

Beyond the Game: Identity, Ethics, and the Transformative Power of Role Play in Business Simulations

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Abstract: Role play and game-based learning are reshaping higher education by fostering deeper engagement, motivation, and practical skill development through immersive, interactive experiences. This paper explores the pedagogical potential of role play as a core game mechanic embedded within the business simulation platform – *SimVenture Evolution*. By assigning learners executive roles such as CEO, Marketing Director, or Finance Lead, the simulation creates a team-based environment in which students collaboratively navigate strategic and operational challenges across a virtual start-up lifecycle. Findings indicate that role play enhances learner engagement, confidence, and applied business skills. More notably, students reported increased ethical awareness and the emergence of professional identity, reflecting on the moral complexity and personal growth that arise through simulation-based decision-making. Reflective narratives revealed that the experience supported collaboration, metacognitive development, and values-driven leadership – suggesting that role play contributes not only to technical competence but also to behavioural and ethical formation. The paper advocates for the intentional integration of role-based mechanics in simulation learning, underpinned by onboarding, feedback, and structured reflection. These insights highlight the transformative potential of role play to cultivate analytical, interpersonal, and ethically grounded capacities in business education.

Keywords: e-Learning, Simulation, Higher education, Game-Based learning, Interactive learning, Role play, Simventure evolution

1. Introduction

Gamification has emerged as a transformative force in education, offering new ways to engage learners by incorporating game mechanics into teaching and assessment (Hidalgo-Cajo et al., 2022). The increasing digitalisation of higher education, accelerated by the COVID-19 pandemic, has further propelled the adoption of gamified learning environments (Bai et al., 2020). Within these environments, role play serves as a bridge between theoretical knowledge and real-world application, fostering deeper learning through active participation and simulated experiences.

SimVenture Evolution, a business simulation platform, exemplifies this integration by assigning learners specific professional roles (e.g., CEO, Operations Manager) and guiding them through entrepreneurial decision-making processes. This exploratory study situates role play within the literature on gamification, game-based learning, and business simulation, drawing from recent empirical studies and educational theory to explore its pedagogical value.

While gamification has shown considerable promise in increasing motivation and learner engagement, its true pedagogical potential lies in cultivating deeper learning outcomes, including *ethical reasoning* and the *formation of professional identity*. This paper examines how role play, embedded within a business simulation, not only enhances applied business skills but also supports the emergence of ethical awareness and identity development. By doing so, it contributes a distinctive analytical perspective to the literature on game-based learning – one that foregrounds the human, reflective, and developmental dimensions of simulation pedagogy. In this study, we distinguish between *gamification*, understood as the application of game elements (e.g., role enactment, feedback loops, progression) to non-game contexts (Deterding et al., 2011), and *game-based learning*, where an entire game – such as *SimVenture Evolution* – is used as the core learning environment. Within this context, role play is examined as a specific game mechanic embedded in the simulation design. When intentionally integrated into a gamified learning environment, role play can move beyond surface-level engagement to foster critical thinking, collaboration, ethical reflection, and identity development.

This study responds to the growing need for pedagogical models that prepare students not only to know, but to think, lead, and adapt. It explores how role play within a gamified simulation can cultivate these capabilities by fostering engagement, applied skill development, ethical awareness, and the formation of professional identity. Specifically, it asks: *How does role-based learning within a business simulation influence learners' engagement, skill development, ethical awareness, and the formation of professional identity?*

2. Gamification in Higher Education

Gamification is an educational approach that integrates game elements and principles – such as points, challenges, levels, feedback loops, and progress tracking – into non-game contexts to increase engagement, motivation, and learning outcomes (Deterding et al., 2011; Caponetto et al., 2014). In higher education, gamification has been employed across disciplines to improve knowledge retention, promote learner autonomy, and encourage active participation (Looyestyn et al., 2017; Hidalgo-Cajo et al., 2022).

A growing body of research supports the value of gamification in fostering intrinsic motivation when it aligns with psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2000; Luarn et al., 2023). For instance, learners are more likely to engage deeply with tasks when given a sense of agency, personalised feedback, and the opportunity to collaborate in structured environments. These factors make gamification particularly suited to the development of soft skills, problem-solving, and adaptability in complex, uncertain situations – attributes central to business and management education (Beatty et al., 2021).

However, it is important to distinguish gamification from game-based learning (GBL). While gamification applies selected game mechanics to conventional learning activities, GBL involves the use of full-scale games designed with educational intent (Plass et al., 2015). In GBL, the game itself is the learning environment, not just a motivational overlay. This study is situated within a game-based learning context, utilising *SimVenture Evolution* – a simulation that immerses students in entrepreneurial decision-making. Within this context, elements of gamification, such as progress tracking, feedback, and functional roles, are embedded into the gameplay to enhance the learning experience.

Meta-analyses indicate that the most effective gamified systems are those that offer meaningful learning experiences and are closely aligned with course objectives (Li, Ma & Shi, 2023). Rather than using superficial game features (e.g., badges or points), effective implementations prioritise cognitive and emotional engagement, reflection, and challenge (Koivisto & Hamari, 2019; Plass et al., 2020). In this paper, we explore how role play – a core mechanic embedded within a business simulation – contributes to these deeper learning processes.

3. Role Play as a Pedagogical Tool

Role play is a longstanding instructional strategy that invites learners to adopt specific identities or responsibilities within a scenario, encouraging them to respond to problems or dilemmas from that character's perspective. Rooted in constructivist learning theory (Vygotsky, 1978) and experiential learning (Kolb, 1984), role play creates space for learners to construct meaning through interaction, experimentation, and reflection. In higher education, role play has been effectively applied in disciplines ranging from law and nursing to business and political science (Witherspoon et al., 2023; AlMubarak, 2022). It promotes the development of transferable skills such as strategic thinking, emotional intelligence, negotiation, and ethical reasoning – skills that are difficult to cultivate through traditional lecture-based methods. According to Schön (1983), role play helps learners become “reflective practitioners,” capable of acting and thinking simultaneously while navigating uncertainty.

When embedded within digital environments, role play further benefits from the structure and interactivity provided by technology. Recent studies have shown that digital role play can increase engagement and collaboration while enhancing the authenticity of learning experiences (Ciani & Laus, 2023; Lin et al., 2024). Students who inhabit executive or leadership roles in simulated environments often demonstrate greater levels of confidence, teamwork, and professional identity development.

However, the effectiveness of role play is not automatic. It depends on thoughtful scenario design, clear role expectations, scaffolding for decision-making, and opportunities for reflection and feedback. Without these supports, students may experience confusion, disengagement, or reinforcement of existing hierarchies within teams (Zepke, 2020). Reflective debriefs – both written and verbal – play a critical role in consolidating learning by helping students process their actions, understand their assumptions, and consider alternative strategies (Moon, 2013).

In this study, we focus on role play not as an isolated method, but as a game mechanic embedded within the *SimVenture Evolution* simulation. This mechanic enables students to inhabit executive functions within a virtual start-up, taking on responsibilities that require strategic decision-making, financial oversight, marketing planning, and human resource management. The structured roles create cognitive anchors that support focus,

collaboration, and self-regulation. We examine how this form of embedded role play contributes to learner development across cognitive, emotional, and identity dimensions.

4. Research Approach

Business simulation games are representations of real business situations in a virtual environment/world. Business simulation games enhance learning experiences by providing a context in which students *learn by doing*, providing them with the opportunity to apply theory to practice (Silva & Silva, 2014). The simulation game used for this study is SimVenture Evolution (see Fig. 1), which requires logical reasoning to unravel many complex scenarios, while at the same time enabling students to monitor their progress through appraisals, as well as saving and loading various simulated situations.

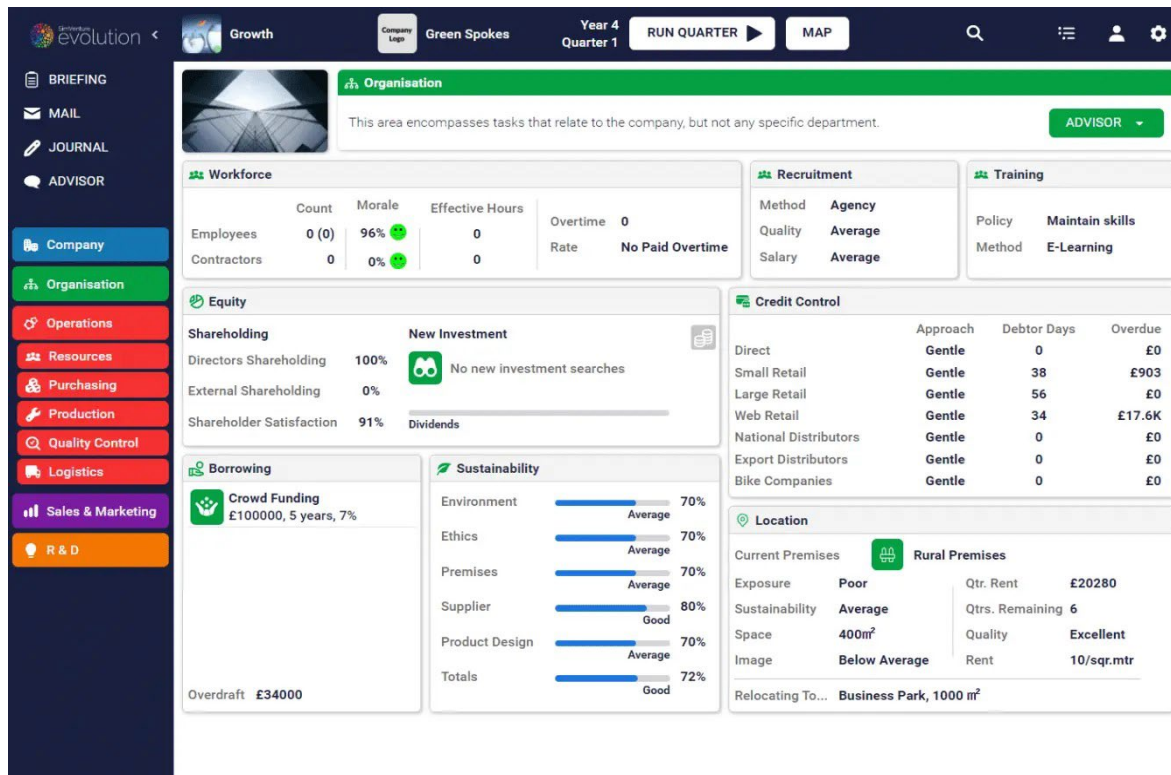


Figure 1: SimVenture Evolution Interface

SimVenture Evolution stands at the intersection of simulation, gamification, and role play. It immerses learners in a realistic entrepreneurial environment where they are tasked with managing a virtual start-up. Players assume functional roles within a team (e.g., CEO, finance director, operations manager) and work collaboratively to make decisions on product development, budgeting, marketing, and human resources. Instructors facilitate rather than teach to foster an inquisitive, creative and analytical mind-set, building students' self-confidence, and promoting teamwork. The game allows users to establish and run a virtual company, testing their knowledge of the various functions of running a business.

Previous studies have found that role-playing within SimVenture Evolution enhances learner engagement and motivation by situating abstract business concepts in a realistic context (O'Brien & Costin, 2022; O'Brien & Costin, 2023; Costin, O'Brien & Hogan, 2024). Learners report greater confidence in financial forecasting, strategic planning, and risk analysis after participating in SimVenture Evolution-based modules. The simulation also supports multidisciplinary learning, integrating marketing, operations, and finance into a single decision-making environment.

Research by Baruah and Ward (2022) underscores the role of SimVenture Evolution in facilitating authentic assessment through problem-based learning and ongoing feedback. Their study revealed that many students perceived the platform as enhancing their creativity and problem-solving abilities. Participants also reported that the simulation promoted effective teamwork, with the interactive nature of the platform encouraging active engagement in assigned group assessments, thereby making the learning experience more enjoyable and productive. Nonetheless, the inherent complexity of the simulation - designed to reflect the ambiguity and

unpredictability of real-world business scenarios – necessitates structured scaffolding. In the absence of sufficient preparation, students may encounter challenges such as frustration, decision fatigue, or disengagement.

The following sections present the study's context, highlight key challenges and pedagogical design considerations, and describe the methods used for data collection and analysis.

4.1 Context of the Study

The Business Simulation module is a (thesis-replacement) capstone module designed for postgraduate students completing a taught MSc degree in Business Analytics. Many of these students come from non-business backgrounds. The module reflects the challenges of entrepreneurial start-up and business growth, and emphasises the development of critical thinking, data analytics, decision-making, and collaborative skills.

To support team formation and encourage diverse working styles, students completed a brief online personality assessment using the 16 Personalities platform, based on the MBTI framework. While not a research variable, this profiling served a pedagogical function – helping allocate students to complementary teams and align them with simulation roles (e.g., R&D Director, Operations Lead). It enhanced mutual understanding and confidence in responsibilities.

It is worth noting, however, that the Myers-Briggs Type Indicator and its derivatives have been subject to critique regarding their psychometric reliability and predictive validity (Pittenger, 2005). In this context, the tool was used not as a diagnostic measure but as a light-touch, pedagogical aid to support team composition and initiate reflective discussion around roles and working styles.

4.2 Challenges and Pedagogical Design Considerations

Although gamified role play offers significant educational advantages, several challenges require attention:

- *Role ambiguity* can limit engagement if learners are unclear on responsibilities.
- *Group dynamics* may impact outcomes if team members dominate or disengage
- *Cognitive overload* may arise in complex simulations without sufficient scaffolding (Plass et al., 2020).
- *Assessment alignment* must ensure that simulation tasks support intended learning outcomes and are evaluated fairly (Wood & Drew, 2025).

To mitigate these risks, the module design incorporated structured onboarding, role briefing sessions, formative assessment opportunities, and reflective journaling. Debriefing activities after each simulation cycle helped learners make sense of their decisions and connect outcomes to academic theory. These strategies helped manage workload, promote metacognitive reflection, and support learners in developing analytical and interpersonal competencies across the simulation experience.

4.3 Data Collection and Analysis

Grounded in constructivist and experiential learning theories, this small-scale exploratory study sought to examine how role-based gamification facilitates critical thinking, decision-making, and reflective practice in a postgraduate business simulation capstone module. The primary data source comprised reflective journals submitted by students during the final week of the module. These journals formed part of the summative assessment and invited students to articulate their experiences of role enactment, strategic decision-making, team collaboration, and personal development across the simulation. Reflections typically ranged from 2,000 to 2,500 words and encouraged students to connect their experiences with broader business concepts, team dynamics, and their own learning trajectories.

A total of twenty reflective narratives were analysed, representing the full cohort of students who consented to participate in the study. All were enrolled in the MSc in Business Analytics programme and had engaged in the simulation as a capstone module. Ethical approval was obtained from the university's research ethics committee, and informed consent was collected in advance of data analysis.

Thematic analysis was employed to interpret the data, following the six-phase framework developed by Braun and Clarke (2006). This approach was chosen for its flexibility and alignment with an interpretivist lens, allowing for the emergence of meaning from student narratives without imposing pre-existing coding structures. The analysis involved six iterative steps: (1) familiarisation with the data through repeated reading; (2) generation of initial codes through inductive, open coding using NVivo software; (3) identification of preliminary themes by clustering related codes; (4) review and refinement of themes for coherence and

distinctiveness; (5) definition and naming of themes to capture their core essence; and (6) integration of themes into the broader analytic narrative.

To ensure rigour and trustworthiness, the first author maintained a reflective log to document analytic decisions and emerging insights. Peer debriefing sessions with a co-author were conducted to challenge assumptions, support reflexivity, and refine thematic structure. Additionally, member checks were undertaken with a small number of students, who confirmed that the themes accurately captured their experiences and perspectives.

This process led to the identification of five dominant and interrelated themes: experiential anchoring, motivational engagement, cognitive regulation, ethical awareness, and identity formation. These themes, presented in the next section, illuminate the cognitive, emotional, and developmental impacts of role-based gamification within the simulation environment.

5. Research Findings

Thematic analysis of the twenty student reflections revealed five interrelated themes that illustrate how role play within a gamified business simulation shaped learner experience. These themes – experiential anchoring, motivational engagement, cognitive regulation, ethical awareness, and identity formation – illuminate the cognitive, emotional, and developmental dimensions of role-based gamification. Each theme is supported by illustrative quotes and interpreted in relation to relevant pedagogical frameworks.

5.1 Role Play as Experiential Anchor

Students consistently described role play as the mechanism that transformed theoretical concepts into lived experience. By assuming functional roles such as CEO, Marketing Lead, or Finance Director, learners moved beyond abstract understanding to engage with authentic decision-making processes. These roles served as cognitive and emotional anchors, situating learners within Kolb's (1984) experiential learning cycle. One student reflected, *"I wasn't just learning about business – I was running one. The mistakes we made early on taught me more than any lecture."* Another student shared, *"Being the Finance Lead meant I had to really think like a decision-maker, not just a student trying to get a grade."* A third noted, *"Once we made a major pricing mistake and watched our sales drop, the lesson stuck with me more than any lecture ever could."*

Such reflections suggest that role enactment enabled meaningful engagement with the simulation's complexity, reinforcing the value of experiential, scenario-based learning environments. Notably, many students framed failure within the simulation not as a setback, but as a valuable learning opportunity. Missteps such as over-investing in R&D, underestimating staff requirements, or setting inappropriate pricing strategies were frequently cited as moments of insight. These experiences supported what Kolb identifies as the transformation of experience into knowledge through reflection and adaptation.

5.2 Motivation Through Role Engagement

Learners reported high levels of motivation linked directly to their role assignments and team responsibilities. Drawing on Self-Determination Theory (Ryan & Deci, 2000), the simulation appeared to support core psychological needs: autonomy, competence, and relatedness. Autonomy was fostered through the ability to choose or rotate roles, while iterative decision-making cycles allowed students to build competence through feedback and trial-and-error. Relatedness emerged through collaborative team structures that relied on cross-functional coordination.

One student wrote, *"I felt responsible for our company's direction. My role gave me purpose, and I knew my input mattered."* Another commented, *"We built on each other's strengths. Everyone had something to bring to the table."* Additional reflections reinforced these insights. *"Taking ownership of our marketing strategy made me feel like I was actually contributing something real – not just ticking a box,"* wrote one participant. Another noted, *"We weren't just doing tasks; we were running a company together. That made me show up with a different mindset."*

These narratives suggest that role-based collaboration contributed to a sense of shared ownership and psychological investment in the simulation's outcomes, supporting previous findings on engagement in gamified learning (Luarn et al., 2023; Beatty et al., 2021).

5.3 Cognitive Regulation Through Structure and Scaffolding

While some students initially expressed feelings of overload due to the simulation's complexity, many noted that role assignment and structured onboarding helped reduce extraneous cognitive load. This aligns with Sweller's (1988) Cognitive Load Theory, which emphasises the importance of managing mental effort in learning environments. The simulation's interface, dashboards, and pacing supported learners in managing tasks specific to their roles, allowing them to focus attention on relevant problem-solving and decision-making processes. One student remarked, *"At first it was overwhelming, but once we understood our roles and who was responsible for what, it became manageable – and even enjoyable."* Other participants echoed this experience. *"The dashboards helped me focus on my area without being overwhelmed by everything else going on,"* shared one learner. Another added, *"At first, I was lost. But once we divided responsibilities, I could concentrate and actually enjoy the experience."* The division of labour through role play enabled deeper domain expertise, while shared team planning tools and logs supported cross-functional integration.

5.4 Ethical Reasoning and Strategic Trade-offs

A recurring theme in the reflections was the tension between business performance and ethical decision-making. Many students described facing dilemmas involving sustainability, employee wellbeing, or reputational trade-offs. These moments often prompted reflective questioning of what constituted 'success' within a simulated business environment. One participant shared, *"We hit our profit targets, but failed on the sustainability score. That made me question what kind of business leader I want to be."* Another reflected on the discomfort of approving layoffs for financial gain, stating, *"It felt wrong, even if it was a logical choice."* Other students echoed these concerns. *"Cutting staff to meet targets made sense on paper, but it didn't sit right with me – I kept wondering how that would feel in real life,"* noted one. Another wrote, *"It forced me to think beyond profit. Is a decision still 'successful' if it goes against your values?"*

These examples suggest that role play facilitated engagement with values-driven decision-making, echoing Schön's (1983) notion of the reflective practitioner and reinforcing findings by Zepke (2020) on the importance of surfacing ethical tensions in higher education learning environments.

5.5 Identity Formation and Role-Based Confidence

Perhaps the most transformative dimension of the experience was the development of professional identity. Students expressed that role enactment helped them envision themselves in future business contexts, providing what Ibarra (1999) terms "provisional selves" – trial identities shaped through practice in low-risk environments. Learners frequently described a shift in self-perception, as captured in statements like, *"I finally feel like a business analyst,"* or *"This helped me discover the kind of leader I want to be."* Additional reflections reinforced this theme. *"By the end, I wasn't pretending to be a CEO – I actually felt like one,"* shared one student. Another wrote, *"I've never thought of myself as a leader before this, but now I'm considering it seriously."* These identity shifts were linked to growing confidence, enhanced communication, and greater awareness of individual strengths. Although personality profiling was not analysed as a variable, its use in role allocation and team formation may have contributed to students' sense of role fit and self-efficacy. Several reflections highlighted how role alignment supported trust, clarity, and performance within the group dynamic.

Taken together, these five themes offer insight into the cognitive, emotional, and developmental impacts of role-based gamification. The following section interprets these findings in light of existing literature, drawing out implications for pedagogy, limitations of the study, and opportunities for future research.

6. Discussion and Conclusion

Taken together, the five themes identified in this study – experiential anchoring, motivational engagement, cognitive regulation, ethical awareness, and identity formation – provide insight into how role play within a gamified business simulation can support personal and professional development in postgraduate learners. In this section, we interpret these findings in relation to existing literature and educational theory, while also acknowledging the methodological limitations of the study and outlining directions for future research.

A central contribution of the simulation experience was its capacity to transform abstract knowledge into meaningful, embodied learning. By stepping into authentic executive roles, students engaged in iterative decision-making processes that mirrored the complexities of real-world business practice. This finding aligns with Kolb's (1984) experiential learning theory, which emphasises learning through concrete experience and reflective observation. The integration of role play within the simulation created a space for active

experimentation and conceptualisation, supporting similar outcomes observed in recent studies on digital role enactment in business education (Ciani & Laus, 2023; Lin et al., 2024). As students navigated successes and failures, they built not only cognitive skills but also emotional resilience – an important, though often underexplored, dimension of experiential learning.

Motivation was another key dimension of the learner experience. The structure of the simulation, which allowed students to choose or rotate roles and engage in real-time strategic planning, fulfilled core components of Self-Determination Theory (Ryan & Deci, 2000): autonomy, competence, and relatedness. These motivational drivers were evident in the way students expressed ownership of their roles, confidence in decision-making, and respect for diverse perspectives within their teams. This echoes the work of Beatty et al. (2021) and Luarn et al. (2023), who emphasise the motivational potential of gamified learning environments when they are thoughtfully scaffolded and role-driven.

Despite the perceived complexity of the simulation environment, learners reported that the structure provided by role clarity and onboarding materials helped regulate their cognitive load. This supports findings from Plass et al. (2020) and Sweller's (1988) Cognitive Load Theory, which stress the importance of scaffolding in high-demand learning contexts. Learners appeared to shift from initial overwhelm to strategic planning once task ownership and team coordination were established. The simulation's design – gradually introducing complexity while offering domain-specific dashboards – enabled students to manage information more effectively and engage with deeper cognitive processes.

One of the more unexpected findings was the emergence of ethical reflection as a result of role enactment. When faced with trade-offs involving profit, sustainability, and employee wellbeing, students began to question not only what decisions were effective, but what decisions aligned with their values. These moments of ethical tension mirror Schön's (1983) concept of the reflective practitioner and Zepke's (2020) argument that authentic learning environments should surface moral and social complexity. Role-based simulation appears to create the conditions for such reflection, particularly when supported by structured debriefs and performance metrics that go beyond financial outcomes.

Perhaps the most transformative impact of the simulation was in the area of professional identity development. Students described how playing a defined executive role helped them envision themselves in future leadership positions and make sense of their capabilities and aspirations. These reflections resonate with Ibarra's (1999) concept of "provisional selves" – the idea that identity is developed through low-risk experimentation with different roles. The combination of role responsibility, reflective journaling, and team collaboration supported learners in developing a stronger sense of self-efficacy, adaptability, and professional purpose. Although not a formal variable in this study, the use of personality profiling for role allocation and team composition may have enhanced this outcome by helping students feel more attuned to their responsibilities and team dynamics.

While this exploratory study offers valuable insights, several limitations should be noted. The sample size was small and limited to one postgraduate cohort in a single institution, which constrains the generalisability of the findings. The study drew primarily on reflective journals, which provided rich subjective insights but may benefit from triangulation in future work. The analysis, though systematic and reflexive, was interpretive and based solely on self-reported data. Future research could strengthen the validity of findings through data triangulation, incorporating additional sources such as facilitator observations, simulation performance metrics, or learning analytics. This would provide a more holistic view of learner engagement and development, complementing the subjective insights provided by student reflections.

In conclusion, this study suggests that when thoughtfully integrated into a gamified, game-based learning environment, role play can enhance experiential learning, cognitive regulation, ethical reasoning, and professional identity development. These outcomes are not solely attributable to the simulation technology itself, but to the surrounding pedagogical design – scaffolding, team formation, structured reflection, and role clarity – that enables deeper learning. As business education continues to evolve in response to technological change and shifting workplace expectations, simulation-based role play represents a promising, adaptable strategy for cultivating reflective, adaptive, and ethically grounded graduates.

Ethics Declaration: This study involved human participants in the form of student engagement, and formal ethical approval was obtained from the university's ethics committee prior to data collection. All participants were informed about the purpose of the study and provided informed consent in accordance with ethical guidelines. Participation was voluntary, and confidentiality and anonymity were maintained throughout.

AI Declaration: Artificial intelligence tools were used during the development of this paper to support tasks such as proofreading, language refinement, and idea clarification. All intellectual contributions, critical analysis, and final content decisions were made by the authors.

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