to set meaningful goals.
- **Quality of mentor–mentee rapport** – how well the pairings aligned in terms of background, interests, ambitions, and communication preferences, as well as the degree of comfort and mutual respect evident during discussions.
- **Knowledge limitations** – situations where mentors were unable to address mentees' queries, whether related to placements, wider employability concerns, or practical matters such as part-time work and social integration.
- **Suitability of meeting spaces** – the need for environments that provided sufficient privacy for sensitive conversations while still feeling open and safe for all participants.

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- **Time constraints** – challenges arising from conflicting schedules, differing timetables, or limited availability outside academic commitments and part-time roles, which affected the ability of groups to meet regularly.
- **Mentor leadership** – variation in the degree to which mentors took responsibility for structuring and guiding sessions, preparing materials, and facilitating discussions rather than relying solely on mentees to initiate questions.
- **Language and cultural differences** – the influence of diverse communication styles, cultural norms, expectations about work and ambition, and differing levels of familiarity with UK contexts on the clarity and effectiveness of interactions.

A SUSTAINABLE EMPLOYABILITY MENTORING MODEL

Building on the identified challenges, a sustainable mentoring model must address structural, interpersonal, and engagement-related barriers while embedding employability at its core. The program demonstrates that mentoring can function as an experiential learning platform through which students develop transferable skills, but its effectiveness depends on systematic design and alignment of incentives.

At a broader level, employability-focused mentoring initiatives contribute to economic development by enhancing the readiness of graduates to enter skilled employment and reducing mismatches within the labor market. International postgraduate students represent a significant contribution to the UK economy and improving their employability outcomes supports productivity, workforce diversity and innovation. By strengthening transferable skills and professional readiness, mentoring programs can play a strategic role in aligning higher education outputs with labor market demands.

A central issue relates to engagement and perceived value. Mentees had no obligation to participate beyond initial sessions, leading to uneven involvement and skill development. The perception that mentoring primarily benefits mentors, illustrated by the feeling of being "commodified" (Hey, 2005, p.861), indicates the need for more balanced incentives. Embedding mentoring as a credit-bearing activity for both mentors and mentees would reinforce its value and encourage sustained participation.

The model must also address role clarity and capability. Mentee feedback such as *"mentor is not properly able to guide us through the interview process…"* highlights the importance of defining mentoring boundaries and strengthening mentors' ability to signpost institutional services. Collaboration with university careers services is therefore essential to provide mentors with targeted support and ensure the accuracy of guidance offered.

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Intercultural and interpersonal dimensions are equally critical. Mentoring relationships are shaped by diverse cultural expectations, communication styles, and perceptions of authority. Integrating cultural awareness training and clearer guidelines can support mentors in navigating these dynamics while maintaining appropriate boundaries.

Logistical flexibility is another key component of sustainability. Challenges related to scheduling, attendance and time zones indicate the need for adaptable delivery formats. The use of alternative communication methods, as seen in *"I had to convey the information through videos,"* demonstrates how flexibility can support continuity. Hybrid models combining synchronous and asynchronous interaction can therefore enhance accessibility and participation.

The model also recognises the value of experiential knowledge. Although mentors had not secured placements they possessed significant experience in application processes, including CV preparation, interviews and assessment centres. This knowledge can be leveraged more effectively by making it explicit during mentor-mentee matching and early interactions, thereby strengthening mentees' perception of relevance (Hakro and Mathew 2020, p318).

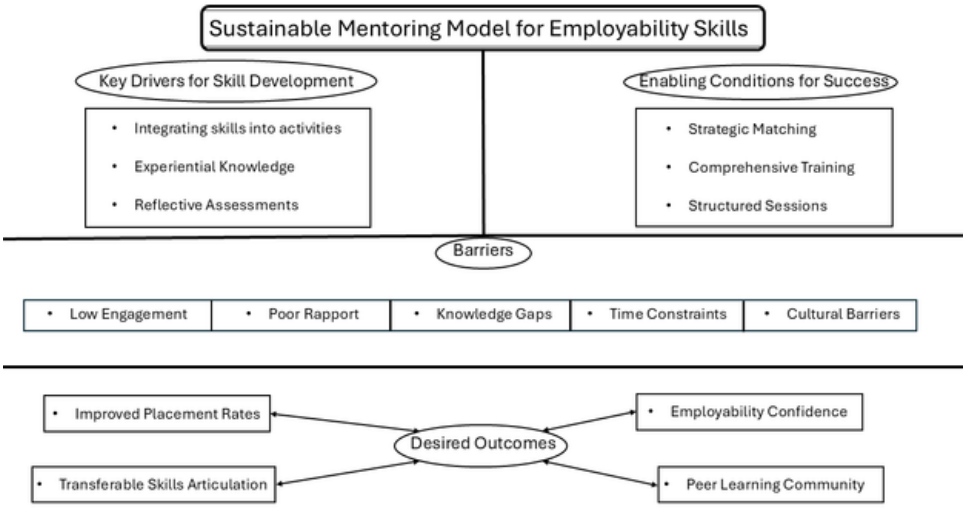
Importantly, mentoring contributes to broader institutional and employability outcomes. With only 15% of eligible students securing placements a large pool of experienced applicants remains available to support peers. The observed increase in placement conversion rates from 19% to 26% suggests that structured mentoring may enhance student preparedness, even if causality cannot be definitively established. Additionally, mentoring fosters peer solidarity and community-building, addressing issues of student isolation (Neves and Brown, 2022 p.6).

In conclusion, a sustainable mentoring model requires the integration of equitable incentives, structured support, intercultural awareness and flexible delivery mechanisms. By addressing the identified challenges and embedding employability within the mentoring framework, institutions can create scalable systems that enhance both individual student outcomes and broader graduate employability.

Figure 2 presents a structured sustainable mentoring model that integrates employability skills through key drivers such as experiential learning, skill-based activities and reflective assessment. It highlights essential enabling conditions, strategic matching, comprehensive training and structured sessions. The model also identifies strategies to overcome barriers like low engagement, cultural differences and time constraints. Together these elements can lead to improved outcomes, including higher industrial placement success, stronger employability confidence, effective articulation of transferable skills and the development of peer learning communities.

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Figure 2. Sustainable Mentoring Model



IMPLICATIONS

Students who invest significant time, financial resources, and effort into a master's degree in international business typically aspire to secure senior-level graduate roles upon completion. From an employer perspective, mentoring is recognised as a critical managerial competency. As noted by Prospects (2020), at senior levels professionals are expected not only to possess a breadth of experience, knowledge and skills, but also to transfer these capabilities to others through guidance and support. This reinforces the value of mentoring as a workplace-relevant skill that aligns directly with employer expectations of leadership, collaboration and knowledge sharing.

However, the UK graduate labor market remains highly competitive, particularly for international students who may also face visa-related constraints. Structural imbalances between graduate supply and demand continue to intensify competition. High Fliers (2020, p.16) reports that while the number of graduates leaving UK universities increased by 37% between 2008 and 2020, graduate vacancies rose by only 7% over the same period. This disparity widened further during and after the COVID-19 pandemic. In 2021, applications to the UK's top 100 graduate employers increased by 41%, marking the highest recorded surge (High Fliers, 2021, p.6). More recently, in 2024, graduate vacancies declined by 14.6%, the sharpest drop since the 2020 lockdown, while applications simultaneously increased by 27% (High Fliers,

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2025, pp.1, 8). These trends reflect the compounded effects of the 2008 financial crisis, the global pandemic and ongoing economic austerity, making it increasingly critical for graduates to demonstrate clear, differentiated value to employers.

Although postgraduate qualifications may offer a competitive edge over undergraduate degrees, they do not fully compensate for the absence of practical workplace experience gained through placements or internships, key components of employer talent pipelines. From an economic perspective, this gap represents an underutilisation of highly skilled international graduates who could otherwise contribute to the UK labor market and broader productivity. The mentoring pilot in this case study therefore provides a strategic intervention to mitigate this employability gap by enabling students to develop and evidence transferable skills in the absence of placement experience.

Nevertheless, mentee engagement varied significantly, as participation beyond the initial matching session was not compulsory. This led to uneven skill development outcomes among mentors. One mentor reflected that mentees responded to follow-up requests by stating: *"we are doing enough for your mentoring work, and we have lots of other work to do."* This highlights a perception among some mentees that mentoring primarily benefits mentors, rather than functioning as a reciprocal developmental process.

FUTURE RESEARCH

This research was conducted at the start of the COVID-19 pandemic and, as such, is a uniquely contextualized and situated study. The fact that face-to-face mentoring had to quickly move online at an early stage in the development of mentoring relationships meant that non-verbal communication and the associated trust this brings were lost. Heightened emotions and fear at this time also likely impacted the students' ability to be relaxed and open in conversations with strangers. In addition, students were probably more preoccupied than at other stages in their learning journey focusing on core subject content and assessments, as motivation was negatively impacted by the move to online learning delivery (Curelaru, Curelaru and Cristea, 2022). Although the program was implemented during the COVID-19 period, the challenges identified remain relevant in the post-pandemic labor market, where competition for graduate roles continues to intensify. The increasing use of hybrid recruitment processes, digital assessment methods and global talent pools further reinforces the need for adaptable, self-directed graduates, suggesting that the value of mentoring-based employability development extends beyond the pandemic context.

However, the model of peer-mentoring for developing employability skills in the *mentors* is one which highlights the value of mentoring skills for the future workplace

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and recognizes the development of these through the awarding of academic credit. This is unique and innovative, providing a template which can be replicated in new curricular models founded upon experiential learning principles.

Previous studies of postgraduate international students have shown that peer mentoring leads to 'healthy adjustment' (Menzies, Baron and Zutshie, 2015 p417) and future investigation of this topic should explore the experiences of the mentees alongside the mentors, to measure whether mentees benefit from the general 'additive value' (Graham and McClain, 2019 p2355) of mentoring in terms of their adjustment to university and their sense of belonging within the first semester. Jackson and Rowe (2023, p502) found that engaging in mentoring at university signaled to employers that students held higher human capital, particularly leadership skills. It would, therefore, be equally important in future to track participants into the graduate labor market to evaluate the impact of peer mentoring upon their own entry into highly skilled roles (with associated median salary implications).

Future investigations could also consider the cross-cultural aspects of peer mentoring amongst international postgraduate students, with an analysis of the pairings which prove most productive and whether cultural alignment plays a part in this. Hoftsede's (1980) six cultural dimensions could provide a framework for such an analysis, taking account of both the mentor's and the mentee's home culture and how closely they match on the 6-point scale. This would provide further information to improve the matching process or inform the preparation required for the mentor-mentee pairing to succeed.

Overall, the mentoring initiative presented in this chapter illustrates how experiential learning approaches embedded within postgraduate curricula can contribute to the development of employability competencies among international students. By transforming the experiences of students who were unsuccessful in securing placements into a developmental mentoring opportunity, the program demonstrates a scalable and resource-efficient model for enhancing employability outcomes.

While further research is required to evaluate long-term career impacts and broader economic contributions, the findings suggest that structured peer mentoring can play a meaningful role in preparing postgraduate students for increasingly competitive and complex labor markets.

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DECLARATION

Generative AI was used in the editing process to improve the readability of this paper in line with editorial policy: https://www.igi-global.com/publish/contributor-resources/book-editorial-policy/#ai-technologies

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KEY TERMS AND DEFINITIONS

Credit-bearing: Learning which is assessed through coursework assignments and tests then graded, contributing to the overall GPA achieved from a program of learning in higher education.

Embedded: Content that is delivered within modules and programs of study, either synchronously or asynchronously, so that the content forms part of the accredited provision of learning.

Employability: In this context, employability is a person's ability to gain, sustain and maintain employment and use the different transferable skills from the postgraduate degree to progress in their career pathway.

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Experiential Learning: Experiential learning is 'learning by doing' whereby students gain knowledge and skills through direct experience rather than purely theoretical underpinning.

Intercultural Awareness: Understanding and ability to appreciate and respond appropriately to different cultural norms of behavior and communication within cultural belief systems. Through practicing cultural humility and developing cultural intelligence, students build their intercultural awareness so that they can recognize and adapt to different value systems held in cultures other than their own.

International Student: Students who enroll in an educational institution in a country where they are not citizens and need legal permission to stay in that specific country. In this context, international students come mainly from India, Nigeria, Pakistan, Bangladesh, Malaysia, and China, although several other Asian and African nations are also represented in smaller numbers.

Placement: The postgraduate program is a 2-year program, where students study various taught modules in their first year, then participate in 36 weeks of practical work in their second year in a paid role that complements their learning. This practical work-based element is defined as a placement.

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Chapter 16
AI as the New Mentor: AI–Human Collaboration in Experiential Learning

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EXECUTIVE SUMMARY

This chapter examines artificial intelligence as a transformative mechanism for scaling experiential learning in entrepreneurship education and practice. Drawing on case studies from higher education institutions, regional economic development organizations, venture capital firms, and social impact programs, the analysis demonstrates how AI-human collaboration addresses systemic barriers in innovation ecosystems. Examples range from incarcerated individuals developing post-release businesses to entrepreneurs in emerging markets accessing structured guidance. The chapter presents frameworks for responsible AI integration, examines cultural bias in large language models, explores implications for sustainable business practices, and provides actionable guidance for educators and business leaders navigating this technological transition.

INTRODUCTION

The author's journey into this space began during tenure as a senior executive at a leading startup accelerator. In 2017, in collaboration with researchers from Harvard and MIT, a research project tested whether AI could evaluate startups for investment. We developed algorithms that analyzed pitch decks, business plans, and founder backgrounds, then compared AI assessments to decisions made by experienced investors. The results, later published in "Machine Intelligence vs. Human

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Judgment" (Catalini, Foster, & Nanda, 2018), showed AI performing comparably to expert human evaluators, particularly on complex, data-intensive applications. While that project did not continue at the time, it planted the seed for subsequent work. With the arrival of large language models (LLMs), the potential became clear to extend human creativity and mentorship rather than replace it, helping founders, educators, and innovators validate and launch ideas faster, more inclusively, and with greater confidence. This insight led to the founding of an AI-powered platform that generates, in under 90 seconds, actionable business validation plans based on the ideas input by entrepreneurs.

A leading accelerator frequently articulated the belief that "great entrepreneurs and startups are everywhere, but opportunity is not evenly distributed" (Techstars, 2025). Today, that vision has expanded beyond venture capital. From incarcerated individuals in Colorado planning post-release businesses, to older adults in Singapore launching ventures in their 60s and 70s, to entrepreneurs across more than 50 African nations accessing structured mentorship for the first time, AI is proving that innovation knows no boundaries of age, geography, or circumstance. These examples, detailed later in this chapter, are not aspirational; they are happening now, reshaping who gets to participate in entrepreneurship and how they succeed.

The central challenge is to guide this transition with rigor and responsibility, ensuring that AI enhances human creativity, judgment, and strategic decision-making rather than supplanting them. When implemented thoughtfully, AI does not replace human mentorship; it functions as a scalable extension of expertise, providing continuous access to guidance and enabling principles of experiential learning to reach broader and more diverse populations.

Acknowledging AI in this Chapter's Creation

The concept "AI as the New Mentor" emerged from the author's work in start-up acceleration, evolved through years of practice, and has been refined through conversations with educators, investors, and entrepreneurs globally. The work is foundationally human. AI was intentionally employed as a structuring partner in the writing process, helping propose logical structure, suggest section headings, enhance transitional flow between arguments, and refine sentence clarity. AI also assisted in organizing diverse case studies and sources into a coherent narrative structure. In this process, AI functioned not as an author but as a meta-cognitive assistant, a mentor for the form of the argument. Every claim, argument, case study selection, and conclusion reflects the author's professional judgment and field experience.

This acknowledgment is not merely ethical housekeeping; it models the very collaboration this chapter advocates. Just as founders use AI to structure business plans while maintaining ownership of their vision, and investors use AI to generate

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deal memos while applying their judgment to final decisions, this chapter represents human-AI collaboration at its most productive: AI as amplifier, not replacement.

THE AI MENTOR MANDATE

The new reality of Artificial Intelligence demands global commitment to upskilling and proactive, human-centric approaches to change management. For businesses, integrating AI is a transformation touching every organizational pillar, from technology and data to operating models and talent. The urgency is exemplified by global firms like Accenture, which actively restructured its workforce for the AI era. In early 2025, the company announced plans to cut approximately 22,000 positions while simultaneously hiring for AI-focused roles (Ming, 2025). This dual approach underscores how AI shapes not just opportunities but employability itself.

However, the path to realizing the value of AI is not frictionless. Many companies experience a "two steps forward, one step back" pattern, often derailed by two common hurdles: slowdown in innovation caused by excessive rework, where teams spend more time revising AI outputs than advancing new ideas, and technical pitfalls such as AI "hallucinations" producing false information and ethical biases replicating unfair patterns from training data (McKinsey & Company, 2025b). Beneath these technical challenges lie equally significant human ones. Over-reliance on AI outputs, uneven staff confidence in using new tools, and wide variation in institutional readiness mean that organizations frequently encounter the same adoption barriers regardless of the quality of the technology deployed. Organizations that succeed with AI don't treat it as isolated pilot programs, but build enterprise-wide platforms with modular design, self-service access, and automated guardrails (systematic controls that ensure AI outputs comply with organizational policies and ethical standards) for compliance and trust (McKinsey & Company, 2025b). These topics will be covered near the end of the chapter.

This complexity teaches a vital lesson: the AI mentor is not a passive tool but a sophisticated partner demanding thoughtful, disciplined, and human-governed implementation. The message is clear: AI literacy is no longer optional; it is a baseline. Institutions and organizations that fail to embed AI mentorship into talent development strategies risk losing competitive ground. Those that succeed will treat AI not as a replacement for human judgment but as a collaborative force elevating what humans can achieve, supporting both economic stability and sustainable business practices.

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FROM LEAN STARTUP TO AI-AUGMENTED LEARNING

For over a decade, the lean startup methodology (Blank, 2013) has been the gold standard for innovators. Its iterative cycle of hypothesize, test, and pivot has shaped how students and entrepreneurs approach new ventures. However, AI is now fundamentally accelerating this model. Steve Blank noted in 2023 that machines may soon outperform humans at core elements of customer discovery and validation, observing that "AI will revolutionize the lean startup" by enabling entrepreneurs to test assumptions and validate markets at speeds previously impossible (as cited in Kamps, 2023). AI-powered platforms illustrate this shift, enabling entrepreneurs, students, and educators to move from raw ideas to structured business models in minutes rather than months.

Early data validates this transformation. Research presented at the World Open Innovation Conference reported that users rated an AI business validation platform's output as 95% accurate with a Net Promoter Score of 91, demonstrating how effectively AI can validate business ideas when combined with human judgment (Ford, 2023). Within weeks of launch, the platform organically captured more than 2,000 users and over 6,000 ideas, growing to over 25,000 users with over 60,000 ideas at the time of publication.

Harvard Business School faculty have underscored this transformation. Michael Schrader (2024) described AI-enabled tools as a "startup cheat code," radically reducing time and cost to validate ideas. Similarly, Jeff Bussgang's research in Experimentation Machine (Bussgang, 2025) introduced "10x Founders," entrepreneurs who leverage systematic experimentation and AI augmentation to achieve outsized impact. The framework emphasizes that AI doesn't just make founders faster; it makes them fundamentally more capable of running structured experiments at scale, testing assumptions rigorously, and pivoting based on data rather than intuition alone. These gains depend, however, on founders developing genuine discernment. Over-reliance on AI outputs without critical evaluation can produce polished but flawed strategies, reinforcing assumptions rather than challenging them.

Faster iteration is just the beginning. AI reduces friction at the earliest stages of innovation, making the process of moving from concept to validation accessible to far more people. Paul Cheek's Startup Tactics (Cheek, 2024) reinforces this principle with practical frameworks for early-stage validation that align with AI-augmented approaches. Where traditional validation might take weeks of manual customer interviews and market research, AI can accelerate pattern recognition while human founders focus on the nuanced conversations that reveal genuine customer pain points.

The implications for educators and mentors are profound. In the case studies that follow, we see that where traditional mentors might check in weekly or monthly, AI offers constant guidance, providing real-time feedback, surfacing blind spots,

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and suggesting alternative paths. But this abundance introduces its own challenge. When AI can generate dozens of strategic options, market analyses, or customer personas in minutes, the skill is no longer generating ideas; it is discerning which outputs are relevant, credible, and worth acting on. For learners and managers alike, decision-making under abundance, knowing how to evaluate and prioritize AI-generated insights rather than simply consuming them, becomes as important as the ability to use the tools themselves. Humans must build on AI's foundation by focusing energy on precisely this higher-order judgment: leadership, execution, and the critical evaluation of what AI surfaces. Together, this human-AI partnership redefines experiential learning: scalable, personalized, and relentlessly iterative.

EXPERIENTIAL LEARNING: CONNECTING SCHOLARS AND STARTUPS

Blank's lean startup methodology is well-grounded in educational theory. Experiential Learning Theory (ELT) defines learning as a cycle of concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1983), a framework that supports the hypothesize-test-pivot rhythm of lean innovation. ELT also emphasizes the role of a facilitator, a guide through iterative phases of learning and development, which maps directly to the mentorship function at the core of startup accelerators. AI extends this model further. As a collaborator that supports cyclical iteration at scale, it strengthens the learning process that experiential education is designed to produce, and the business outcomes.

A ROAD MAP FOR RESPONSIBLE AI MENTORSHIP

The case studies that follow span higher education, regional economic development, enterprise investment, and social impact contexts, making the case for AI as a foundational element of iterative learning concretely and at scale. The chapter then moves from evidence to implication, exploring guardrails for responsible deployment, the legal and ethical frameworks now being codified in global regulation, and the fundamental paradigm shift institutions and organizations must undertake to harness AI as a collaborative tool that elevates human judgment.

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REAL-WORLD APPLICATIONS: HIGHER EDUCATION

The adoption of AI as a mentor in higher education is no longer theoretical. It is already reshaping universities, from digital twins that broaden access to a lecturer's knowledge to tools that expand equitable access to education. These case studies illustrate how AI can scale human expertise while allowing educators to focus on judgment, guidance, and mentorship.

Case Study: Scaling Expertise at Harvard Business School with Digital Twins

At Harvard Business School, faculty are pioneering the use of AI digital twins to extend mentorship beyond traditional classroom limits. A digital twin is an AI-powered replica of expert knowledge that provides students with continuous access to a professor's expertise. Jeff Bussgang, senior lecturer at Harvard Business School and general partner and co-founder of Flybridge Capital Partners, has integrated his books, curricula, lecture notes, and writings into an AI digital twin, giving students 24/7 access to his guidance. The system logs all interactions, enabling continuous refinement over time (J. Bussgang, personal communication, 2025).

Organizations realizing the most value from AI rely on human-in-the-loop feedback to strengthen trust and governance practices to ensure responsible evolution (Giovine & Roberts, 2024). Bussgang's approach reflects these principles directly. By reviewing student interactions with his twin, he corrects errors, updates content, and refines guidance, ensuring the system evolves in tandem with student needs. Rather than a static repository, the digital twin becomes a living system, constantly shaped by human oversight and real-world application, functioning as a reflective and adaptive partner in student problem-solving and decision-making.

Case Study: Advancing University Business Plan Competitions

One of AI's most immediate impacts in higher education is its ability to level the playing field. Campus-wide business plan competitions at universities such as the University of Colorado Boulder, the University of California Irvine, and Claremont McKenna College have historically favored business majors with prior coursework over students from other disciplines. AI platforms now provide structured guidance on market validation, competitive positioning, go-to-market strategies, and customer segmentation, enabling students to develop ideas grounded in core business concepts that previously required semesters of coursework. The result is a meaningful shift

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in what competitions reward: from the most technically correct plan to the most viable business idea.

Competition entry quality improved alongside access. Students began validating ideas more effectively using AI tools that accelerate cycles of experimentation and hypothesis testing. Dr. Madhavan Parthasarathy, executive director of the Jake Jabs Center for Entrepreneurship at the University of Colorado Denver, observed that rather than investing time in weak concepts, students arrived with sharper, more investable ventures (M. Parthasarathy, personal communication, 2024).

KEY LEARNINGS FROM HIGHER EDUCATION

These examples illustrate AI working to enhance both what and how students learn. With Bussgang's digital twin at Harvard, students ask questions, receive feedback, and explore scenarios with their lecturer in ways that would be impossible to replicate without AI support. Students experience a structured human-AI loop: humans set intent, AI generates outputs, humans evaluate and refine results. This cycle ensures that critical thinking, judgment, and creativity remain human-led while AI amplifies scale and accessibility.

In the business plan competition context, human-AI collaboration gives students a structured framework for iteration that foregrounds creativity and critical thinking rather than prior knowledge of business planning conventions. By accelerating the research and validation work, AI frees students to focus on higher-order skills: assessing results, drawing conclusions, and adapting their approach across more iterations. In an experiential learning model where the value lies in iterative adjustment, students advance further and faster in their understanding.

REAL-WORLD APPLICATIONS: REGIONAL ECONOMIC DEVELOPMENT

Higher education has long championed technology as a democratizing force, and AI is beginning to deliver on that promise. While AI mentorship looks different for regional economic development audiences, the fundamentals of iterative learning remain central. Organizations in these contexts face distinct challenges: limited mentor access, sparse investor networks, and geographic isolation. The case studies that follow demonstrate how AI can bridge these gaps to support local economic stability.

As this examination extends to non-Western contexts, it is important to first acknowledge a significant structural limitation in the models underlying these tools.

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UNDERSTANDING THE "WEIRD" EFFECT

Research from Harvard found that large language models display a strong "WEIRD bias," meaning their responses most closely mirror individuals from Western, Educated, Industrialized, Rich, and Democratic societies (Atari et al., 2023). The study compared model outputs to human responses across more than 50 countries using well-established psychological instruments measuring analytic versus holistic reasoning, social attribution, and cognitive styles. Across all three domains, GPT patterns aligned most closely with U.S. and Western European participants, with the correlation between model and human responses declining sharply with increasing cultural distance from the U.S. ($r = -.70$, $p < .001$). Even when prompted to "think like" participants from different regions, the models' underlying cognitive signatures remained predominantly analytic and Western in structure.

This dynamic is not new. Scholars have long documented how algorithmic systems encode and amplify existing social inequities. Noble (2018) demonstrated that search algorithms systematically disadvantage marginalized communities, and O'Neil (2016) showed how mathematical models can embed human bias at scale, producing outcomes that are opaque, difficult to contest, and self-reinforcing.

This matters because generative AI now influences decisions, creativity, and learning across borders, while the training data and design assumptions underlying these models remain overwhelmingly English-first and Western-centric. AI systems can appear fluent while quietly misinterpreting local markets, cultural norms, regulatory realities, and informal economic behavior in non-Western contexts. When used uncritically, this steers founders toward assumptions that do not reflect their lived environment, reinforcing knowledge asymmetries rather than reducing them.

The risk is amplification. As AI becomes embedded in education programs, accelerators, and public innovation initiatives, its biases can scale faster than human mentorship ever could. Founders with strong English proficiency and familiarity with Western business conventions may benefit disproportionately, while others receive structurally misaligned guidance, widening divides in who gains access to high-quality entrepreneurial support.

Addressing this requires changing how AI is taught and used. Educators and program leaders must help participants treat AI as a starting point for thinking, not an authority on context. This means explicitly teaching founders to interrogate assumptions, localize examples, and validate outputs against cultural norms and on-the-ground constraints. Over time, programs can intentionally contribute non-Western data, case examples, and feedback loops to help shape more representative models.

Building truly inclusive innovation depends not only on expanding access to AI tools but on developing the human judgment required to work with systems that are powerful, persuasive, and culturally incomplete. Teaching founders to question AI

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through local lenses is not a limitation on its use; it is what enables AI to become a meaningful collaborator rather than a subtle source of distortion, supporting culturally grounded, sustainable business practices that reflect diverse perspectives and local realities.

With that context established, the promise of AI for regional development is undeniable, as the following case studies illustrate.

Case Study: Expanding Access Globally with GIIG Africa

The GIIG Africa Foundation's Concept to Validation (C2V) program partnered with Lean Enterprise Acceleration Programmes (LEAP) to deliver AI-enabled training for entrepreneurs across multiple South African provinces. The training drew from a live session conducted in November 2025, led by Johanita Thwaits, who facilitated the program and shared firsthand insights from working directly with founders across industries, including manufacturing, consulting, food services, engineering, transportation, wellness, events, and education.

One of the most powerful moments came when founders saw how quickly AI could convert an early idea into a structured business framework. Work that historically required several months was completed in roughly ninety seconds. More important than speed was what that speed unlocked: AI functioned as a real-time mentor, helping founders move from ambiguity to clarity in minutes rather than months.

Another notable insight emerged when founders discussed their business plans. Some had partial drafts, others had outdated versions, and many had none at all. The C2V approach reframed business planning as an ongoing dialogue rather than a static document. AI made this practical by serving as a continuous thinking partner, enabling founders to test assumptions, explore scenarios, and refine direction iteratively, without starting from scratch each time.

Many founders lacked basic digital infrastructure, such as websites, customer databases, or business email accounts, often relying solely on WhatsApp or personal accounts. In this context, AI acted as an accessible advisor, guiding founders through steps they hadn't formalized before. The C2V program demonstrated how AI can help founders create professional business materials, uncover customer insights, and develop strategic direction.

Source: Author's conversations with Johanita Thwaits and review of her written summary from the November 2025 session she led.

Case Study: Scaling Innovation in the Middle East

A government ministry in the Middle East provides a compelling example of how public institutions can leverage AI to build entrepreneurial capacity at scale.

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Through a national digital innovation initiative, the ministry integrated an AI business validation platform into bootcamps designed to help participants develop both video games and viable business concepts. Across five cities, more than 200 students, most first-time entrepreneurs, used the platform to explore customer needs, test market assumptions, and structure go-to-market strategies.

Within five days, participants advanced from raw ideas to refined concepts, demonstrating how AI can accelerate experiential learning to solidify business ideas. Program assessments showed a 79% increase in entrepreneurial confidence and a Net Promoter Score of 86. Additionally, with more than 70% of attendees being women, the program showed promise for accessible AI mentorship, expanding inclusion in innovation-driven fields.

The initiative reflects broader policy insight: AI mentorship platforms can serve as scalable infrastructure for national innovation ecosystems. By embedding structured, data-informed guidance into public training programs, governments can expand access to entrepreneurial skills, reduce reliance on traditional mentorship networks and business education, and stimulate locally driven economic growth that supports sustainable development.

Source: Author's direct involvement in program design and delivery. Metrics drawn from internal program data and post-program assessments.

Case Study: Routt County Economic Development Partnership

The Routt County Economic Development Partnership (RCEDP), based in Steamboat Springs, Colorado, illustrates how AI mentorship can close critical gaps in rural entrepreneurial ecosystems. Through the High Country Accelerator, RCEDP uses AI to accelerate founder learning and strengthen its entrepreneurial community, working to diversify the local economy beyond its tourism base.

Under Program Lead Josef Scarantino's leadership, AI became central to nearly every accelerator session. Teams used it to refine hypotheses, test assumptions, and break ideas into actionable steps. A weekly reflection practice helped solidify learning: participants shared the hypotheses they were testing, then used the AI tool to explore how new insights shifted their direction. This structured loop helped founders identify ideal customer profiles with greater accuracy and confidence.

A core benefit was the ability to run multiple business model canvases and compare strategic paths quickly. The AI platform made complexity visible and manageable by surfacing the downstream implications of different choices. Rather than guessing which path minimized risk, founders could explore scenarios ahead of time, distinguishing what was strategically sound from what merely felt comfortable. This process accelerated the elimination of unproductive ideas and moved teams toward decisions grounded in market reality.

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Several founders extended this further, using the AI platform alongside other large language models in a feedback-rich dialogue across systems. They refined prompts, iterated on insights, and brought enhanced inputs back into the tool to generate increasingly precise outputs. This reinforced a central theme of the accelerator: the quality of human input determines the quality of strategic output. Teaching founders to ask better questions made them more independent and rigorous thinkers.

In rural ecosystems, slower cycles of capital formation raise the stakes for speed. Scarantino emphasized that "speed to resolution" and "speed to capital" are critical in communities where every delay increases vulnerability. AI helps RCEDP achieve its goal of connecting founders with funding and opportunity. By compressing the early-stage learning curve, AI prepares founders to hone their insights, sharpen their positioning, and develop the proof points needed to attract investors.

Case Study: Entrepreneurs Across Borders

Entrepreneurs Across Borders (EAB) is a New York-based nonprofit focused on the Caribbean, with initial programs in Jamaica. According to Nedra Daugherty, EAB's director of programming, the organization's vision is "creating a global community where founders can help communities in a social impact way. It's not a matter of providing dollars, but infusing information, guidance, support, exposure, and mentorship" (N. Daugherty, personal communication, 2025).

The EAB program focuses on micro-entrepreneurs with three to four years of experience seeking to elevate hobbies into market-ready businesses and supporting entrepreneurs who need mentorship to overcome growth hurdles. The program's integration of AI mentorship reveals one of the technology's most powerful characteristics: accessibility without extensive training. EAB provides participants access to an AI business validation platform with minimal formal instruction, yet participants successfully engage in self-directed learning. This self-teaching capability demonstrates how AI interfaces have evolved to lower barriers that once required formal business education.

The completion incentive, an AI-generated business plan allowing entrepreneurs to visualize their concept and revenue potential, proves particularly powerful. Daugherty recalls: "The Certificate of Completion was really meaningful to them. People would say, "I loved taking the course … It was a symbol of pride" (N. Daugherty, personal communication, 2025).

EAB's "entrepreneur success ladder" extends beyond course completion. All sessions end with "lead and need" conversations where participants discuss next steps and support others, transforming graduates into de facto mentors. The Beyond the Beach 2025 event exemplified this integration. Entrepreneurs pitched at individual tables while visitors completed "Peer Powered Feedback" surveys. The scheduled

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90-minute session extended beyond two hours. “It was a rich aspect of the event. It was the people-to-people focus, and it gave them feedback,” Daugherty explains (N. Daugherty, personal communication, 2025).

The EAB model demonstrates how AI mentorship bridges distance and resource gaps when thoughtfully integrated with human community building. What makes this approach powerful is that AI makes entry possible for those previously excluded, enabling entrepreneurs to achieve outcomes they couldn't reach with technology alone. This expansion of both knowledge and community creates pathways to economic opportunity, supporting equitable growth.

KEY LEARNINGS FROM REGIONAL ECONOMIC DEVELOPMENT PROGRAMS

In emerging markets and under-resourced contexts, AI's greatest impact is compressing the learning curve, making informed guidance accessible where experienced mentors and structured support are scarce. Acting as a continuous thinking partner, AI enables founders to test assumptions and refine direction iteratively, giving them the positioning and proof points needed to access the funding and community networks previously out of reach.

REAL-WORLD APPLICATIONS: INNOVATION INVESTORS

In enterprise and investment contexts, where many of our students eventually find themselves, AI mentorship takes on new dimensions: scaling due diligence, enabling “intrapreneurship,” and embedding experiential learning into organizational workflows. But the same iterative cycle of hypothesizing, initiating AI outputs, and applying human critical thinking is at work in organizations that apply AI technology effectively. The following applications demonstrate that the value of effective AI collaboration extends far beyond students and startups, supporting corporate social responsibility and sustainable business practices.

Case Study: Corporate Innovation at Scale with NBIM Norway

Norges Bank Investment Management (NBIM), one of the world's largest institutional investors, is embedding artificial intelligence at the core of its Strategy 25 plan. The organization views AI not only as an automation tool but as an enabler

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of better judgment, collaboration, and learning across the enterprise (Norges Bank Investment Management, 2025).

By giving staff secure access to large-scale models and cloud-based data platforms, NBIM equips employees with mentorship-like feedback loops. Analysts can use generative AI to generate investment memos, explore alternative perspectives, and surface hidden correlations. This shift reduces inefficiencies while amplifying humans' critical thinking.

NBIM treats AI adoption as a workforce-wide initiative. Training programs emphasize not just tool usage but reflective practices, encouraging employees to evaluate outputs, challenge assumptions, and apply human judgment. This echoes Wang and Thomas (2022), who argue that AI, when used as a reflective partner, mirrors human thought and prompts deeper ethical and strategic questioning. NBIM's model shows how even in highly regulated industries, AI can act as an organizational mentor, supporting responsible investment practices aligned with sustainability goals.

Case Study: AI-Augmented Due Diligence at Flybridge Capital

Venture capital has long relied on rigorous due diligence and investor intuition. In conversations with Jeff Bussgang, cofounder and general partner at Flybridge Capital, a clear picture emerged of how firms like Flybridge are pioneering the use of AI-generated deal memos to augment this process. The Flybridge Memo Generator ingests a startup's pitch materials and produces structured, professional-grade investment memos with executive summary, market sizing, competitive landscape, risk factors, and scoring across key categories. For investors, this tool accelerates pattern recognition, highlights blind spots, and ensures consistency across evaluations. A human investor may overlook subtle correlations in market timing, founder background, or competitive positioning, but AI can flag these patterns for closer review.

This approach reflects findings from Catalini, Foster, and Nanda (2018), who showed that AI can evaluate startups comparably to human experts, sometimes outperforming them on complex data-driven tasks. By standardizing the memo process, AI reduces bias, increases efficiency, and highlights the most promising startups for human evaluation.

Crucially, these memos also act as a form of mentorship for founders. By surfacing areas of strength and weakness in a structured format, the memos give entrepreneurs clear signals about where their pitch may fall short. Instead of opaque rejection, founders receive guidance that strengthens storytelling, sharpens business models, and improves odds in future fundraising conversations.

Source: Author's conversations with Jeff Bussgang, cofounder and general partner at Flybridge Capital. Description reflects Flybridge's internal practices as discussed.

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Case Study: Benchmarking AI Performance with VCBench Research

Recent research highlights meaningful progress at the intersection of large language models and venture decision-making. Chen et al. (2025) introduced VC-Bench, the first large-scale benchmark designed to evaluate LLM performance in predicting founder success under the uncertainty characteristic of venture capital. Using more than 9,000 anonymized founder profiles, the authors evaluated nine state-of-the-art models against human baselines, including market indices and tier-1 VC firms. Several models matched or exceeded human benchmarks on key metrics. GPT-4o achieved the highest overall F0.5 score, reflecting a strong balance between precision and recall and an approximately threefold improvement over the market precision baseline. In contrast, DeepSeek-V3 achieved the highest precision, exceeding six times the baseline, but with substantially lower recall, illustrating the sharp precision–coverage tradeoffs across model architectures.

KEY LEARNINGS FROM INNOVATION INVESTORS

Across venture capital and investment organizations, the same pattern holds: AI handles the analytical load so humans can apply better judgment, foster collaboration, and drive learning across the enterprise. Investors evaluate outputs, challenge assumptions, and determine the path forward, while directing their attention toward the work AI cannot do: building trust with founders, assessing leadership potential, and recognizing the sparks of vision that no algorithm can quantify.

In this context, AI-powered mentorship is not simply a workflow upgrade. It is a reimagining of how mentorship functions within the venture ecosystem, with AI serving a dual role as analytical engine and structured feedback tool that makes high-quality guidance more accessible to founders at every stage.

REAL-WORLD APPLICATIONS: SOCIAL IMPACT AND INCLUSION

Perhaps nowhere is AI's potential for expanding opportunity more evident than in contexts where traditional barriers to entrepreneurship are highest. The following case studies demonstrate AI's ability to reach populations that conventional systems have historically underserved. Yet the underpinnings of how AI can be put to work effectively remain the same: AI mentorship is a starting place for the human work of critical thinking, judgment, and iteration for growth.

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Case Study: Breakthrough Prison Entrepreneurship Program

The Breakthrough Alliance of Colorado demonstrates AI mentorship in one of society's most challenging contexts: helping incarcerated individuals develop viable business plans for post-release futures. Operating across six Colorado correctional facilities, Breakthrough integrates entrepreneurship education into a 32-week program called The Challenge. The curriculum systematically builds capabilities through soft skills development, career readiness, and entrepreneurial thinking.

Breakthrough's integration exemplifies deliberate human-AI collaboration design. The program strategically introduces AI only after participants manually complete the initial lean canvas and deliver the first elevator pitch, ensuring foundational entrepreneurial thinking develops through human effort first, reflecting pedagogical principles where technology augments rather than replaces cognitive development (Kolb, 1983).

Following the pitch bootcamp, a panel selects the five most viable concepts. Participants whose ideas were not selected join one of the top five teams. At this juncture, AI mentorship enters through a carefully adapted workflow necessitated by security constraints: incarcerated individuals lack internet access. Program staff input detailed business descriptions into an AI business validation platform, then print comprehensive outputs for collaborative review. Teams examine these materials, annotate them with local context and lived experience, then request refinements. This print-based workflow preserves essential AI mentorship functions while ensuring human ownership of decisions.

The AI-generated analyses fundamentally altered participants' conceptualization of viable business models. According to Programs and Services Manager Jason Hogan (Abdul Mu'min), the systematic business analysis helped participants understand dimensions of business planning they had never encountered, particularly around value propositions and market positioning (J. Hogan [Abdul Mu'min], personal communication, 2025). Competitive analysis proved especially powerful. Many participants believed they had identified niche opportunities, only to discover existing competitors through AI-generated market research. Rather than discouraging participants, this insight catalyzed more sophisticated strategic thinking about differentiation.

The model simultaneously required and developed critical evaluation skills. Participants learned to treat AI outputs as tools requiring fact-checking rather than authoritative answers, aligning with educational frameworks emphasizing AI literacy (Long & Magerko, 2020). The emotional impact also proved significant: seeing informal concepts transformed into professional frameworks was deeply empowering for individuals often marginalized from formal business education.

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At La Vista women's correctional facility, judges awarded two first-place prizes for the first time in the program's eight-year history, unable to distinguish a single winner. This outcome suggests that AI mentorship, properly integrated within supportive educational structures, can elevate participant performance substantially.

Breakthrough demonstrates how AI mentorship can advance economic stability and inclusive growth. By equipping incarcerated individuals with entrepreneurial tools and mindsets, the program contributes to its long-term aim of reducing recidivism by improving post-release economic opportunity and community stability. More critically, Breakthrough demonstrates that AI mentorship succeeds not by replacing human connection but by amplifying it. Human intermediaries played essential roles in bridging participants and technology, ensuring AI served as an enabler rather than a gatekeeper. The result is a model proving that meaningful progress arises when technology and human empathy work hand in hand, supporting social impact and sustainable community development.

Case Study: Fresno Metro Black Chamber of Commerce

The Fresno Metro Black Chamber of Commerce (FMBCC) in California's Central Valley shows how AI mentorship can help address long-standing barriers for Black entrepreneurs. Through its Money $enter program, the Chamber supports founders at widely varying levels of preparedness with limited staff capacity. Many arrive with the impulse to start a business but without a clear problem, customer segment, or solution in mind.

Rick Keyes, director of Small Business Development & Membership, incorporates AI into his diagnostic workflow in a way that enhances rather than replaces his expertise. When founders struggle to articulate concepts, he collects basic details and feeds them into an AI business validation tool. The resulting analysis gives entrepreneurs the structure they often lack, highlighting gaps, framing market considerations, and suggesting logical next steps.

The impact extends beyond efficiency. For many FMBCC participants, traditional business planning can feel intimidating or inaccessible. The AI interface lowers these psychological barriers by offering guidance without judgment. Keyes supplements this with other AI tools, all framed as thought partners rather than definitive authorities.

Even with these tools in place, Keyes emphasizes that the human element remains central. AI can assemble data and map possibilities, but cultural context, trust, and practical judgment still come from the advisor (R. Keyes, personal communication, 2025). The FMBCC model demonstrates that AI is most effective when it lowers barriers to entry while a skilled human guide shapes what happens next.

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Case Study: The Greypreneur Movement Empowers Older Adults

David Ward, founder of the Greypreneur movement, is reshaping how society views entrepreneurship later in life. He believes the third stage of life offers unique advantages. Older adults bring lived experience, clarity of purpose, and deep understanding of problems they want to solve. In conversations about his work, he described how many aspiring founders at this stage feel the pull to create something meaningful but lack a clear starting point (D. Ward, personal communication, 2024).

His response has been to develop practical tools and structures that open possibilities, including building a comprehensive entrepreneurship toolbox and introducing AI-powered platforms to deliver "wow" moments that help people see their ideas more clearly.

Ward's partnership with Singapore University of Social Sciences (SUSS) exemplifies how he brings this philosophy to life. Through SUSS's Entrepreneurship Immersion Programme and Silver Venture Builder, participants blend entrepreneurial thinking, experimentation, and AI-assisted guidance to navigate unfamiliar tools, refine ideas, and build confidence (Singapore University of Social Sciences, 2023). These outcomes reflect a larger global shift: individuals aged 50 and above are increasingly launching businesses, often motivated by purpose, autonomy, and desire for impact. Women in this age group are becoming a powerful entrepreneurial force. "Women over 50 are starting businesses at unprecedented rates," a trend fueled by decades of experience and strong networks (Marcelo, 2024).

KEY LEARNINGS FROM SOCIAL IMPACT AND INCLUSION ORGANIZATIONS

The prison program's high degree of human involvement underscored a finding that runs across these case studies: AI is most powerful as part of an iterative, human-led mentoring infrastructure. AI does not provide final answers. It provides structured feedback that challenges assumptions and spurs critical thinking.

With the right structures, mentorship, and technology, founders who have traditionally been excluded from innovation and entrepreneurship can move from uncertainty to momentum. Meaningful creation is within reach across all demographic groups, and AI, deployed intentionally, becomes a lever for inclusive economic participation, resilience, and growth.

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EMERGING FRONTIERS: FROM GENERATIVE AI TO AGENTIC WORKFLOWS

Current AI systems, largely generative models responding to user prompts, have already transformed workflows across learning, innovation, and operational processes. These systems act as responsive assistants, providing insights, drafting content, and helping humans navigate complex tasks. Their role, however, remains largely reactive. They respond to instructions rather than initiating action.

Recent analysis points to the next phase: agentic AI. Unlike traditional generative models, agentic systems are designed to pursue goals, initiate tasks, coordinate across tools, and adapt strategies with limited human intervention (Deloitte, 2025). This shift moves humans "above the loop," where AI manages execution, iteration, and optimization, while people focus on intent, judgment, and accountability.

In mentorship contexts, agentic AI represents a qualitative change. Rather than waiting for prompts, systems can independently validate ideas, surface opportunities, monitor progress, and propose next steps. AI evolves from a reactive assistant into an active collaborator that helps shape outcomes over time.

Organizations experimenting with agentic AI report several recurring success factors: clearly defined objectives, tight integration into existing workflows, persistent human oversight, and strong governance mechanisms. Deloitte emphasizes that agentic systems deliver value only when organizations redesign roles, decision rights, and accountability structures alongside the technology itself (Deloitte, 2025). Without this alignment, autonomy creates fragmentation rather than leverage.

While agentic AI is already reshaping workflows today, its longer-term trajectory remains uncertain. Aschenbrenner (2024) suggests that continued advances in compute, model efficiency, and autonomous coordination could accelerate progress toward more general capabilities within this decade. Historical model jumps demonstrate how quickly performance can improve, moving systems from assistive roles toward more independent execution.

At the same time, Deloitte cautions that progress will be uneven. Constraints related to data quality, system reliability, governance, and organizational readiness will shape adoption far more than raw technical capability (Deloitte, 2025). As a result, narrow, domain-specific agentic applications are likely to mature first, while fully general-purpose agentic mentors remain several years away.

The strategic implication is clear. Organizations that begin deploying agentic AI today gain more than efficiency. They develop institutional muscle around supervision, trust, and orchestration of autonomous systems. These early capabilities will shape near-term performance and determine which organizations are prepared for the deeper transformations still ahead.

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GUARDRAILS FOR RESPONSIBLE AI MENTORSHIP

AI offers substantial potential as a mentor in learning and innovation environments, but it also introduces risks requiring intentional guardrails to ensure sustainable and ethical implementation.

Placement in the Cognitive Chain Shapes Outcomes

Research from MIT Media Lab shows that the point at which AI is introduced in the cognitive process has a measurable impact on learning and performance (Kosmyna, 2025). When AI is used at the very start of a task, users often adopt its framing and solutions without deeper reflection. When introduced later, after a person has articulated their own ideas, AI enhances rather than replaces cognition. This sequencing helps prevent "cognitive debt," where overreliance weakens memory, creativity, and problem-solving capacity. Effective mentorship systems should structure interactions so humans first define intent, attempt initial reasoning, and then use AI to extend, challenge, or refine their thinking.

Data-Handling Terms Key to Protecting Data

One issue that first-time founders raise directly: hesitation to input proprietary ideas into a third-party AI platform. OpenAI's business and enterprise products, for example, do not train on customer inputs or outputs by default, and organizations must explicitly opt in to any data sharing (OpenAI, 2024b). However, not every platform operates under the same policy, and defaults vary significantly across providers. Founders and institutions must actively review the data-handling terms of any AI tool they deploy, ensuring that proprietary ideas, customer data, and sensitive business information are only used in ways they have explicitly approved. For institutions deploying these tools, communicating those protections is not a legal formality; it is a precondition for founder trust and adoption.

Cultural Bias Shapes AI Guidance

As discussed earlier, AI responses are not culturally neutral. Models may reflect Western assumptions that distort guidance in global or community-based contexts. Studies find that predictive AI tools disproportionately flag minority students as at-risk, and regular bias audits are now considered a best-practice standard under both EU regulatory guidance and UNESCO's global AI ethics framework (UNESCO, 2023). Responsible mentorship frameworks must teach facilitators and learners to question outputs, identify cultural misalignment, and adapt recommendations to

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local norms. This ensures AI strengthens culturally grounded perspectives rather than reshaping them, supporting truly inclusive and sustainable development.

Innovation Risks Arise When AI Becomes an Autonomous Actor

Research from Oxford Saïd identifies three roles AI can play in innovation: creative assistant, augmentation partner, and autonomous innovator (Ventresca & Kalantarinejad, 2024). The first two expand human imagination. The third introduces risk. Because AI is trained on past patterns, autonomous innovation can favor efficiency and optimization at the expense of differentiated thinking. As agentic systems take on more independent action, human oversight becomes essential to preserve strategic judgment and long-term value creation.

Strong Governance Is a Prerequisite for Trust

Adoption suffers when organizations lack clear governance, data standards, and enforceable guardrails (Jacobsen et al., 2025). The EU AI Act codifies this imperative, classifying several AI applications in education and employment as high-risk and triggering mandatory requirements for human oversight, logging, and transparent outputs (Regulation (EU) 2024/1689, Annex III). Effective systems combine oversight committees, formal policies, and automated controls. Emerging practices include critic agents that challenge reasoning, guardrail agents that enforce policy, and compliance agents that monitor regulatory requirements.

Morgan Stanley's deployment of AI for financial advisors demonstrates the benefit. Grounding outputs in verified institutional knowledge and maintaining ongoing quality checks led to near-universal adoption (OpenAI, 2024a). Infrastructure alone is not enough. Strong human-AI collaboration practices reinforce judgment and creativity through structured review loops and reflective exercises (Wang & Thomas, 2022). With these practices in place, AI becomes a catalyst for stronger human insight rather than a substitute for it.

GOVERNING THE AI MENTOR: ETHICS, REGULATION, AND TRUST

The legal architecture governing educational AI increasingly shapes how AI may function as a mentor within human learning systems. The EU AI Act (Regulation (EU) 2024/1689) establishes a risk-based framework that applies where AI systems influence assessment, progression, or access to education. Article 4 imposes an AI

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literacy obligation on providers and deployers, reinforcing that effective human-AI collaboration requires institutional competence, not passive reliance on automated outputs. Article 50 requires transparency when individuals interact with AI systems, ensuring that mentorship mediated by AI remains visible rather than opaque.

Where AI systems process learner data, the General Data Protection Regulation (GDPR) mandates a lawful basis for processing and limits solely automated decisions that produce legal or similarly significant effects (Regulation (EU) 2016/679, Article 22). In educational contexts, this constraint makes meaningful human oversight not just a best practice, but a legal requirement when AI outputs shape consequential outcomes.

Article 53 of the EU AI Act extends accountability further, embedding training data transparency and copyright compliance requirements into the technical infrastructure underlying AI-enabled mentoring tools. Bias mitigation obligations for high-risk systems operationalize fundamental rights protections through risk management, data governance, and ongoing monitoring duties. These requirements align with UNESCO's 2023 Guidance for Generative AI in Education, which calls for transparent and accountable deployment of generative AI in educational settings (UNESCO, 2023). The regulatory window is narrow: the EU AI Act's high-risk obligations are already in force, and organizations that defer governance decisions are not waiting for clarity, they are accumulating liability.

Within this regulatory environment, AI cannot function as an autonomous educational authority. The legal framework enforces a collaborative model: AI as structured support, human judgment as ultimate arbiter. Effective AI mentorship depends not only on technical performance, but on the institutional design choices that preserve transparency, oversight, and human agency at every point of educational consequence.

IMPLICATIONS FOR STAKEHOLDERS

The integration of AI into experiential learning is transforming education, industry, and society at an unprecedented pace. In her 2024 report *AI & Universities*, Mary Meeker argues that AI could represent the most consequential transformation in higher education since the GI Bill, the U.S. program that expanded college access for World War II veterans and fundamentally reshaped both American higher education and the middle class. Institutions that embrace AI mentorship will expand access, improve outcomes, and prepare students for skills demanded by tomorrow's economy (Meeker, 2024). The implications are structural, not merely technological.

Curricula must shift from information delivery to skill application. Faculty need support in designing AI-integrated assessments that reward critical thinking and

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ethical reasoning, not just content recall. Equity requires ensuring all students have access to tools, training, and support, so under-resourced students and institutions are not left behind. Academic integrity policies must evolve from prohibition toward responsible use, helping students learn when and how to engage AI ethically and maintain ownership of their intellectual contributions.

For businesses, AI mentorship is existential. Organizations must craft a North Star based on outcomes, not tools, defining how AI will create value and support corporate social responsibility objectives. They must build trust through governance and accessible data, establishing transparent policies and ensuring AI recommendations are explainable and verifiable. They must reimagine workflows with AI at the center, redesigning processes for human-AI collaboration rather than simply adding AI to legacy systems.

Research analyzing more than 2,300 top employers across 125 countries found that profitable companies are 7% more likely than their lower-performing peers to use AI to enhance the employee experience (Top Employers Institute, 2025). These human-centric leaders recognize responsible AI as a tool to complement and elevate human capabilities, not replace them. Those that succeed will align AI adoption with broader sustainability goals and stakeholder accountability, treating AI as a collaborative force that strengthens rather than diminishes the human element in organizational success.

For policymakers, the challenge is to establish frameworks ensuring equitable access to AI mentorship while supporting sustainable innovation. This includes investing in digital infrastructure and training programs that extend AI's benefits to underserved populations, establishing governance models that balance innovation with accountability, and creating policies that encourage responsible AI development aligned with social and environmental objectives.

THE PARADIGM SHIFT FOR INSTITUTIONS AND ORGANIZATIONS

The organizational transformation required for AI adoption represents a paradigm shift on the scale of the agricultural, industrial, and digital revolutions. Clear patterns emerge across history: as new technologies reshape how value is created, organizations must redesign how work is structured.

In the craft and agricultural era before the 1800s, roughly 80–90% of the global population worked in agriculture, relying on master-apprentice knowledge transfer. The industrial era introduced mass production and specialized labor. By the 1970s, 39% of the U.S. workforce was employed in industrial sectors, while agricultural employment had fallen to 4%. The digital era accelerated speed and complexity.

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Today, 5.8% of the U.S. workforce is employed in technology roles, while only 1.6% remains in agriculture and 19.3% in industrial sectors.

Despite entering the AI era, most organizations remain structured for the industrial or early digital world. According to McKinsey's 2025 analysis:

- 89% of organizations still rely on industrial-age functional hierarchies
- 9% have adopted agile or product/platform models from the digital era
- 1% operate as decentralized networks, the emerging foundation of the agentic organization (McKinsey & Company, 2025a)

This structural lag explains why many AI initiatives struggle to scale. Companies are attempting to deploy AI, an exponential technology, within linear, slow-moving architectures designed for a different era.

The agentic organization represents the next paradigm: flat networks of outcome-aligned teams supervising AI agents that execute end-to-end workflows. Early adopters show that small human teams of two to five people can supervise 50–100 specialized AI agents performing complex processes (McKinsey & Company, 2025a). This model shifts humans "above the loop," where they define goals, make trade-offs, provide judgment, and ensure coherence while AI agents handle execution. Practitioners building in this model report a consistent finding: the bottleneck does not disappear; it moves. AI absorbs execution. The scarce resource becomes judgment, the ability to specify clearly what should be built, review whether it was built correctly, and catch what AI missed because it lacks the contextual knowledge to question a flawed brief (Stolpnik, 2026). This has a structural implication: the new work hierarchy is not simply flatter, it is reorganized around a different kind of scarcity. Human roles do not disappear; they migrate upward toward intent-setting, specification, oversight, and ethical stewardship, while AI agents handle the execution layer below. Teams of three to five experienced people, each functioning as an orchestrator rather than an executor, can now deliver what once required organizations an order of magnitude larger (Stolpnik, 2026).

Higher education illustrates both the promise and the friction of this shift. Institutions face a distinct set of structural constraints that slow adoption: assessment frameworks built for pre-AI assumptions about authorship and evaluation, academic integrity policies still evolving from prohibition toward responsible use, faculty workload pressures that limit capacity for retraining, and wide variation in staff AI capability across departments. Only 42% of students feel their faculty are well-equipped to guide them in AI use, and only 39% of institutions have comprehensive AI policies in place (Anara, 2025). These are not peripheral obstacles. They reflect the same industrial-age structural inertia that constrains organizations broadly, and they will require the same deliberate redesign to overcome.

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Tools like the Digital Twin, discussed earlier through Bussgang's model, represent the leading edge of this redesign in educational contexts. It is worth noting, however, that building and maintaining a secure, continuously refined Digital Twin requires significant computational resources, human curation time, and sustained technical investment, making it more accessible to well-resourced institutions than to those already operating under capacity and funding constraints.

Organizations that redesign around these capabilities will have structurally lower costs, faster innovation cycles, and dramatically expanded capacity. Cases discussed throughout this chapter, including GIIG's entrepreneurship networks across Africa, Flybridge Capital's AI-augmented due diligence, and the Breakthrough prison entrepreneurship program, represent early prototypes of this agentic structure. Taken together, these cases expose a consistent pattern: AI mentorship and agentic workflows can scale expertise where human resources are limited, but they also surface systemic challenges that no technology alone resolves. Inequity of access, institutional risk aversion, and capacity constraints mean that the organizations best positioned to benefit from agentic AI are often those that already hold structural advantages. Closing that gap requires deliberate policy, investment, and institutional design, not just adoption of new tools.

Organizations that restructure for agentic workflows will accelerate ahead; those that retain industrial-age hierarchies will constrain AI's impact. The agentic era is already emerging, and the organizations that learn, adapt, and redesign fastest will define the next generation of global leaders.

While multiple paradigms may coexist, competitive advantage will increasingly favor organizations that adopt agentic operating models, those able to orchestrate human-AI hybrids at scale, implement real-time governance, and develop talent capable of guiding autonomous systems.

The agentic era is not a distant future. It is already emerging. And the organizations that learn, adapt, and redesign fastest will define the next generation of global leaders, shaping both economic prosperity and sustainable development.

CONCLUSION: AI AS FOUNDATIONAL INFRASTRUCTURE

Bond Capital identifies artificial intelligence as foundational infrastructure, akin to electricity or the internet (Meeker et al., 2025). Yet unlike earlier technologies, AI is not a passive enabler. It is an active collaborator, capable of generating strategies, iteratively improving through feedback, and extending human capacity to learn, innovate, and adapt at unprecedented speed and scale. ChatGPT reached 100 million users in just a few months, far faster than LinkedIn, TikTok, or Spotify (Meeker, 2024). This velocity reflects genuine utility: people are finding that AI

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solves real problems, accelerates real work, and opens real opportunities. While AI encompasses a broad range of technologies, including recommender systems, computer vision, and speech recognition, this chapter focuses specifically on LLMs and the agentic systems built on them: the generative, conversational AI that is most directly reshaping how humans learn and innovate.

The window to embed thoughtful AI integration into education is narrow. Students are already using these tools, often more than instructors realize. The question is no longer whether AI will be part of learning, but whether institutions will guide its use responsibly or leave students to navigate it alone. In business, the stakes are even higher. Employees are using generative AI tools three times more than leaders realize (McKinsey & Company, 2025b). This shadow adoption signals both appetite and urgency. Workers see value, but without leadership direction, organizations risk fragmented, ungoverned use that undermines trust and compliance. At a societal level, this moment presents a rare opportunity to expand access to innovation. AI mentorship can reach populations that traditional systems have underserved, including incarcerated individuals, older adults, entrepreneurs in emerging markets, and founders in under-resourced communities. The technology exists. The challenge is ensuring it is deployed with equity and intention, and that the human mentors who make it effective are supported and scaled.

Real-world applications in higher education, regional economic development, enterprise and investment, and social impact organizations have shown how AI has quickly become a foundational element of iterative learning. The cases examined here, the guardrails required for responsible deployment, the legal and ethical frameworks now being codified in regulation, and the implications for educators, business leaders, and policymakers all point toward the same conclusion: harnessing AI as a collaborative tool for human judgment demands a fundamental organizational paradigm shift, not a software upgrade.

One principle has held across every context examined: AI amplifies human judgment; it does not replace it. Creativity, ethics, empathy, and purpose are inherently human capacities. AI surfaces patterns and accelerates iteration, but vision, values, and final decisions must remain human-led. Organizations that succeed treat AI as a collaborator, embedding reflective practices, maintaining oversight, and designing systems that preserve agency while scaling access.

PRACTICAL IMPLICATIONS: WHAT THIS CHAPTER ASKS OF LEADERS

The cases, frameworks, and guardrails examined across this chapter converge on a common challenge: the organizations and institutions best positioned to benefit

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from AI are often those already holding structural advantages, while those with the most to gain face the steepest adoption barriers. Translating these arguments into practice requires different things from different actors.

For higher education leaders and educators, the priority is institutional redesign, not tool adoption. Assessment frameworks, academic integrity policies, and faculty development programs must be rebuilt around the reality that students are already using AI. Faculty need support in designing evaluations that reward critical judgment, ethical reasoning, and the application of ideas to novel contexts, capabilities that AI can assist but not authentically replicate. Curricula should leverage AI for foundational and iterative work while preserving human time for the reasoning and ethical deliberation that define genuine learning. Without deliberate investment in access, training, and support, AI will widen existing gaps rather than close them. The institutions that lead will be those that treat AI literacy as a core educational outcome, not a peripheral skill.

For business leaders, the shift is structural. The bottleneck in AI-augmented organizations is no longer execution capacity; it is the quality of human judgment applied before and after AI acts. Building for this requires developing the specification, oversight, and orchestration skills that allow small, high-judgment teams to direct AI agents at scale. Governance must be built in, not bolted on, with transparent policies, explainable outputs, and ongoing measurement of impact on both performance and culture.

For policymakers, the regulatory architecture is taking shape, most notably through the EU AI Act's risk-based framework and GDPR's constraints on automated decision-making in consequential contexts. The practical challenge is ensuring that compliance infrastructure does not itself become a barrier to adoption for under-resourced institutions. Investment in digital infrastructure, faculty capability, and equitable access will determine whether AI's benefits are broadly distributed or concentrated among those already advantaged.

AI is here to stay. Organizations and institutions that harness it wisely, with appropriate guardrails and human-centered design, will empower the next generation to imagine boldly, innovate responsibly, and lead with purpose, driving both economic prosperity and sustainable development. The moment to act is now.

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About the Contributors

David W. Taylor is a Principal Lecturer who has championed enterprise education for 25 years. An Honorary Fellow of the Institute of Enterprise and Entrepreneurs, David is dedicated to fostering entrepreneurial and sustainability mindsets. His interests span topics such as owner-manager networks, green entrepreneurship, and enterprise education. David has contributed to the influential book Making Ecopreneurs: Developing Sustainable Entrepreneurship (2005, 2010), presenting frameworks for understanding green start-ups and developed and tested a typology of green entrepreneurs. In 2020, he won the Green Gowns Award for Enterprise for the submission 'How entrepreneurship and sustainability combine to form the DNA of successful start-up businesses' based on YE. David has supported 580 YE student start-ups with over 3000 students across UG and PG provision, 55% first-generation. David has delivered numerous entrepreneurship workshops across India in support of international recruitment.

Jonathan D Owens is a Senior Lecturer and the Young Enterprise and Placement Lead at the University of Salford Business School, where he integrates entrepreneurial learning into the curriculum through the Young Enterprise Start-Up Programme. With over 30 years of experience in service operations, supply chain management, and enterprise, he enables students to develop entrepreneurial skills by setting up and managing their own companies. His initiatives emphasise teamwork, decision-making, and business strategy, enhancing employability and real-world readiness. Jonathan's contributions have shaped award-winning programs and fostered student success on national and European levels, aligning with the strategic goals of higher education, being awarded a Young Enterprise ambassador in 2021 and 2025.

Gabrielle Round, BA (Hons), MSc, PGCAP, FHEA, PhD is a Lecturer in Enterprise and Sustainability at the University of Salford where she supports students in launching their own businesses, working closely with internal investors,

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growth hubs, and charities. Gabi completed her PhD at Leeds Beckett University, supported by the #WECAN network, focusing on solutions for gender disparity in SME succession processes in 2025. Gabi's research interests span business topics with a feminist lens, emphasising gender equity. Passionate about environmental issues and animal rights, Gabi has added veganism, and eco-feminism to her research areas in recent years and plans to continue this trajectory.

Neil Greenley has helped pioneer experiential learning initiatives at the Hertfordshire Business School (HBS), where he collaborates with Young Enterprise to provide unique, hands-on business experiences for international MBA students. This partnership bridges academic theory and real-world practical application within a diverse, cross-cultural framework, enhancing employability and fostering entrepreneurship and innovation skills. Dr Greenley's approach is rooted in experiential and active learning, advancing students' global business perspectives and offering a progressive model for embedding experiential learning within higher education. His work aligns to promote teaching excellence and meaningful student engagement.

Caroline Hands is a lecturer in the School of Psychology at the University of Liverpool, where she serves as Employability Lead and Admissions Tutor. With a strong foundation in psychology, Caroline's teaching and research focus on enhancing student wellbeing, employability, and career development. A Fellow of the Higher Education Academy, she has extensive experience in educational research, data analysis, and academic advising. Caroline's current research explores student transitions and well-being, aiming to improve outcomes in higher education. Her dedication to supporting students' personal and professional growth aligns with her commitment to impactful and student-centred teaching.

***

Nigel Adams is a Professor in Professional Practice and Director of the Buckingham Enterprise and Innovation Unit (BEIU) in the University of Buckingham. He enthusiastically encourages innovation and enterprise throughout the university, working with colleagues, students and alumni developing innovative businesses, resulting from research and other activities. He teaches, advises, and mentors students from a range of faculties, especially the Faculty of Medicine and Health Sciences, to become enterprising. This is mainly through annual two week Student Selected Component (SSC) in Clinical Innovation and Enterprise. Nigel has been involved in experiential entrepreneurship education and innovation since 2008. Previously working for more than 40 years in international business and consultancy

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Opeyemi Ajewole is a higher education professional, educator, and project-focused practitioner specialising in student experience, learning development, and data-informed decision-making. With over four years of experience in Higher Education in the United Kingdom, he has supported a diverse range of students, particularly within business analytics and engineering disciplines. Opeyemi currently works as a Learning Support Tutor at the University of Portsmouth, where he delivers tailored academic support in areas including research methods, statistical analysis, academic writing, and digital tools such as AutoCAD and Revi. He is particularly passionate about inclusive education and has experience supporting students with specific learning differences, including dyslexia and ADHD, through the integration of assistive technologies and structured learning strategies. Alongside his teaching practice, Opeyemi has led and contributed to several impactful projects. His broader interests lie at the intersection of education, technology, and project management, with a focus on designing scalable solutions that improve both student success and institutional effectiveness.

Marilena Antoniadou is Associate Professor in Management and HRM, holding a PhD in Organizational Behavior and 3 postgraduate degrees, dedicated to developing inclusive, collaborative environments that inspire growth and learning. She is currently serving as the Associate Dean for Education and Employability at the American College of Greece, who oversees academic programs, curriculum development, faculty development, and accreditation processes. Marilena held significant roles at Manchester Metropolitan University, including Director of Education for the Faculty of Business and Law, where she spearheaded initiatives to enhance student satisfaction, retain triple accreditation, and elevate global rankings. Her teaching and research interests lie in organizational behavior, workplace emotions, and educational management, with publications in academic journals, like Studies in Higher Education, Innovation in Education and Teaching International, and International Journal of Human Resource Management. Marilena is Principal Fellow of the Higher Education Academy and an active member of professional bodies, and has led innovative projects, secured research funding, and contributed to curriculum development internationally

Andrew Baird has over two decades of experience in higher education, with a strong track record creating, leading and developing programmes with innovative

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curriculum design in entrepreneurship, social enterprise, and management. He has created and delivered numerous entrepreneurship and enterprise modules across undergraduate and postgraduate programmes, supporting students from diverse disciplinary and international backgrounds to engage with applied, practice-based, work-integrated learning. His doctoral research focused on Social Enterprise and Place, exploring the role of institutions in social enterprise ecosystems, and he has extensive experience mentoring start-up ventures, supporting many home and international students in developing and launching their own businesses during their time at university. Dr Baird is nationally and internationally recognised for his innovative and authentic assessment design, particularly within enterprise and entrepreneurship education.

Claire Baird is an independent researcher and education consultant with over 20 years' experience in higher education, specialising in enterprise and entrepreneurship education. She has designed, development and delivered numerous experiential entrepreneurship modules across undergraduate and postgraduate management programmes. Her doctoral research explored the experiences of international students studying entrepreneurship education in the UK, with particular focus on how prior educational backgrounds, cultural context, and previous exposure to entrepreneurship shape engagement with experiential learning environments. This research developed from sustained classroom observations of how international students experienced practice-based entrepreneurship education. Her research interests focus on inclusive entrepreneurship education, widening participation, and the ways in which entrepreneurial thinking, creativity, and innovation can support engagement among diverse learners, particularly those who may face barriers within traditional higher education contexts.

Vonette Baird-George is a Senior Lecturer in Business Analytics and Systems at the University of Hertfordshire, where she also serves as Deputy Programme Leader and Module Leader. She plays a key role in supporting diverse postgraduate cohorts, contributing to both academic leadership and student success within the Business School. She holds a Doctorate in Mathematics Education, which underpins her interdisciplinary approach to teaching and research. Her academic practice integrates quantitative rigour with innovative pedagogical strategies aimed at enhancing student engagement and learning outcomes in higher education. Her research interests span artificial intelligence in education, business simulation, international business, student engagement, and pedagogy. She is particularly interested in how emerging technologies, and interactive learning approaches can transform teaching practices and improve learner engagement in postgraduate education. In addition to her teaching and research contributions, she actively supports inclusive

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learning environments and pedagogical innovation, aligning her work with broader institutional priorities around diversity and engagement.

D. Annette Beatrice is an Associate Professor at the Department of Home Science, Women's Christian College, Chennai, India and she also served as the Dean of Student Services. She holds a doctoral degree in Food Service Management and Dietetics. She was a visiting scholar at Valparaiso University, Indiana, USA (2009) and De La Salle University, Manila, Philippines (2010), and has presented research papers in International and National conferences. With over 82 publications, including journal articles published in peer reviewed journals, book chapters and conference proceedings, her research interest is focused on Food Science, Nutrition and Dietetics. Development of novel and innovative foods with enhanced health-related properties is her forte. She has authored two books - Minor Millets - a culinary delight and Complementary foods and was the contributing author for SCERT XI and XII standard book for Home Science. Dr. Beatrice has carried out research projects and she was the program co-ordinator of the project "Institutionalizing Service Learning- A Significant Experiential Pedagogical Tool" funded by the United Board for Christian Higher Education in Asia (UBCHEA). She invests her time on the welfare of the students and the community and readily mentors staffs from other department of the institution on Service-Learning. She has guided post graduate research projects for more than two decades and at present guiding Ph.D. scholars. She is keenly interested in contributing to the health and nutritional well-being of marginalized communities through research and outreach programs.

Richard Bostock is an experienced consultant and trainer working mainly on developing senior management and boards of directors in both the commercial sector and the social enterprise and public sectors. A key theme is to introduce creative thinking into the way managers work and develop strategy without losing touch with practical reality. As an entrepreneur at heart he often gets involved in innovative projects and business start ups where his experience of the way organisations are structured and funded and a deep knowledge of marketing are often invaluable. He also runs workshops for budding entrepreneurs in a variety of Universities and colleges. He is the author of a book supporting entrepreneurs on their journey - Changing the Odds - an entrepreneur's guide to success.

Charlotte Bryce is Lead for Postgraduate Programmes at Hertfordshire Business School, Senior Lecturer, and Senior Fellow of Advance HE. Her teaching and research focus on compassion-focused pedagogy, postgraduate learning design, and inclusive leadership. She co-leads the Compassion in Effective HE Teams network, promoting research and practice on compassion micro-skills in teaching, supervision,

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Mark Crowder is Education Lead for the Department of Strategy, Enterprise and Sustainability at Manchester Metropolitan University in the UK. He is also a senior lecturer in Strategy and Business Psychology. He has more than 20 years' management, and studied at Liverpool John Moores University and the University of Liverpool before gaining his PhD in cognitive psychology at the University of Chester. He is a Principal Fellow of the Higher Education Academy and a Fellow of the Chartered Management Institute. Mark's research interests are split between educational management and cognitive psychology.

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Sara Downton is a Principal Lecturer at Hertfordshire Business School, leading projects to reduce the awarding gap between racially minoritised students and White students and to increase student belonging, retention, and success. A Senior Fellow of the HEA, Sara's doctoral thesis explored belonging and transformation at university as experienced by Black, Asian, and minority ethnic undergraduates, and advocates for relational pedagogy in Business Education. Sara has published articles on both peer mentoring and race equity in Higher Education, and co-leads the 'Diversifying and Decolonising the University' podcast series, which attracts listenership across 85 nations. A qualified schoolteacher, coach, and careers consultant, Sara also teaches English Language and Intercultural Communication to exchange students at the undergraduate level.

Orla Flannery is a Senior Lecturer in Nutrition at Manchester Metropolitan University. Orla is a Registered Nutritionist (Public Health) with the Association for Nutrition and a Chartered Psychologist with the British Psychological Society. Orla has an extensive publication record across topics in public health nutrition, applied dietetics, and behavioural science, including work on dietary adherence,

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weight management interventions, and the social and psychological determinants of eating behaviour and work integrated learning.

Scott Ford is cofounder and CEO of SparkRockets, an award-winning global innovation platform that empowers entrepreneurs to build and launch ventures rapidly. Through SparkRockets' AI-powered platform, entrepreneurs can create a comprehensive business validation roadmap in about 60 seconds. Previously, Scott served as COO of Techstars, and he currently teaches entrepreneurship at the University of Colorado Boulder.

Ann Hunt is a Programme Support Tutor in the Department of Health Professions. Ann is a Public Health Nutritionist by training with a keen interest in the working in the community. Over the 14 years she has worked at Manchester Metropolitan University, Ann has worked on modules that have very practical element to their assessment and particularly in more recent years on the development of a live assessment with a community focus in Public Health Nutrition.

Cristina Iodice is a sustainability educator, industry specialist, and former senior executive with over 20+ years of experience across international fashion, business strategy, and global market development. She previously held leadership roles at Guess, Furla SpA, Sprint, and JP Morgan, where she led European and global sales divisions, oversaw complex go-to-market strategies, and guided international brand expansion across diverse retail and e-commerce landscapes. Cristina lectures on the MA Art Business programme at Kingston University, where she supports postgraduate students in developing a rigorous, critical understanding of the business dimensions of the cultural and creative industries. Her teaching bridges academic frameworks with the realities of professional practice, drawing on her extensive background in global commerce, leadership, and market dynamics. Alongside her role at Kingston, Cristina is a Senior Lecturer at Ravensbourne University London and a guest speaker at several UK institutions, where she teaches Business Marketing, Sustainability, and Purpose-Driven Business. Her pedagogical approach is grounded in experiential and applied learning, with a particular focus on engaging international student cohorts and helping them navigate the complexities of global markets and sustainability transitions. Beyond her academic roles, Cristina is deeply engaged in climate and sustainability education. She is a trained facilitator in Climate Fresk, Circular Collage, and Carbon Literacy, and has developed and accredited her own Carbon Literacy module, which she delivers through interactive, action-oriented workshops. Her current academic and professional interests centre on sustainability literacy, behavioural change, and the integration of playful, purpose-led methodologies into higher education. Cristina is committed to

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inspiring meaningful change through education, engagement, and the development of inclusive, sustainability-driven learning experiences. Education & Professional Accreditation • BA in Economics & Business, University of Rome "La Sapienza" • MA in Marketing & Management, University of Westminster • MA in Fundraising & Philanthropy, ASVI • Postgraduate Certificate in Higher Education (PGCHE) • Senior Fellow of the Higher Education Academy (SFHEA) • Accredited mentor, supporting professionals and academics in their career development

Ryan Kerstein is a Consultant Plastic Surgeon at Buckinghamshire Healthcare NHS Trust and Associate Medical Director for Research and Innovation. He leads Buckinghamshire Research and Innovation (BRAIn) and is the Clinical Lead for the Royal College of Surgeons of England Innovation Hub. His work focuses on bridging frontline clinical practice, medical education, and healthcare innovation, with a particular interest in experiential learning, digital health, and workforce development. Ryan has extensive experience designing and delivering innovation programmes for medical students and healthcare professionals, including undergraduate and postgraduate initiatives in clinical innovation and enterprise. He has founded and advised multiple health technology ventures and works closely with industry, academia, and NHS partners to support the safe development and adoption of new technologies. He is an active contributor to national discussions on innovation capability and the future healthcare workforce.

Idowu Mosaku is a Lecturer in Business Analytics and Systems in the University of Hertfordshire, whose research interests include digital innovation, education, health systems, and inclusive development. He contributes to interdisciplinary scholarship on digital transformation, sustainability and education.

Anouska Plaut is a Senior Lecturer in Strategic Management at Hertfordshire Business School, a Senior Fellow of the Higher Education Academy (SFHEA) and a doctoral researcher at University of Hertfordshire's School of Education. She holds an MSc in Gender and Media from the London School of Economics and Political Science, an MA(Cantab) in Social Anthropology from University of Cambridge and a Certificate in Teaching English to Speakers of Other Languages (CELTA). She is particularly interested in the facilitation of reflective practice and the development of active, experiential and inclusive pedagogies. Through her Professional Doctorate in Education she hopes to generate insights into the aspirations, motivations and lives of individual international MBA students which could inform the development of better educational experiences for this diverse cohort of learners.

R. Durga Priyadarshini, PhD scholar, Department of Home Science, Women's Christian College, Chennai, participated in multiple service-learning projects under

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the guidance of her PhD supervisor Dr. D. Annette Beatrice, including empowering Yercaud tribal women through millet recipe training and institutionalizing service-learning initiatives. A UGC Senior Research Fellow, she co-authored publications and chapters on community nutrition, tribal women's dietary patterns, and service-learning in healthcare education, bridging classroom theory with entrepreneurial community impact.

Priyanka Roy is a Principal Lecturer and Programme Leader at Hertfordshire Business School, University of Hertfordshire, UK. She holds a PhD in Operations and Information Management fromAston Business School and specializes in operations and supply chain management with a strong research focus on sustainability and humanitarian logistics. Dr. Roy has extensive experience in academic leadership, curriculum innovation, and partnership development, having led postgraduate programs and collaborative initiatives with international academic partners. She has successfully secured and delivered multiple funded projects, including sustainability grants and industry-focused knowledge transfer partnerships, aimed at advancing sustainable business practices and enterprise development. Her research has been published in peer-reviewed journals and presented at leading international conferences, contributing to areas such as disaster logistics, sustainable supply chains, and business analytics. Dr. Roy is committed to bridging the gap between academia and industry through impactful research and innovative teaching strategies.

Joanne Selway is a senior academic leader with a distinguished career in medical education, curriculum innovation, and interdisciplinary research. She is known for her ability to drive strategic transformation and measurable improvement, leveraging a compassionate and collaborative approach to leadership. As a founding member of Buckingham Medical School, Professor Selway played a pivotal role in securing GMC accreditation and establishing the institution as a leader in innovative medical education. During her tenure, she has held a variety of leadership roles, including EDI lead, faculty selection lead, student choice lead, and Phase 1 lead, demonstrating a broad expertise across teaching, operational oversight, and assessment all at a faculty level. Her work in assessments includes contributions to psychometric analysis, standard-setting, and the implementation of a nationally shared digital MMI admissions process during the COVID-19 pandemic. Professor Selway’s research and scholarship are equally diverse, encompassing investigative dermatology and medical education. In the field of dermatology, she has collaborated with renowned institutions contributing to impactful publications on conditions such as GLI1 activation and Langerhans cell histiocytosis. In medical education, her work extends to curriculum design, healthcare admissions, and the development of innovative teaching methods and she has presented globally on these issues. Notable

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achievements include co-authoring the NHSE-funded four-year undergraduate medical curriculum prototype project and serving as director of the award-winning collaborative Major Incident course at Buckingham Medical School.

Beatrice Sirakaya, M.S., is an Associate Teaching Professor of Biotechnology in the College of Science at The Pennsylvania State University. She is the architect of the Biotechnology Entrepreneurship and Innovation Program and the initiator of the Biotech Boardroom Program, which trains interdisciplinary entrepreneurs to develop innovative, sustainable solutions aligned with the UNSDGs. As the Assistant Director of the Center for Penn State Student Entrepreneurship and a Sustainability Fellow, she leads initiatives in experiential learning, curriculum development, and assessment—empowering students to tackle complex global challenges through science-driven entrepreneurship. With extensive consulting experience in the pharmaceutical industry and the founder of three startups, her work emphasizes responsible innovation, entrepreneurial leadership, and fostering international collaboration. Her scholarship has advanced entrepreneurial education and sustainable development, and her insights have been featured in media outlets worldwide, establishing her as a recognized thought leader in the field.

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