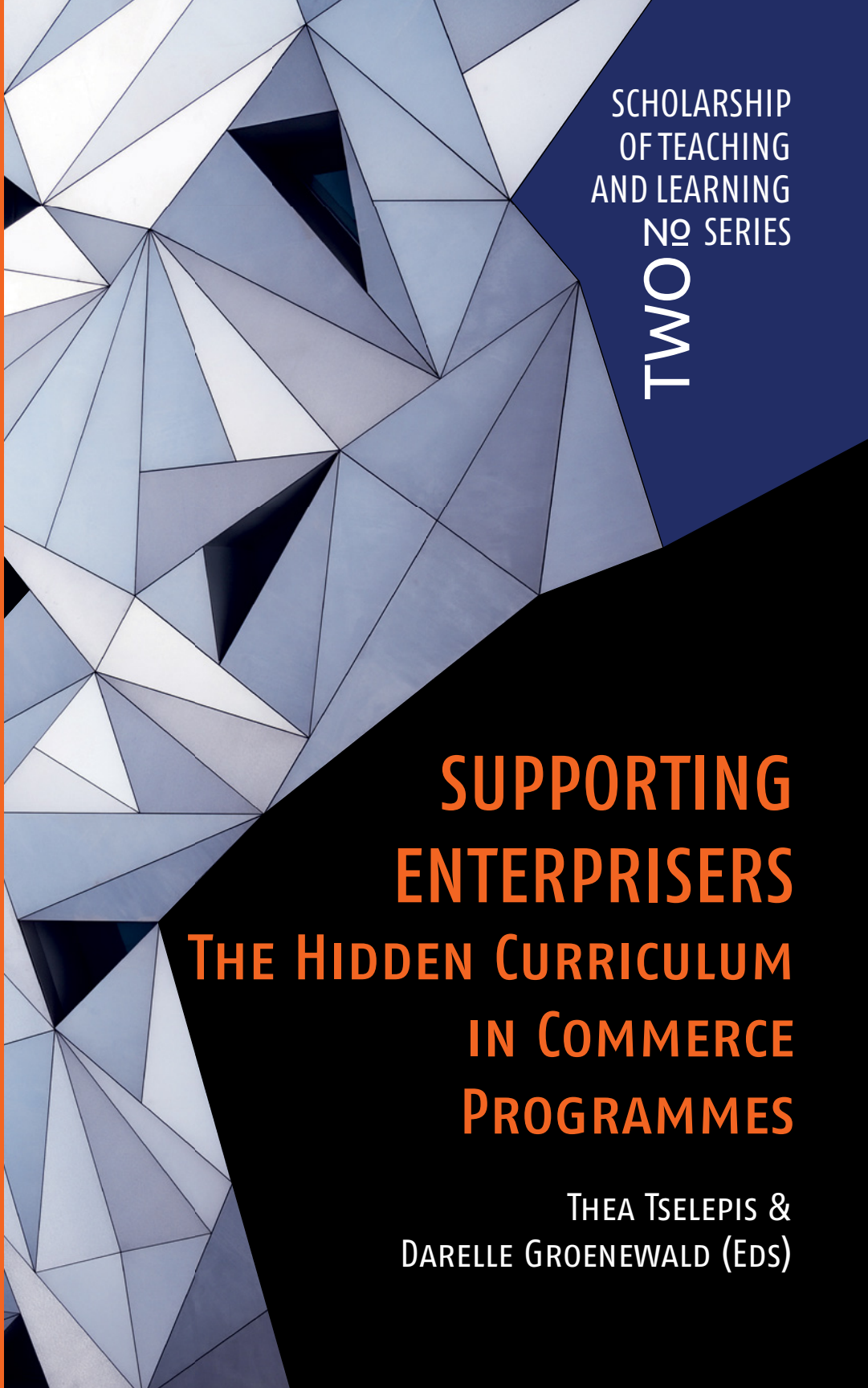


SCHOLARSHIP OF TEACHING AND LEARNING № SERIES

TWO

SUPPORTING ENTERPRISERS

The Hidden Curriculum in Commerce Programmes

Thea Tselepis &
Darelle Groenewald (Eds)



Scholarship of Teaching and Learning Series

Supporting Enterprisers

The Hidden Curriculum in Commerce Programmes

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UJ Press

Supporting Enterprisers:
The Hidden Curriculum in Commerce Programmes

Published by UJ Press
University of Johannesburg
Library
Auckland Park Kingsway Campus
PO Box 524
Auckland Park
2006
https://ujpress.uj.ac.za/

Compilation © Thea Tselepis, Darelle Groenewald 2026
Chapters © Author(s) 2026
Published Edition © Thea Tselepis, Darelle Groenewald 2026

First published 2026

https://doi.org/10.64449/9781997499541
978-1-997499-53-4 (Paperback)
978-1-997499-54-1 (PDF)
978-1-997499-55-8 (EPUB)
978-1-997499-56-5 (XML)

This publication had been submitted to a rigorous double-blind peer-review process prior to publication and all recommendations by the reviewers were considered and implemented before publication.

Proofreading: Mike Leisegang
Cover design: Hester Roets, UJ Graphic Design Studio
Typeset in 9/13pt Merriweather Light



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Chapter 1

Supporting Enterprisers: The Hidden Curriculum in Commerce Programmes: A Synthesised Overview

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Abstract

This overview chapter synthesises the book's empirical and conceptual contributions to show how the hidden curriculum, the implicit norms, practices, supports, and signals around formal teaching, enable students in analytical business programmes to become enterprisers: dynamic problem-solvers with a holistic outlook. The chapter traces a golden thread across three arcs: (i) approaches that create motivation and belonging, (ii) critical cross-outcomes that build transversal capability (creativity, reflection, digital fluency, cybersecurity awareness, and experiential learning), and (iii) postgraduate growth that consolidates professional identity and leadership. It also provides a reader's roadmap, indicating where each dataset, case or framework appears in the book.

Keywords: enterprising education, hidden curriculum; student growth success

1. Introduction

Commerce programmes—especially those anchored in analytical competencies—demand more than technical mastery; they rely

on tacit signals and supportive practices that help students to navigate university, internalise professional norms, and see themselves as capable agents. That constellation is the **hidden curriculum**. In this book, colleagues across Accounting, Auditing, Marketing, and Teaching and Learning document how they make the hidden curriculum work for students by deliberately designing motivation scaffolds, reflection practices, creativity-building tasks, digital and cybersecurity literacies, and authentic workplace bridges. The result is a coherent narrative about **supporting enterprises** in our College of Business and Economics.

2. Conceptual Framework and Method for this Overview

We integrate evidence and arguments across the accepted chapters and the internal progress synthesis, using two guiding lenses:

- **Integration lens (SIM/SDT):** We read chapters through **Tinto's Student Integration Model** (pre-entry factors, goals / commitments, academic and social integration, institutional experience) and **Self-Determination Theory** (competence, relatedness, autonomy). Together, they explain why *structure, belonging and agency* produce enterprising graduates.
- **Hidden-curriculum lens:** We highlight the tacit but powerful practices—orientation rituals, feedback cultures, reflective prompts, values work, ethical AI use, and industry norms—that shape identity and initiative.

This overview draws only on content already presented in the book.

3. The Trajectory for Becoming Enterprising

Becoming enterprising in this book includes approaches that kindle motivation and belonging, critical cross-outcomes, and the growth of individuals after graduation. Each of these dimensions is investigated.

3.1 Approaches that Kindle Motivation and Belonging

Focused interventions (Chapter 2) show how data-informed, wraparound support improves module success and retention when it addresses academic, social and financial realities.

The Department of Marketing Management's 2021–2023 analysis reports broad gains after introducing tutoring, intensive revision, readiness workshops, peer mentoring, weekly check-ins, and referrals to PsyCad (the institution's centre for psychological support), a practical blueprint for institutional responsiveness.

Scaffolded teaching for autonomy (Chapter 3) operationalises **SDT** (competence, relatedness, autonomy) by blending essentialism and direct instruction with student-centred enquiry in a five-phase model (Orientation, Presentation, Guided practice, which leads to Independent practice and Evaluation). The case study illustrates how explicit modelling of thinking, emotion regulation, and belonging makes implicit norms visible and supportive.

Reflective pedagogy in auditing (Chapter 4) positions reflection-in or on-action as the vehicle that turns technical content into identity and an ability to judge. The literature synthesis and SLRs detail tools (journals, e-portfolios, prompts, peer feedback) and acknowledge implementation challenges (large classes; educator proficiency).

Golden-thread insight: Motivation blooms when competence is scaffolded, relatedness is cultivated, and autonomy is *earned* through reflective practice—precisely the SDT pathway the hidden curriculum can enable.

3.2 Critical Cross-Outcomes that Travel Across Modules

Creativity for integrated thinking (Chapter 5) argues—and empirically supports—that *creativity* is a prerequisite for **integrated thinking** expected in SAICA's new competency framework. Surveyed academics (n=19) overwhelmingly (89.5%) affirm that creativity can be taught; the *three most used methods* are **problem-based learning (ill-structured real cases), group work, and re-imagined assessment**.

Mind maps as multi-modal assessment (Chapter 6) offers a concrete design for online accounting modules: a mind-map task where **95%** of students submitted and achieved an **average of 76%**, while reporting gains in summarisation, creativity, and "big picture" thinking (with suggestions to add peer assessment and AI integrity checks).

GenAI as a teaching assistant (Chapter 7) provides a pragmatic adoption framework—**skills matrix** (Novice to Expert), governance guidelines, and design principles (personalised feedback, inclusion, scalability)—balanced against integrity and equity risks, elevating **ethical AI literacy** as part of the hidden curriculum.

Cybersecurity literacy (Chapter 8) surfaces employer demand and curriculum gaps. Academics rate **guest speakers** (mean **4.71**), **case studies** (**4.34**) and **guided discussions** (**4.17**) as preferred pedagogies but note resource and knowledge constraints—framing cybersecurity as a transversal capability for enterprising accountants.

Work-Integrated Learning (WIL) in auditing (Chapter 9) shows how internships/simulations grow *technical, transferable,* and *soft skills*; students gain confidence and workplace readiness while clarifying tacit norms (e.g., *pace vs scepticism* tensions).

Golden-thread insight: These cross-outcomes, such as creativity, reflection, digital or AI fluency, cybersecurity awareness, and experiential judgement, are portable capabilities that enable enterprising thinking across technical contexts.

3.3 Post-Graduate Growth: Identity, Competence and Leadership

The **post-graduate chapters** focus on *competence development* in professional programmes, the need for *reflective* skills and *leadership coaching* for Master's students and graduates, creating psychologically safe spaces, clarifying identity, and aligning research practice, while surfacing supervision challenges from the student perspective (emotional containment, workload, communication).

Golden-thread insight: Postgraduate formation consolidates enterprising identity—moving from "can I do this?" to "how do I lead and sustain this?"—with coaching and competence frameworks making tacit expectations explicit.

4. Synthesis of Evidence Across Chapters (What the Data in the Chapters Indicate)

Integrated, wraparound support lifts success: When **focused interventions** became systematic (2022–2023), module success rates rebounded across qualifications, coinciding with proactive

identification, weekly accountability, and multi-stakeholder support (ADC, PsyCad, SRC, peer mentors). See Chapter 2 tables for qualification-level trends and academically excluded case outcomes.

Structure can *enable* autonomy: The five-phase scaffold (Orientation to Evaluation) shows that direct instruction and enquiry can co-exist, explicit modelling of thinking and emotional regulation makes hidden norms safe and navigable, strengthening relatedness and self-efficacy.

Reflection deepens judgement: Reflective tools (journals, e-portfolios, prompts) shift students from rote performance to metacognition; in auditing, they cultivate professional scepticism and identity.

Creativity is teachable, assessable, and necessary: Evidence across Chapters 5 to 6 shows that creativity can be taught and assessed (mind-map task outcomes), and that authentic assessment plus group problem-solving are effective designs.

Digital and cybersecurity literacies are transversal: GenAI adoption frameworks and cybersecurity pedagogy preferences point to practical routes for building ethical digital fluency, which is another tacit expectation that students must master.

Experiential bridges carry hidden norms: WIL and simulations transmit tacit workplace expectations while allowing students to practice judgement and scepticism under pressure.

5. Implications for Educators and Programme Leaders

- **Design for SDT:** Build competence (scaffolded tasks), cultivate relatedness (belonging cues, peer communities), and hand over autonomy progressively (student-led enquiry and reflection).
- **Surface the hidden curriculum deliberately:** Make norms and expectations explicit in every analytical module through orientation rituals, reflective prompts, transparent rubrics, and feedback.
- **Assess the cross-outcomes:** Use authentic, creativity-demanding tasks (e.g., mind maps, portfolios, digital artefacts) and recognise ethical AI or cybersecurity practices as assessable outcomes.

- **Institutionalise wraparound support:** Scale early-warning analytics, weekly check-ins, and multi-stakeholder response; treat success as academic and social as well as psychological integration.
- **Reader's road map: where to find the data, cases and frameworks**

Theme	**What to look for**	**Which chapter in the book**
Focused interventions and success	Module success tables; case notes on academically excluded students; intervention matrix	Chapter 2
Structure and autonomy (SDT)	Five-phase scaffold; classroom artefacts; affective modelling examples	Chapter 3
Reflection in auditing	SLR findings; tools (journals, e-portfolios); implementation lessons	Chapter 4
Creativity and integrated thinking	Survey results (creativity teachability); preferred methods; liberal-arts links	Chapter 5
Mind maps in online accounting	Task design; completion (95%); average mark (76%); enhancements	Chapter 6
GenAI as a teaching assistant	Skills matrix; adoption guidelines; governance	Chapter 7
Cybersecurity education	Pedagogy preferences (means); curriculum gaps	Chapter 8
WIL in auditing	Internship or simulation benefits; tacit norm transmission	Chapter 9
Post-graduate development	Competence formation; leadership coaching; supervision insights	Chapters 10-12

6. Conclusion

Across diverse modules and methods, this book demonstrates that enterprising education in analytical fields is not built into teaching, assessment, support, or research supervision. The hidden curriculum, once made visible and intentional, becomes the bridge from knowing to doing to being. Supporting graduates who can integrate, innovate, and lead is as important as delivering content. This overview chapter aims to connect the dots so that readers can dive into each contribution with a clear sense of how their work maps onto the all-encompassing goal: **supporting enterprisers** in commerce programmes.

Chapter 2

Focused Interventions: A Strategy to Improve Student Success

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Abstract

South African universities continue to grapple with the paradox of increased access to higher education alongside persistently low graduation rates. This chapter explores how focused student intervention strategies enhanced students' success. Drawing on Tinto's model of student integration as a theoretical framework, the study examines secondary data (module success rates and data on academically excluded students) across three undergraduate qualifications in the Department of Marketing Management at the University of Johannesburg. The research adopts a quantitative, descriptive design within a positivist paradigm, using module success rates to measure changes in success rates over time, pre- and post-interventions. The findings reveal that focused, data-informed support, including academic monitoring, structured check-ins, and engagement, coincided with measurable improvements in student outcomes across multiple modules. The chapter concludes that meaningful improvements in student success require not only academic support but institutional responsiveness to students' social, financial, and personal contexts. By integrating theoretical insight with practical data analysis, the study offers a scalable model for improving undergraduate retention and completion and ultimately increasing throughput rates – a growing concern for the Department of Higher Education and Training (DHET).

Keywords: at-risk students; student interventions; student success; throughput rates

1. Introduction

Despite expanded access to higher education in South Africa since the advent of democracy, systemic inequalities continue to shape students' academic outcomes. National-level statistics consistently show that while enrolment in undergraduate programmes has increased, throughput rates remain low (DHET, 2024a). Low throughput rates and students who graduate within the minimum time (DHET, 2024b) affect three broad stakeholders: students, institutions, and the broader socio-economic landscape. This has called for a deeper understanding of the paradox between access and success to increase student success. The centre of the challenge relates to the complex reality of undergraduate student success: it is not simply a matter of academic ability, but rather the product of multiple interacting factors, including institutional support, socio-economic context, and student integration into the academic and social life of the university (Tinto, 1993; Bitzer & Troskie-De Bruin, 2004). The post-COVID-2019 environment has further exposed the need for targeted, data-informed strategies to support at-risk students and reduce attrition, particularly in the first year of study (van Zyl *et al.*, 2020).

South Africa is not the only context in which student success is a concern; international research also raises these concerns. Studies in the United States, for example, demonstrate the effectiveness of wraparound student support models in doubling the likelihood of graduation amongst Hispanic students (Evans *et al.*, 2025), while machine learning is increasingly being used to predict early risk and guide interventions (Awedh & Mueen, 2025). Similarly, short-term interventions grounded in self-regulated learning theory have shown promising results for improving retention and performance in underrepresented student populations (Espinoza & Genna, 2021). However, many of these studies have focused on specific categories leading to student success – for example, focusing on offering student support, focusing on identifying students who are deemed at-risk and focusing on the student's self-regulated learning. No studies

in the South African context have focused on an integrated approach to managing students' success, thereby highlighting a gap for developing a focused strategy for student interventions.

This chapter contributes to the growing literature on student success by exploring the various types of targeted interventions implemented within the Department of Marketing Management at the University of Johannesburg (UJ). Using Tinto's model as a theoretical framework and incorporating additional South African-specific considerations, focused interventions were applied between 2022 and 2023. Through the use of secondary data; namely, module success rates and data from students who were academically excluded, this research demonstrates that an integrated approach to student success leads to improved module success and overall student performance.

2. Literature Review

The literature review provides an overview of the concept of student success and the challenges that it entails in the South African context. The section concludes with a discussion focused on the theoretical framework applied to this study.

2.1. Student Success

Student success in higher education is a term often used alongside graduation rates. However, a student's success refers to students' progress along their academic journey, including their academic achievements, retention, and graduation within a minimum time (e.g., throughput rate). Although various international studies position student success as a function of individual motivation and self-regulated learning (e.g., Honicke & Broadbent, 2016; Andrade *et al.*, 2020), research in South Africa highlights that both structural and historical inequalities impact student's entry into higher education (Scott *et al.*, 2007; Letseka & Maile, 2008; DHET, 2021). This indicates that student success in South Africa is not purely attributable to individual qualities. In addition, a growing body of literature shows that the benefits of student success are multifaceted – not only for students and institutions but also for the broader socio-economic landscape. According to Andrade *et al.* (2020), the benefits of a student successfully completing

their qualification are self-explanatory: graduates have access to a higher quality of life and greater potential to enter the workforce. In addition, according to the OECD (2022), graduates are more likely to be employed and earn higher salaries. This ultimately provides the graduate with the opportunity to become an active member of society.

Institutions benefit from improved student retention and satisfaction, which can enhance their reputation and attract talented staff and students (Coates & Matthews, 2018). Improved throughput and retention also enhance financial sustainability through government subsidies (Henríquez *et al.*, 2024), something that is applicable within the South African context, as Public Higher Education Institutions (PHEI), like the University of Johannesburg (UJ), also benefit from the Department of Higher Education's (DHET) subsidies (Meyer, 2025). For example, in the 2023/2024 academic year, the UJ received over R2.7 billion in subsidies – the fourth-largest subsidy amongst South African universities (DHET, 2024a). However, as described by van Zyl *et al.* (2020), South Africa's higher education system is considered "a low participation, high attrition system", meaning that a student's success and graduation within a minimum time are strategic focuses for many universities. However, the relationship between student success and institutional performance is not uniform. International scholars cite retention as an outcome of effective teaching and learning environments and enhanced student engagement (Coates & Matthews, 2018), while South African scholars highlight factors such as institutional capacity, resource allocation, and historical inequalities that affect the institution's ability to support students effectively (Scott *et al.*, 2007). This suggests that student success is much more complex and is affected by the socio-economic landscape.

From the broader socio-economic landscape perspective, van Zyl *et al.* (2020) show that university education remains one of the most viable pathways to upward social mobility, especially for students from historically disadvantaged backgrounds. In a context marked by stark inequalities and high youth unemployment, completing a degree can significantly alter an individual's life trajectory. In addition, the National Development

Plan (NDP) adds that universities perform three main functions in society (NPC, 2012):

1. To educate and train individuals for the skills required to fulfil the employment needs of both the public and private sectors;
2. To produce new knowledge that equips the South African economy and society at large; and
3. To provide opportunities for social mobility to create an equal, socially just and democratic society.

To achieve the above, amongst other strategies, the NDP proposed increasing throughput rates. Yet, according to the DHET, in 2019, the throughput rates for students graduating within the minimum time for three-year degree programmes (contact learning) were only 31.6%, while 4.2% completed via the distance learning mode (DHET, 2024b). Several authors (e.g., Deen & Leonard, 2015; De Klerk *et al.*, 2017) suggest that poor throughput rates reflect deeper socio-economic issues, such as poverty, inadequate basic schooling, and limited access to support services. However, keeping the NDP's proposed increase in participation rate at least 70% by 2030, taking enrolments from 950,000 in 2010 to more than 1.62 million by 2030 (NPC, 2012), and attempting to manage student success and, subsequently, throughput rates make managing student success vital for all stakeholders.

The benefits of student success in higher education are far-reaching and deeply interconnected. For individuals, it enhances life prospects and well-being; for institutions, it strengthens sustainability, reputation, and effectiveness; for society, it drives equity, development, and economic growth. As the literature clearly shows, improving student success is not a peripheral task but a central obligation — one that requires coordinated effort, data-informed strategies, and a commitment to inclusive, student-centred learning environments that support student success.

2.2. The Challenges Associated with Student Success

As discussed above, student success is very important to South African universities; however, there are a range of different challenges that affect a student's success. Despite the progress

made in widening access to the South African higher education system (DHET, 2024a), there are several challenges that still affect students' success: academic readiness, socio-economic constraints, institutional factors, barriers and mental health concerns (Chiramba & Ndofirepi, 2023; Deng & Li, 2024; Ramchander & Naude, 2018).

Academic readiness is a significant challenge in managing student success. In more developed contexts, like the Netherlands (e.g., Baars *et al.*, 2021), academic procrastination affects students' success; however, in a South African context, this is more nuanced. Many students entering university lack adequate preparation in academic literacy, critical thinking, and independent learning (Scott *et al.*, 2007). The mismatch between basic education and university expectations is especially damaging in the first year, where most attrition occurs. Although the number of students dropping out is decreasing (DHET, 2024b), students who fail to cope academically early in their studies are unlikely to persist, even if they possess the potential to succeed (De Klerk *et al.*, 2017). The lack of academic readiness in South Africa is demonstrated in the National Benchmark Test (NBT) results which show that the majority of the participants in the 2024 intake (tested in 2023), were classified as "intermediate lower" in the academic literacy test (38.10%), were classified as "basic" in the quantitative literacy test (43.24%) and in the mathematics test scores (43.81%) (CEA, 2024). The classifications suggest that students' academic performance will be adversely affected, and that support is required for most students entering higher education.

Another broad challenge that affects success is the socioeconomic constraints that students face. Financial hardship remains the leading cause of dropout in South African universities (Letseka & Maile, 2008; Chiramba & Ndofirepi, 2023). Although the National Student Financial Aid Scheme (NSFAS) has improved access to funding, many students continue to struggle with accommodation, food insecurity, and transport costs (Chiramba & Ndofirepi, 2023; van Zyl *et al.*, 2020). Ultimately, the financial hardship students that face has a knock-on effect on their success, as many try to balance their studies and survival. Many students are forced to work part-time or take on family responsibilities,

which significantly limits the time available for academic engagement. These "multiple roles" — as student, caregiver, employee, or sibling — increase the likelihood of academic attrition (Maquera *et al.*, 2025; Mngomezulu, 2017). Although universities attempt to help as far as possible through feeding schemes, accommodation allowances and campus transportation, Ramchander and Naude (2018) found that the massification of higher education, combined with limited resources, further stretches institutional capacity.

Institutional factors also play a critical role in student success. As explained above, the NDP outlined that universities should focus on improving throughput while increasing student enrolments (NPC, 2012). In order to increase throughput rates, universities need to invest in adequate support systems. As shown by the Layton (2016) study, support, through a well-developed tutorial system, was found to be successful at the UJ. However, given the increased number of students, the support structure could be insufficient and place significant pressure on an institution's financial resources. In addition, some institutions may not have the financial resources to offer support like comprehensive tutorial programmes, psychological support and academic support (Chetty & Kepley, 2023; Moyo & McKenna, 2021).

Mental health concerns are increasingly recognised as a major threat to student success. The stress of academic failure, financial hardship, and social disconnection contributes to the mental health of university students (Deng & Li, 2024; Inquilla-Mamani *et al.*, 2018; Lipson & Eisenberg, 2018). Without sufficient mental health support, students are more likely to disengage or leave university altogether. Leshner (2021) indicates that tackling this challenge requires an institution-wide commitment to providing students with psychological support, which should be integrated into the institution's teaching and learning efforts.

In summary, improving student success in South Africa requires more than academic interventions at the module level. It demands systemic reform that addresses the deep-rooted inequalities in schooling, funding challenges, institutional factors and psychological support. Student interventions, particularly for

students who are struggling to succeed (also termed "at-risk") work best when they are proactive, data-driven, and inclusive (Seppälä *et al.*, 2020; Wong & Li, 2019). Without this, increased access to universities will continue to be undermined by persistent barriers to success.

2.3. Theoretical Framework

Student success is not a new phenomenon, and higher education institutions have been struggling to manage student success for decades (Angulo-Ruiz & Pergelova, 2013; Lowe, 2023). Because of the financial and social implications that this has on higher education institutions, many authors have developed frameworks designed to understand the factors that influence student success: the cognitive load theory (Sweller, 1994), the student engagement theory (Kuh, 2001), the student involvement theory (Astin, 2014) and the student integration model (SIM) (Tinto, 1975), to name a few. Each framework has its own viewpoints; however, according to Lotkowski *et al.* (2004), the approach to managing a successful student intervention programme is multi-layered. It is usually only successful once the influence of academic and non-academic factors on student success are explored and understood. Tinto's SIM (Tinto, 1975, 1997) is one of the most comprehensive models to understanding student success in terms of academic and social integration within the context of the institution. According to Schreiber *et al.* (2014), Tinto's model is dynamic because students' goals and intentions adapt continuously as they interact with the university. The better the factors are understood, the better the student's success as according to Tinto (1990):

> *"Some individuals enter college insufficiently prepared for the scale of the academic and social change required of them. Others come from backgrounds and/or situations which differ markedly from those of most students, faculty, and staff on campus (e.g. disadvantaged students). The scope of the adjustment they are required to make often overwhelms them" (p.5).*

Figure 2.1 presents a framework for managing students' success based on Tinto's (1993) model, while adapting some elements to reflect his later work (e.g., Tinto, 2012) and the South African context.

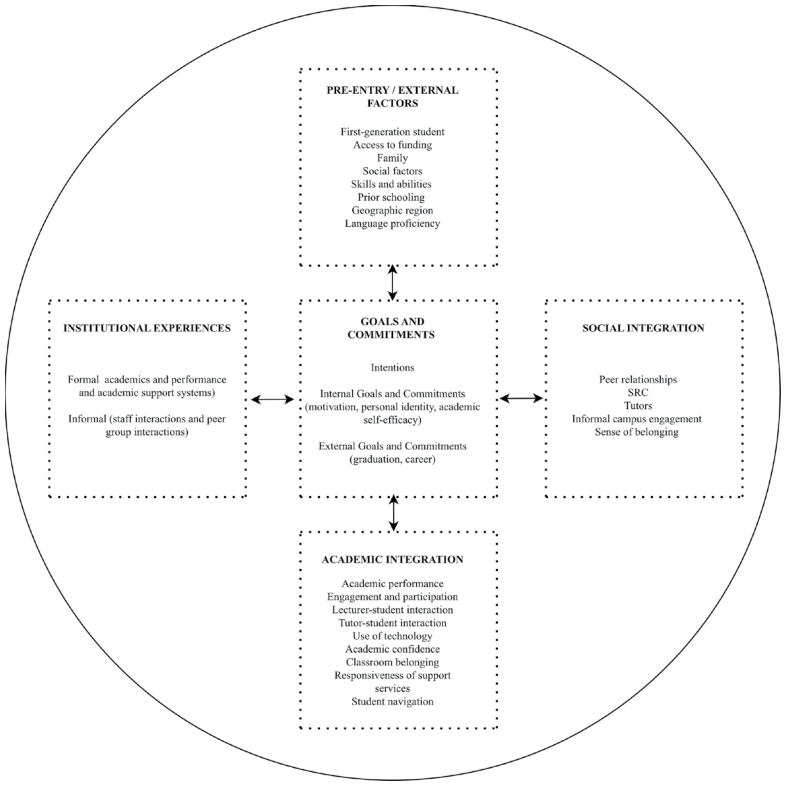


Figure 2.1: An integrative framework based on Tinto's (1993) model and adapted to the South African context

Based on the above, there are five interlinked categories to consider when addressing student success. These categories are explained below.

2.3.1. Pre-Entry / External Factors

Pre-entry attributes and external factors form the foundation of a student's integration journey before they ever start at university. Tinto's model emphasises that students enter university with various backgrounds, prior schooling experiences, skills, and personal dispositions, which shape their initial goals and commitments (Tinto, 1993). As shown in Figure 2.1, these factors include whether the student is a first-generation student, whether they have access to funding, their family

support structure, social factors, their skills and abilities, prior schooling, their geographic region and language proficiency (Nygård, 2021; Rodríguez *et al.*, 2017; van Zyl *et al.*, 2016; Wadhwa, 2018). These factors have the potential to influence how well students adjust academically and socially at university and is considered the starting point of the student's academic journey. Tinto (1993) clearly explains the importance of these factors: students with more positive pre-entry or external factors tend to have higher initial commitment to completing their qualifications.

2.3.2. Goals and Commitments

The goals and commitment category refers to a student's intentions and is typically driven by both internal and external goals and commitments (Tinto, 1993). The goals and commitments that a student has often represent the starting point and the product of the student's academic journey and can be considered the "engine" of the proposed framework. Other dimensions can also enhance or erode the goals and commitments that a student has. Internal goals and commitments include a student's motivation, personal identity, and academic self-efficacy, while external goals and commitments include the motivation to graduate and to start a career (Honicke & Broadbent, 2016; Zimmerman *et al.*, 1992). A strong sense of goal commitment is linked to personal aspirations, family expectations, and broader socio-economic drivers. Many South African students, especially first-generation students or those from historically disadvantaged communities, see higher education as a vehicle for upward mobility (Naudé & Breshears, 2024). This creates a high initial commitment to succeed; despite the structural challenges that they face. However, this motivation can erode if students encounter persistent academic failure, social exclusion, or financial stress. As Bitzer and Troskie-De Bruin (2004) argue, academic performance and personal resilience must be supported institutionally for goal commitment to remain stable. This requires that universities consistently reaffirm the students' motivation and commitments, as this is shown to successfully improve student retention (Walton *et al.*, 2023).

2.3.3. Academic Integration

Academic integration refers to a student's engagement with and performance in the academic aspects of university life, and includes their academic performance, engagement and participation, lecturer-student interaction, tutor-student interaction, use of technology, academic confidence, classroom belonging, responsiveness of support services and student navigation (Abdul-Rahaman *et al.*, 2022; Byl *et al.*, 2022; Layton, 2016; Schaeper, 2020). Importantly, academic integration is not simply about ability or discipline. It is also about confidence, identity, and community. Students who feel that they belong in academic spaces — who see themselves as "the kind of person who can succeed here" — are more likely to persist, even when challenged. Academic confidence builds over time, often through small successes and these moments, when noticed and affirmed by staff, can significantly enhance academic identity and success (Tinto, 1993). However, research suggests that developing academic confidence is not experienced equally across students. South African students enter the higher education system from diverse backgrounds (van Zyl *et al.*, 2016), so confidence often needs to be built through academic support and varied teaching practices that accommodate diverse educational backgrounds.

2.3.4. Social Integration

Social integration refers to the extent to which a student feels connected to the university's social fabric — including friendships, peer groups, student organisations, and informal interactions with faculty and staff. In Tinto's (1993) theory, social integration is essential for persistence and retention because it provides emotional support, identity affirmation, and a sense of belonging — all of which buffer against the stress and uncertainty of academic life. A student who has formed peer relationships, feels part of the student body, engages with tutors, engages informally on campus and has a sense of belonging is a student who has integrated successfully with the university (De Klerk *et al.*, 2017; Van Gijn-Grosvenor & Huisman, 2020). A student who feels that they "fit in" is more likely to attend class, ask for help, and stay enrolled, even in the face of academic or financial difficulty. In contrast, students who feel socially isolated are more

likely to disengage and eventually drop out (Rehman *et al.*, 2023). However, the ability to develop a sense of belonging is often impacted by various social factors (e.g., social identity, culture), which suggests that students will not integrate equally (Chiramba & Ndofirepi, 2023). In the South African context, first-generation students may feel unfamiliar with the university experience, which can make social integration challenging.

2.3.5. Institutional Experiences

Institutional experiences shape students' daily lives and can formally and informally influence their capacity to integrate, persist, and succeed in higher education. These specifically include the student's academic performance and academic support systems, as well as interactions with staff and peers (Nora & Cabera, 1993; Pascarella *et al.*, 2013; Woosley & Miller, 2009). The institutional experiences are very broad, have an all-inclusive influence on students and their success, and often require a more intensive approach to ensure that they are supportive. De Klerk *et al.* (2017) found that integrated, wraparound support programmes help students to navigate both academic and personal challenges, particularly in their first year. Students who perceive the institution as caring and responsive are more likely to seek help and persist. Conversely, if services are fragmented or inaccessible, students may feel isolated and unsupported, especially in times of crisis.

In summary, the categories are all interlinked, and it's important to manage them within the context of the entire framework. For example, according to Longwell-Grice's (2008) study, first-generation students tend to feel intimidated when seeking assistance from the institution. This would, in turn, affect their goals and commitments, their academic and social integration, as well as their experience with the institution. The next section focuses on the focused interventions applied in this study with the framework in mind.

2.4. Focused Interventions – Strategies for Student Success

The UJ Department of Marketing Management offers five undergraduate qualifications, servicing over 1,000 students.

Although the Department has a satisfactory module success rate, some cohorts have achieved success rates below the 85% UJ requirement. This necessitated a detailed review of how student performance and success are managed within the department. When managing and enhancing students' success, different strategies are applied to students classified as at-risk within the Department of Marketing Management at the UJ. These students are classified according to:

1. **Students who have received a formal academic warning** – usually these students have had a history of poor performance, often failing several modules within one academic year and could be academically excluded if they don't progress sufficiently.
2. **Students who are not performing consistently or adequately** – these students are identified throughout the semester by identifying students who:
    a. Don't submit tutorial homework or don't attend tutorial sessions
    b. Don't attend classes frequently
    c. Receive less than 50% for a formal assessment
3. **Students who have been academically excluded because of academic performance** – these students have received a formal academic warning previously (as explained in 1); however, their performance has not improved, and they have been academically excluded. To register again, students were required to appeal the decision, and a committee determined whether they had the potential to complete their qualifications based on their reasons for poor performance. The committee consists of several stakeholders, including the psychological support team (PsyCad at the UJ), the Departmental representative, the Student Representative Council (SRC) and the Faculty.

This widened approach to identifying students considered at risk enables proactive management of student success, as suggested by van Zyl *et al*. (2020). Although it identifies hundreds of students within one academic department (Department of Marketing Management), the interventions described in Table 2.1 have the potential to positively influence student success. These

Table 2.1: Focused intervention strategies applied within the Department of Marketing Management (2021 – 2023)

Intervention	Category	Brief Explanation	At-risk student classification		
			1	2	3
One-on-one or small group tutoring/ consultations	Academic integration	Tutors are required to hold weekly consultation sessions with students to cover specific topics. This is in addition to the larger tutorial sessions, and tutors are required to report on students' performance and attendance.	✓	✓	✓
Intensive revision sessions	Academic integration	Before the examination sessions, the tutor and/ or lecturers host intensive revision sessions. The purpose is not to provide "tips" for the examination but rather a focus on revising difficult concepts.	✓	✓	✓
Specialised academic readiness workshops (online)	Goals and commitment, institutional experiences, and academic integration	These workshops are facilitated by the Academic Development Centre (ADC) at the UJ and consist of curated topics (e.g., decoding test questions, managing your time, preparing a study plan) that are delivered to all students through a virtual platform on a weekly basis specifically for the Department of Marketing Management.	✓	✓	

Intervention	Category	Brief Explanation	At-risk student classification		
			1	2	3
Specialised academic readiness workshops (in-person)	Goals and commitment, institutional experiences, and academic integration	As with the above, however, these are small-group sessions that allow in-person facilitation and are more focused on immediate interventions.			✓
SRC-involvement	Social integration	Involvement in engaging with students who require additional support or guidance from the SRC in terms of funding, accommodation and student experience.	✓		✓
Peer mentor involvement		Students are referred to specific peers within the Department who are selected to offer guidance based on their experience.	✓	✓	✓
Cross-Departmental or Faculty collaboration	Institutional experiences	Engagement with other Departments offering modules (e.g., service-based modules) to ensure closer communication and better performance management.	✓	✓	✓

(*Continued*)

Table 2.1: Focused intervention strategies applied within the Department of Marketing Management (2021 – 2023) (*Continued*)

Intervention	Category	Brief Explanation	At-risk student classification		
			1	2	3
PsyCad sessions	Institutional experiences, Goals and commitment,	Students are encouraged to attend at least one introductory psychological session, and the psychologist considers their continuation appropriate.	✓	✓	✓
Weekly check-in sessions with Departmental representative	Goals and commitment, institutional experiences, social and academic integration	Each week, students are required to provide a report on their activities for the week – the classes and tutorials attended, their consultation schedule, any results, engagement with PsyCad, peer mentors or SRC (as appropriate), their ADC workshop reflections and any support they may deem necessary in order to ensure success.			✓

Key – (1) Students who have received a formal academic warning; (2) Students who aren't performing consistently or adequately; (3) Students who have been academically excluded

strategies are over and above the normal requirements, such as attending classes and tutorials on a weekly basis and attending university-wide workshops where applicable.

3. Methodology

This section outlines the research methodology applied in this study. The study followed a quantitative research approach, analysing secondary data to determine patterns in module success rates and student performance amongst academically excluded students. The study is positioned within the positivist research paradigm, which assumes that reality can be objectively measured and understood through observable phenomena (Neuman, 2014). In addition, Saunders *et al.* (2019) note that a positivist approach is applicable to an empirical approach, in which reality is understood through quantitative data.

The study applied a descriptive research design in which module success rates and student performance were analysed and included data accessible to and compiled by the researcher. The data on module success rates included a sample of the marketing- or retail-related undergraduate modules offered on the Diploma Marketing, Diploma Retail Business Management, and BCom Marketing Management – all offered within the Department of Marketing Management at the UJ. Regarding the performance of previously academically excluded students, they were registered for one of the qualifications, and their personal information has been anonymised for this study.

The research method included gathering module success rates from the PowerHEDA Dashboard, where the success rates per module (offered by the Department of Marketing Management) were summarised in Table 2.2 for the 2021 to 2023 academic period. Regarding the student performance data shown in Table 2.3, it was collated over the 2023 to 2024 academic period and analysed in Microsoft Excel.

To ensure the trustworthiness and credibility of the data, the data was cross-checked across different PowerHEDA Dashboard reports, and the same report was used to present the module success rates per year (2021 to 2023). Lastly, the internal validity and reliability of the data were inferred from

the university's calculation of module success rates, ensuring that the comparisons were legitimate and comparable. Ethically, anonymity was ensured by removing students' personal identifiers from the student performance data.

4. Findings and Discussion

This section presents the findings and discussion of the two sets of data analysed in this study – the module success rates and the academically excluded student performance data.

4.1. Module Success Rates

Table 2.2 presents 31 modules offered within the Department of Marketing Management across three undergraduate qualifications: the Diploma in Marketing, the Diploma in Retail Business Management, and the BCom in Marketing Management. 2021 represents the year when no specific interventions were in place; 2022 represents the year when the focused interventions began; and 2023 represents the year when all focused interventions were implemented and managed by the researcher at the time. Based on Table 2.2, in 2021, the average module success rate for marketing or retail-related modules was 88.8% for the Diploma Marketing, 92.8% for the Diploma Retail Business Management, and 91.4% for the BCom Marketing Management. Although these seem like high success rates, they occurred during coronavirus disease 2019 (COVID-19) restrictions, when many universities switched to online learning and adopted more flexible assessment methods. This is supported by Subirats (2023), who found that during the pandemic, students worked continuously, which promoted more consistent study habits. Therefore, suggesting improved performance. In 2022, the average decreased to 75.9%, 81%, and 79.4%, respectively, suggesting that as students returned to contact-based learning and assessments, their performance decreased. Although the exact reasons for the decrease cannot be determined, 26 modules experienced decreases in module success rates, while only 5 increased. In 2022, the focused intervention programme had begun, and only specific strategies were being applied: one-on-one tutoring, intensive revision sessions, and specialised

Table 2.2: Module success rates (Diploma Marketing, Diploma Retail, BCom Marketing Management) 2021 - 2023

Qualification	Modules	2021	2022	2023	Change in % (2022 – 2021)	Change in % (2023 – 2022)
Diploma Marketing	Marketing 1A	78%	53%	83%	-25%	30%
	Marketing 1B	84%	85%	92%	1%	7%
	Marketing 2A	79%	77%	84%	-2%	7%
	Marketing 2B	93%	59%	82%	-34%	23%
	Marketing 2C	95%	60%	95%	-35%	35%
	Marketing 3A	99%	84%	93%	-15%	9%
	Marketing 3B	99%	100%	91%	1%	-9%
	Consumer Behaviour A	92%	82%	62%	-10%	-20%
	Consumer Behaviour B	92%	88%	92%	-4%	4%
	Marketing Communications A	97%	98%	81%	1%	-17%
	Marketing Communications B	94%	77%	78%	-17%	1%
	Marketing Research 3A	88%	55%	75%	-33%	20%

(*Continued*)

Table 2.2: Module success rates (Diploma Marketing, Diploma Retail, BCom Marketing Management) 2021 - 2023 (*Continued*)

Qualification	Modules	2021	2022	2023	Change in % (2022 – 2021)	Change in % (2023 – 2022)
	Marketing Research 3B	94%	78%	84%	-16%	6%
	Personal Selling 1A	80%	70%	90%	-10%	20%
	Personal Selling 1B	62%	56%	63%	-6%	7%
	Sales Management 3A	97%	92%	83%	-5%	-9%
	Sales Management 3B	86%	77%	74%	-9%	-3%
Diploma Retailing	Retailing 1A	86%	84%	75%	-2%	-9%
	Retailing 1B	83%	73%	85%	-10%	12%
	Retailing 2A	97%	89%	89%	-8%	0%
	Retailing 2B	93%	89%	98%	-4%	9%
	Retailing 3A	98%	63%	60%	-35%	-3%
	Retailing 3B	100%	88%	95%	-12%	7%

Qualification	Modules	2021	2022	2023	Change in % (2022 – 2021)	Change in % (2023 – 2022)
BCom Marketing Management	Marketing Management 1A	82%	84%	76%	2%	-8%
	Marketing Management 1B	87%	89%	81%	2%	-8%
	Consumer Behaviour	90%	67%	94%	-23%	27%
	Services Marketing	94%	77%	90%	-17%	13%
	Integrated Marketing Communications	89%	62%	83%	-27%	21%
	Marketing Research	94%	85%	93%	-9%	8%
	Digital Marketing	97%	81%	94%	-16%	13%
	Strategic Marketing	98%	90%	96%	-8%	6%

academic-readiness workshops were offered to all students. In 2023, the focused intervention strategies were all being applied to students who received a formal academic warning (1) and students who were not performing consistently or adequately (2). Based on the 2023 performance, the average module success rate improved across all three qualifications, with the average being 82.5%, 83.7% and 88.4% respectively. In addition, compared to 2023, only 9 modules decreased in average module success rate, while 21 modules increased, and one reported no change over that period. This suggests that the interventions not only provided content-related support but also helped students to understand the different expectations and requirements shared during the various interventions mentioned above. Thus, offering holistic support that could be considered the hidden curriculum, focusing not only on academic support and content, proved successful.

4.2. Academically Excluded Students

As mentioned, this category of students includes those who have been formally academically excluded because of their poor academic performance. These students were required to appeal their academic status, and a committee decided to allow them to return to their studies if they complied with certain conditions. The data presented in Table 2.3 includes 13 specific student cases that were managed over the 2022 and 2023 academic year by the researcher and show that the majority of students cite financial challenges and poor commitment or engagement of their studies as reasons for poor performance, with family issues, specifically bereavement, being the third highest reason and followed by mental health concerns and academic challenges.

Based on the data presented, 7 of the 13 students (students 1, 2, 3, 4, 5, 6 and 7) made progress in meeting their conditions, which included:

1. Passing modules that the student was registered for and obtaining at least a 40% progress mark (semester mark) for year modules, as applicable.
2. Attending all lectures, tutorials, practical classes and other contact sessions (where applicable).

3. Consulting with tutors on a weekly basis and lecturers where needed.
4. Attending relevant academic readiness workshops at the Academic Development Centre on a weekly basis.
5. Consulting with the Psychological Services and Career Development Department (PsyCaD).
6. Completing a weekly report according to a given template, highlighting performance for the week and areas where additional support was required.
7. Not cancelling registration of any modules.

Notably, students 1 and 2 have completed their qualification in the minimum time, and students 3 to 7 are on track to achieve the same. Although students 3 to 7 are technically not considered academically excluded, they have opted to remain in the monitoring programme and comply with the conditions above. However, six students (8, 9, 10, 11, 12, 13) did not meet the conditions of their appeal and have subsequently discontinued their studies at the UJ. When reviewing the student's commitment, the following themes were identified as contributors to their performance:

- Not attending classes and tutorials consistently
- Not submitting weekly check-in reports
- Not attending the academic readiness workshops
- Not engaging in support (e.g., PsyCaD)

Based on the above and applying the findings within the Tinto lens, students who are unsuccessful exhibit poor academic (e.g., engagement and participation, lecturer-student interaction, responsiveness to support activities) and social integration (e.g., informal campus engagements and engagement with tutors), which affects their institutional experience and eventually their goals and commitments. However, these should not only be viewed as reflections on individual motivation. The students who progressed successfully were those who were accountable and clear about how they wanted to proceed through their studies – this suggests that the more accountable the student is, the clearer and more manageable the institution's expectations become. In contrast, students who disengaged from the support and process continued to face academic challenges. This is consistent with

studies by Morisano *et al.* (2010), Kristiyani and Faturochman (2020), and Sharma and Yukhymenko-Lescroart (2018), which found that a lack of clear goals and commitment leads to poor overall student performance. Within the academically excluded group, many were first-generation students, making it more difficult to set academic goals and maintain commitment as they navigate their experience without the advantage of inherited knowledge of academic norms (Naudé & Breshears, 2024).

Although it is challenging to pinpoint the exact intervention strategy that resulted in an overall increase in module success rates (as shown in Table 2.2) or the academically excluded students' reasons for success (as shown in Table 2.3), this falls into the overall integrated principle of Tinto's approach to managing student success, across all categories identified in Figure 2.1. However, the intervention programme provided more than academic support, and the findings support the notion of the hidden curriculum and its role in student success. Many students struggle to enter university because they are unclear about expectations and how the system works. This, therefore, calls for more structured guidance from both an academic viewpoint (e.g., lecturer and tutor consultations) and through student support (e.g., workshops, check-ins, etc.) in order to not only improve academic performance but also improve the student's identity, sense of belonging, and confidence in seeking assistance. This aligns with Tinto's assertion that student persistence is influenced by evolving goals and commitments that strengthen when students feel academically and socially integrated. The next section presents the recommendations and conclusion.

This research reaffirms that improving undergraduate success requires an integrated approach. It demands targeted, context-sensitive interventions rooted in empirical evidence and supported by coherent institutional strategies. Based on the findings, several key recommendations are proposed:

1. **Expand data-informed early warning systems** - The use of performance data to track trends and identify at-risk modules or students should be institutionalised. Identifying students after they have failed a module is too reactive; instead, proactive approaches are needed while the student is still completing it.

Table 2.3: Academically excluded students

Student	Reasons cited for poor academic performance	Module and Marks	Outcome
1	Struggled with the concepts in one particular module.	Marketing Research 3A (68%)	Passed the module and obtained the qualification
2	Work commitments in order to pay for studies, and poor commitment to studies.	Economics 2B (54%), Logistics Management 3A (54%) and Logistics Management 3B (59%)	Passed all three modules and obtained the qualification
3	Mental health challenges.	Business Management 2B (55%), Commercial Computer Systems (64%) and Strategic Marketing (65%)	Passed all requirements and proceeded into the next academic year (still being monitored)

(*Continued*)

Table 2.3: Academically excluded students (*Continued*)

Student	Reasons cited for poor academic performance	Module and Marks	Outcome
4	Family challenges (death in the family).	Business Management 1A (failed), Marketing 1A (51%), Applied Accountancy Skills B (55%), Business Management 1B (55%) and End-User Computing 1B (58%)	Failed one module but passed three of the four modules, proceeded into the next academic year (still being monitored)
5	Mental health challenges.	Accounting A (failed), Business Management 1A (failed), Economics 1A (50%), Marketing Management 1A (failed), Analytical Techniques 1B (50%) and Business Management 1B (56%)	Failed three modules but passed three of the six modules, proceeded into the next academic year (still being monitored)
6	Family challenges (death in the family).	Logistics Management 2A (59%), Business Management 2A (50%), Logistics Management 2B (failed), Business Management 2B (failed), Services Marketing (55%), Integrated Marketing Communications (50%)	Failed two modules but passed six of the modules, proceeded into the next academic year (still being monitored)

Student	Reasons cited for poor academic performance	Module and Marks	Outcome
7	Poor commitment to studies	Accounting A (failed), Analytical Techniques (50%), Business Management 1A (50%), Marketing Management 1A (67%), Analytical Techniques 1B (failed), Business Management 1B (51%), Economics 1B (failed), Marketing Management 1B (71%)	Failed three modules but passed five of the eight modules, proceeded into the next academic year (still being monitored)
8	Financial challenges.	Accounting A (failed), Business Management 1A (passed), Marketing Management 1A (50%), Business Management 1A (50%), Analytical Techniques 1B (failed), Business Management 1B (failed), Marketing Management 1B (59%) and Business Management 1B (51%).	The student obtained exam entrance to seven of the eight modules over the year. In the first semester, the student passed three of the four modules and was advised to ensure that progress is made in the second semester; however, the student failed two of the four modules in the second semester. The student was inconsistent with their engagement and missed several check-in sessions, classes and tutorials. The student attended four of the sixteen academic readiness workshops throughout the year. The student was unable to meet the conditions of the academic appeal as the student failed two of the four modules registered for and would not be able to complete the qualification in the minimum time.

(*Continued*)

Table 2.3: Academically excluded students (*Continued*)

Student	Reasons cited for poor academic performance	Module and Marks	Outcome
9	Family challenges (death in the family).	Analytical Techniques 1A (80%), Business Management 1A (failed), Marketing Management 1A (72%), Analytical Techniques 1B (66%), Business Management 1B (51%), Economics 1B (55%) and Marketing Management 1B (failed).	The student passed five of the seven modules registered for throughout the year. The student was very engaged in the process and attended classes, tutorials and the majority of the academic readiness workshops. The student experienced significant health challenges towards the latter part of the year and opted to deregister from the qualification, although a study suspension was offered.
10	Financial challenges and poor commitment to studies.	Economics 2B (failed), Logistics Management 2B (failed), Marketing Management 1B (failed), Integrated Marketing Communications (failed)	The student only gained exam entry to one of the four modules registered for. The only willing engagement from the student was to sign the conditions of the academic exclusion appeal in order to register for the semester. The student missed all 20 check-in points throughout the semester and did not respond to emails or calls. In addition, the student did not attend classes, tutorial sessions, academic workshops, or consultation sessions. The student did not engage again until the following academic year, enquiring why he was not permitted to register.

Student	Reasons cited for poor academic performance	Module and Marks	Outcome
11	Family challenges (death in the family) and financial challenges.	Applied Accountancy Skills B (failed), Business Management 1B (50%), End-user computing 1B (failed) and Marketing 1B (54%).	The student gained entrance to all four modules registered for. The student did engage somewhat throughout the semester; however, the student cited psychological challenges and was referred to the on-campus psychologist. The student attended only one of the eight academic readiness workshops and became completely disengaged. The student was unable to meet the conditions of the academic appeal, as they failed two of the four modules registered for and would not be able to complete the qualification within the minimum time.
12	Financial challenges.	Accounting 1B (failed), Business Management 2B (failed), Services Marketing (failed), Integrated Marketing Communications (50%), Accounting 1B (failed) and Logistics Management 2B (failed)	The student passed one of the six modules registered for. The student gained access to all examinations; however, all marks were in the 40s. The student did not engage as frequently as required, did not attend consultations, tutorials or classes and only attended one of the eight academic readiness workshops. The student was unable to meet the conditions of the academic appeal and was not permitted to return.

(*Continued*)

Table 2.3: Academically excluded students (*Continued*)

Student	Reasons cited for poor academic performance	Module and Marks	Outcome
13	Mental health challenges.	Business Management 2B (failed), Business Communication (failed), Logistics Management 2B (failed) and Integrated Marketing Communications (failed).	The student gained exam entrance to two of the four modules registered for. The student did not engage consistently throughout the semester, did not attend classes, tutorials, or check-in sessions. The student did not attend any of the eight academic readiness workshops. As the student did not meet the conditions of the academic appeal, they were not permitted to return.

Drawing on approaches such as those used at King Abdulaziz University (Awedh & Mueen, 2025), machine learning and predictive analytics can help universities to identify students who need support early, before academic failure occurs.

2. **Implement holistic student support models** - Interventions should not be limited to tutoring but should be holistic in their approach to offer students comprehensive support. This has proven successful in programmes in both South Africa (van Zyl *et al.*, 2020) and the US (Evans *et al.*, 2025). This, however, requires a dedicated team at the Departmental level to manage interventions that are both balanced and personalised, while still scalable for mass implementation. To accomplish this, other groups of students can be integrated into the interventions, such as top achievers.
3. **Integrate academic skill development across the curriculum** - Evidence suggests that many students, particularly those from under-resourced schools, lack the metacognitive and time-management skills needed for success (Kato, 2002). Integrating academic literacies and study skills into interventions to allow for academic readiness could enhance self-regulation and promote independent learning and success. The topics covered should be well thought-out and planned in line with the semester structure (e.g., offering "decoding test questions" two weeks before tests begin).
4. **Use peer-led and technology-enhanced support mechanisms** - As seen in Espinoza and Genna's (2021) intervention, peer mentoring and faculty-student relationships play a critical role in fostering student engagement and retention. Additionally, AI-personalised learning systems can offer tailored support to students based on their performance trajectories (Owusu *et al.*, 2024), making scalable interventions more viable.
5. **Enhance integration** – Integrated approaches to managing student success are necessary; however, many institutional divisions operate in silos. Institutions must be more focused in their approach to managing student success across all divisions – the SRC, psychological support, campus health, academic departments, faculties, and so on – to ensure coordination. Often, there are pockets of excellence within

each of these divisions that should be shared and scaled up. An integrated approach enables more focused strategies to improve student success.

5. Conclusion

This research has demonstrated that the approach to student success should be integrated and data-driven, with early identification systems implemented for students who may be at risk of not completing their qualifications within the minimum time. The findings indicate that student success is closely related to navigating university expectations and the "norm" within the university setting. The targeted interventions supported students' understanding of academic expectations and enhanced their confidence in seeking help. Although this research was conducted within a single academic department, its impact on students' success is clear and could be scaled to achieve institution-wide success. However, developing the integrative approach and managing the process is significant. It requires careful planning, contextual understanding, and thoughtful implementation, rather than a hasty, one-size-fits-all rollout across all disciplines. Moreover, reliance on students' marks rather than narrative data also limits the ability to explain the complexity of student experiences. Therefore, future research should also include the students' voices and a qualitative enquiry to deepen the understanding of the effectiveness of these interventions. If performed well, integrated, focused interventions have the potential to transform institutional performance and improve student success, particularly by supporting students in transitioning towards greater academic independence.

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Chapter 3

Balancing Structure and Autonomy through a Scaffolded Teaching Model in Enterprising Education

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Abstract

Balancing structured learning and student autonomy is a challenge in education. This study employs concepts from the hidden curriculum and Self-Determination Theory (SDT) to explore how competence, relatedness, and autonomy can be scaffolded to enhance student motivation and the development of enterprising students. A literature review and classroom-based case study discuss a pragmatic teaching model that integrates essentialism and direct instruction, combining teacher-centred and student-centred methods. The findings of this study suggest that structured learning can support students' autonomy development rather than restricting it. This study contributes to educational theory by refining applications of SDT while offering practical insights for university educators and policymakers. Suggestions for future research are also provided to strengthen best practices in enterprising education.

Keywords: Enterprising education, scaffolded teaching, self-determination theory, student-centred pedagogy; teacher-centred pedagogy

1. Introduction

The higher education landscape is being reshaped because of increasing demands on universities to produce graduates who think critically and can solve complex problems (Tang & Zhang, 2022). One response to this challenge is the rise of enterprising education, which emphasises the development of knowledgeable, self-reliant graduates motivated to positively impact society (Crammond, 2019; Rae, 2010). While used interchangeably with entrepreneurial education, enterprising education extends beyond business creation by equipping students with a broad range of transferable skills, enabling them to navigate complex personal and professional environments (Fauchald, 2024; Walmsley & Wraae, 2022). Enterprising students, in turn, are defined by their initiative, perseverance, autonomy, creativity, critical thinking, and problem-solving skills (Kania, 2022; Marshall *et al.*, 2022). Enterprising students take ownership of their learning, both individually and collaboratively, in preparation for a complex and uncertain future (Kapasi & Grekova, 2018; Walmsley & Wraae, 2022).

At its core, enterprising education seeks to develop the traits mentioned earlier by integrating traditional methods of instruction with innovative pedagogies (Altan, 2021). While foundational knowledge remains central, students must also autonomously apply what they have learnt to solve real-world problems (Refai & Thompson, 2015).

Researchers such as Crammond (2023) and Newton *et al.* (2020), note that educators should adopt a pragmatic approach to pedagogy. For instance, Murphy *et al.* (2021) surveyed 507 university students about their preferences for teaching methods and found that students preferred a mix of teacher-centred and student-centred approaches. In turn, McDowell (2023) explains that when teaching methods are combined, teachers and students engage in action, thus creating a learning-centred model for everyone. However, developing an enterprising student with an enterprising mindset creates a pedagogical paradox (Walmsley & Wraae, 2022). For example, how do we reconcile teacher-centred philosophies and approaches such as essentialism and direct instruction, which

are more structured and seem at odds with student-centred approaches, which are less structured and student-led? This apparent contradiction raises the question of whether these two approaches can coexist to develop enterprising students.

To address the paradox described previously, it is essential to consider the concept of the hidden curriculum. The hidden curriculum refers to the unspoken norms, expectations, and values that students absorb through classroom culture and instructor modelling (Mawdsley, 2025). Within enterprising education, these implicit lessons often shape how students understand initiative, autonomy, and responsibility beyond formal instruction (Rossouw & Frick, 2023), influencing the development of an enterprising mindset. Research in the business education field shows how the hidden curriculum operates in this context. For example, Mousa (2022) identified how business schools convey implicit messages about ethical conduct and managerial responsibility through informal lectures, while Rossouw and Frick (2023) note that lecturer conduct is one of the key factors that determine the hidden curriculum. Hogdal *et al.* (2021) highlight the tensions between formal and hidden curricula in responsible management education, which affect students' sense of agency. Similarly, Hibbert and Wright (2023) observed that hidden curricula can either reinforce traditional, market-oriented values or challenge them by promoting reflection on moral and social responsibility. These studies reveal insights into the hidden curriculum; more explicit articulation is needed on how it develops student autonomy and enterprising dispositions beyond economic ambition. By making implicit expectations explicit and aligning them with enterprising goals guided by self-determination theory, educators can transform hidden norms into autonomy-supportive structures.

This chapter addresses this challenge by demonstrating how teacher-centred and student-centred approaches complement rather than conflict. Using the concept of the hidden curriculum and SDT as a theoretical framework, we will explore, through a university classroom-based case study, how essentialism and direct instruction provide the foundation for competence, relatedness, and autonomy, which is then used to cultivate

enterprising students who demonstrate initiative and creative problem-solving skills. This study demonstrates that combining teacher-centred instruction as a foundational approach with student-centred elements can produce well-rounded, enterprising students.

The rest of this chapter is structured as follows: We explore SDT and demonstrate how this theory explains teacher-centredness combined with elements of student-centredness. We discuss the theories of essentialism, direct instruction, and student-centred approaches, followed by an account of the research methodology employed in the study. We then present a case study showing how direct instruction can coexist with a student-centred model, after which we discuss and conclude with insights from the case study, considering SDT.

2. Literature Review

2.1. Self-Determination Theory

SDT is credited to Edward Deci and Richard Ryan for their 1985 seminal work, *Intrinsic Motivation and Self-Determination in Human Behaviour*, which focused on human motivation and well-being (Deci & Ryan, 1985). The theory encompasses various forms of motivation, ranging from autonomous to controlled (Zhou & Zhang, 2023). Autonomous motivation is a form of intrinsic motivation in which an individual acts with complete choice, endorsement, and a sense of volition (Ryan & Deci, 2022). On the other hand, controlled motivation refers to external pressures, such as contingent rewards, fear of punishment, or ego involvement, that pressure or compel the individual to act (Ryan & Deci, 2022). Individuals driven by autonomous motivation exhibit higher levels of excitement, confidence, and vitality, which in turn, lead to improved performance, persistence, and overall well-being (Zhou & Zhang, 2023). SDT advances that people, including students, have basic psychological needs according to three dimensions: 1) competence, 2) relatedness, and 3) autonomy, which, if satisfied, promote autonomous motivation (Grenier *et al.*, 2024; Ryan & Deci, 2022).

Competence refers to acting correctly (Grenier *et al.*, 2024). Thus, students increase their competence as they master

challenges, which in turn, increases their motivation to tackle complex tasks (Raeburn *et al.*, 2024). Relatedness refers to the feelings that we experience when connected to others in shared communities (Raeburn *et al.*, 2024). Thus, students' motivation improves when they feel supported in shared spaces (Martin *et al.*, 2018; Wang *et al.*, 2024). Autonomy refers to the ability to self-initiate and self-endorse (Raeburn *et al.*, 2024). In the context of students, they can control their actions and decisions when participating in learning activities (Burke *et al.*, 2024; Martin *et al.*, 2018). A pyramid with three levels representing each psychological need of SDT is shown in Figure 3.1, which illustrates how each layer of the pyramid supports the others and how meeting these needs leads to higher levels of motivation and well-being. Social actors such as teachers, lecturers, and professors play a crucial role in helping students to cultivate these psychological needs (Guay, 2021; Shao *et al.*, 2024). Because of the foregoing, SDT is extensively applied in educational settings to understand and develop competency, relatedness, and autonomy amongst students, key components in enhancing student motivation (Guay, 2021; Martin *et al.*, 2018). This study extends the existing literature on SDT by applying the theory in a teaching environment guided by essentialism, direct instruction, and elements of student-centredness.

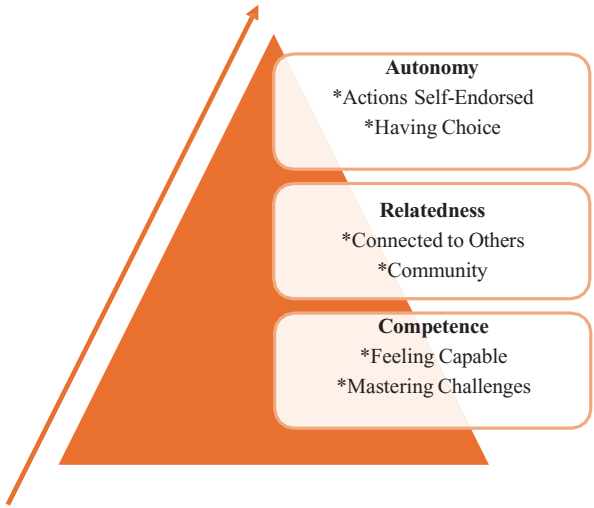


Figure 3.1: Hierarchy of needs in SDT
Source: Adapted from Ryan and Deci (2022)

The hidden curriculum can also support SDT by creating informal conditions that nurture students' psychological needs. Wong (2025) highlights that personal and social growth, which includes psychological dimensions such as motivation and a sense of self, often occurs implicitly through belonging and reflective engagement rather than explicit teaching. McMillan and Jones (2022) similarly demonstrate that students develop lifelong learning dispositions and autonomy through tacit feedback and modelling, arguing that students' conceptions of these skills are predominantly a product of the hidden curriculum. Mawdsley (2025) explains that unspoken values and expectations within learning environments shape motivation and identity through implicit socialisation. However, this implicit environment is not always supportive; for example, Bunce *et al.* (2021) used SDT and found that black and minority ethnic students faced many obstacles within learning and teaching experiences that inhibited the fulfilment of their psychological needs and desire to achieve their full potential. These studies collectively suggest that while hidden learning processes have the potential to develop enterprising students, they must be actively managed in alignment with the psychological needs of SDT.

2.2. Teacher-Centred Pedagogy

2.2.1. Essentialism

Essentialism is a philosophy that emphasises the teaching of essential principles, coupled with the instillation of self-belief, confidence, and discipline in students (Acquah *et al.*, 2017; Sahin, 2018). Essentialism can be traced back to William C Bagley, who, in the 1930s, popularised the term and advocated for this philosophy (Glickman *et al.*, 2013; Acquah *et al.*, 2017). Proponents of essentialism believe that students can be taught to be model citizens or, in this case, professionals (Moss & Lee, 2010). Essentialism, thus, relies on mastery of a set curriculum, which is expertly navigated and directed by a teacher who takes accountability for a student's learning (Acquah *et al.*, 2017; Gunardi & Hartati, 2024). Essentialism requires that a teacher sets all learning activities structured to support education and cultivate students' values, such as discipline and hard work (Gunardi & Hartati, 2024; Sahin, 2018). A critique of essentialism

is that it is a teacher-centred philosophy, meaning that students take on a passive role in learning; however, an advantage of this philosophy is that it allows for greater stability in educating students (Acquah *et al.*, 2017; Sahin, 2018).

While SDT focuses on the psychological need for competence, there is an important link to the essentialist view in education. For example, Guay (2021) explains that for students to function optimally at university, they must feel competent. Thus, an essentialist educational philosophy, grounded in competency and mastery of module content, aligns with SDTs' need for developing competence.

2.2.2. Direct Instruction

Direct instruction is credited to Bereiter and Engelmann (1966), who studied the impact of direct guidance on the academic skills of underperforming students. Direct instruction focuses on mastering skills, principles, and knowledge (Adams & Engelmann, 1996). Direct instruction has the underlying philosophy that if a student does not learn, it implies that the teacher did not teach well (Rolf & Slocum, 2021). Consequently, it is a pedagogy that is teacher-centred and, thus, in line with an essentialist philosophy (Hornby, 2018). Teachers, therefore, design scaffolded lessons, provide practice opportunities, and give feedback to enhance a learner's mastery of content (Rolf & Slocum, 2021).

SDT aligns with direct instruction in developing students' competency in mastering the curriculum. Furthermore, direct instruction allows for scaffolding of learning, presenting an opportunity to incorporate elements of student-centred learning and to create an environment that nurtures relatedness amongst students and lecturers, including facilitating student autonomy. Thus, while Rolf and Slocum (2021) assert that direct instruction can be used to develop competence systematically, we argue, by demonstrating through the case study (see Section 4), that direct instruction can also satisfy students' needs for relatedness and autonomy.

2.3. Student-Centred Pedagogy

Student-centred pedagogy has its roots in constructivist development theory, including the progressive education movement led by figures such as Jean Piaget and John Dewey

(Rege, 2025). A student-centred teaching method places students at the centre of the educational process, requiring them to actively participate, collaborate, and take ownership of their learning (Woods & Copur-Gencturk, 2024). This teaching method differs from a teacher-centred approach, as students are responsible for constructing their own learning (Awidi & Paynter, 2024). Educators following a student-centred model incorporate a variety of teaching methods which include, for example, 1) lecturing with student interactions, 2) leading classroom discussions, 3) teaching by questioning students, 4) allowing free-flowing classroom discussions, and 5) demonstrations and practice, to name a few (Murphy *et al.*, 2021).

Several benefits are reported when using a student-centred approach, including increased engagement and motivation amongst students, as they have agency over their education, enhanced problem-solving skills, and improved knowledge retention (Bremner, 2020; Trinidad, 2019). However, some critics argue that this approach places too much responsibility on students who may lack foundational knowledge, struggle in unstructured environments, or have difficulty navigating complex concepts (Komatsu *et al.*, 2021). Critics further argue that student-centredness leads to inefficiencies in curriculum coverage (Shah & Basnyat, 2024). A student-centred model is appealing in theory; however, it is difficult to implement where there are resource and infrastructure constraints (Shah & Basnyat, 2024). In addition, Murtonen *et al.* (2024:535) add that "we do not fully understand what is needed to develop a student-centred teaching approach". This is further complicated by the fact that student-centred learning may not suit all cultures, especially where authority-based instruction is prioritised (Amiruddin *et al.*, 2023).

Student-centred teachings strongly link SDT to all psychological needs in motivating students. Competence is developed through engaging students in active learning tasks; relatedness is encouraged as students collaborate to construct knowledge; and autonomy is promoted as students take ownership of their learning (Ryan & Deci, 2022). Thus, SDT also provides a framework to understand student-centred teaching methods.

3. Methodology

This study adopts a pragmatic research paradigm, acknowledging that teacher and student-centred approaches have value depending on the educational context. Pragmatism prioritises action and problem-solving by integrating research approaches to find solutions that inform future practice (Creswell & Poth, 2018; Saunders *et al.*, 2023). Therefore, pragmatism is suited to this study because it allows for a blended perspective on ideas (Ngulube *et al.*, 2015) by integrating SDT with multiple pedagogical approaches, which can coexist and be strategically applied to enhance student motivation and learning outcomes. For example, as SDT focuses on autonomy, competence, and relatedness, following a pragmatic approach has enabled the researcher to explore how structured and flexible learning environments contribute to these dimensions of motivation.

This study employed a conceptual research design integrating a literature review with a self-study case analysis. The literature review established the theoretical foundation of this study by examining SDT, essentialism, direct instruction, and student-centred pedagogy in detail. A classroom-based case study was used to apply and contextualise the theoretical insights from the literature. This manner of enquiry served this study, as case study research investigates phenomena in real-life contexts (Warren & Bell, 2022).

Data for the case study were drawn from systematic reflections and observations of the researcher's classroom practice, supplemented by teaching artefacts such as module support materials, assignments, and assessments. These artefacts provided a comprehensive record of the pedagogical approach and the learning environment. The use of a case study enabled the researcher to reflect on and examine teaching practice, illustrating how different pedagogies can be used to cultivate enterprising students within the framework of SDT. Because of the selected design, participant sampling was not required, as the study focused on the researchers' own teaching practice.

The teaching context in which this case study is situated forms part of a broader Honours curriculum designed to prepare students to qualify as Internal Auditors. The student cohort typically

consists of approximately 130 Honours-level students. Students are required to follow a structured curriculum and demonstrate mastery and autonomy in applying skills and knowledge to meet the standards of professional bodies that certify Internal Auditors in South Africa and abroad. Consequently, the teaching methods employed are directed towards developing students for professional careers in internal auditing, as this field has been identified as a critical skill needed in South Africa (RSA, 2022).

The teaching practice, grounded in essentialism, is structured into five phases that align with the literature on direct instruction (Boxer & Bennet, 2019; Hornby & Greaves, 2022). Table 3.1 illustrates this approach, which is guided by relevant theory in the design, delivery, and assessment of the module. This method incorporates demonstration-based teaching through the "I do," "we do," and "you do" sequence, comprising presentations (I do), guided practice (we do), and independent practice (you do) (Hornby & Greaves, 2022). The "we do" and "you do" phases position students at the centre of the learning process, thereby incorporating student-centred pedagogy.

Table 3.1: Illustration of Teaching Approach

Sequence	**Description**
1. Orientation.	• Provide an overview of the module. • Discuss the learning objectives to be achieved. • How the learning material relates to previous material. • What are the performance expectations?
2. Presentation (I do).	• Explain and demonstrate new material. • Present material using small steps to develop mastery.
3. Guided Practice (We do).	• Students practice with support. • Demonstrate responses that students should strive for.

Sequence	Description
4. Independent Practice (You do).	• Students practice independently to master content. • Students consult on specific issues identified.
5. Evaluation.	• Assess students' understanding of content. • Provide feedback.

Source: Compiled from Boxer & Bennet (2019); Hornby and Greaves, (2022); Shammas (2023)

A thematic analysis, grounded in the principles of SDT, was applied to identify patterns emerging from both the literature and the reflective analysis of classroom practice. Themes were mapped against the three psychological dimensions of SDT to interpret how different pedagogical approaches support student motivation and engagement. The credibility of the findings was strengthened by grounding them in established theoretical frameworks and peer-reviewed literature. Dependability was ensured through systematic structuring of the research process and alignment with extant studies. However, as the study reflects the researcher's own teaching practice, the potential influence of personal beliefs on interpretation was acknowledged. To counter this, the researcher recorded their thoughts and biases and continuously reflected on assumptions and interpretations to enhance the study's credibility and transparency.

4. Case Study Findings on Classroom Pedagogy

4.1. Orientation

The preparation, organisation, and communication of module objectives, syllabus, and assessment criteria are essential for effectively teaching and transmitting knowledge (Stronge, 2018; Weimer, 1993). Further, if the foregoing is organised, the transmission of knowledge imposes an outer order that facilitates an inner order for students (Rolf & Slocum, 2021). Thus, proper orientation allows both the lecturer and the student to be clear

about the knowledge and skills to be transferred from the module (Hornby & Greaves, 2022).

My departure point before teaching a module is ensuring that I am correctly orientated. My orientation begins by considering the academic calendar (public holidays, etc.) and how best to sequence content delivery to students. The sequencing of content will, in turn, influence when formative assessment dates are set. Thereafter, I compile a learning guide that outlines a module's key information.

Once the learning guide is compiled, the module is systematically set up on Moodle, the learning management system used to deliver and manage module content. For example, topics within a module are organised using individual folders. All information related to a topic is, thus, included in a single folder. I am very deliberate about setting up the modules that I teach to ensure that they are well-structured and standardised.

Once I am oriented, as detailed above, I always give an introductory lecture at the beginning of a semester to orient students to the module's structure and rollout. In this introductory session, I will outline why studying the module is important, how it fits within the Honours programme, and, how the knowledge gained will assist students in preparing for candidacy with professional bodies. I set expectations for students regarding performance requirements, lectures, assignments, and assessment dates and times, and the structure of assignments and assessments. I also take the time to address any questions that students may have. This session also provides students with extensive guidance on examination techniques to succeed in the module.

4.2. Presentation (I Do)

I love the idea of presenting directly to students. Presenting is akin to performing for students, delivering content, simplifying concepts and principles, and instilling love and appreciation for the subject matter (Brookfield, 2015; Xiong, 2025). Presenting allows me to engage with students meaningfully and to "read the room" to gauge whether students grasp the concepts. I can also solicit real-time student feedback to ascertain their understanding of concepts and principles (Salimi & Mohammadzad, 2025).

My presentations are structured the same for all topics in a module. A presentation begins by reminding students where the topic fits within the module structure (Brookfield, 2015). Students are also reminded of my contact details and those of my assistant and are actively encouraged to consult when needed. Thereafter, the topic is introduced, and the learning outcomes to be achieved and the assessment methods are discussed. After that, the general presentation will be broken into related sub-themes to simplify concepts and enable mastery in a meaningful, manageable way. All my presentations conclude with a section which I call "Something to think about." This section provides a quote, either related to the subject matter being taught or an inspirational quote. It inspires, builds confidence, and correctly aligns a student's perspective on what is needed to succeed in the module and life in general (Hawthorne *et al.*, 2015).

4.3. Guided Practice (We Do)

Guided practice is designed to develop automaticity and, ultimately, mastery of module content in students (Barker, 2019). I model my thought process by making my thinking visible and providing model responses to questions, thus giving students methods to work with (As'ari & Kurniati, 2019; Coe *et al.*, 2014). My students engage in a guided practical lecture once a week. In this session, students receive explicit guidance on how to apply the module content to exam-style questions (Ashman, 2019). My guided practice is designed to simplify the process for students and model effective, efficient methods of autonomous problem-solving when dealing with case study questions. This intentional modelling of self-directed and autonomous attributes is important, as students' conceptions of these skills are predominantly shaped by the implicit narratives of the hidden curriculum (McMillan & Jones, 2022).

All guided sessions begin by handing out printed copies of examination-style questions to students. Students are then required to complete these questions under examination conditions within a 20 to 30-minute time limit, depending on the length of the question. The questions are set at the same level as those found in formative and summative assessments. Before students begin

answering the question, I remind them that I will speak during the session, but this should not distract them from completing their answers. While students engage with the question under examination conditions, I walk around to mimic an invigilator. At the halfway point of the given time limit to complete the question, I ask students to reflect on their feelings. For example, I might say, "*Are you feeling negative? If so, now is the time to adjust and convey positive affirmations to yourself*". "*You are in control, not the question, so change your thoughts and change your results*". I further tell students when there are two minutes left on the allocated time to complete the question: "*You have two minutes left; this is not the time to have idle pens; you can change your world and your life in two minutes, fight for every mark, it is worth it, you are worth it.*" I use this practice to positively frame my students' thoughts so that when they encounter an actual assessment, they do not allow negativity to affect their performance (Lemov *et al.*, 2016). This focus on implicit self-regulation and affective development, which goes beyond module content mastery, constitutes a deliberate management of the hidden curriculum (Mawdsley, 2025; Wong, 2025).

When students have completed the question, we formally begin the session. I do not provide individual feedback on each student's solution because my strategy is to develop students' ability to give themselves feedback using the guidance and modelling discussed during the guided session (Wiliam, 2016). Importantly, I begin my discussion by informing students that making mistakes in these guided sessions is beneficial, as it highlights areas that need improvement. I use positive framing to turn what can be a negative experience for students into a positive one by modelling my attitude towards mistakes and how much can be learned from them to improve future performance (Lemov *et al.*, 2016). This explicit modelling of social norms and emotional responses is a necessary mechanism of implicit socialisation (Mawdsley, 2025). This creates a safe environment for students as they feel comfortable openly discussing their mistakes with their peers and me. It also allows for enhanced relatedness and learning in line with SDT (Dong *et al.*, 2024; Loopers *et al.*, 2023).

I then start by breaking the question into three parts: 1) the case study information, 2) the 'required' information, and 3) the

solution. I read the case study aloud, interrogating every sentence in the question, making my thinking visible to the students. I also engage with students to understand their thinking and affirm or correct any errors in their reasoning. Once this process is complete, the next step is reading the 'required' information with the students. I am very deliberate when reading the 'required' information and emphasise the importance of understanding the 'required' part during every session. I use the analogy: if the 'required' information instructs you to go to Cape Town, ensure you go to Cape Town, not Durban, as the marks are in Cape Town, not Durban. A proper understanding of the 'required' and resulting answers produced by students is based on correctly interpreting and applying the information in the case study; thus, these steps are crucial in demonstrating to students how the case study and 'required' interact (Coe *et al.*, 2014). Lastly, the suggested solution is discussed with students by showing the link between the information in the case study and how it is used to produce an answer, considering what was asked in the "required" section. All theoretical concepts covered in the solution are also discussed, and any student misunderstanding of theory, ideas, and principles is corrected.

4.4. Independent Practice (You Do)

Students must engage in independent practice to foster independence, autonomy, and mastery of the taught concepts (Hornby & Greaves, 2022). In addition, independent practice allows students to apply their knowledge and skills in various contexts, thereby facilitating retention and deep learning (Hattie, 2008). I provide students with a question bank for each module topic, enabling them to engage in independent practice. A question bank is a highly structured document that maintains the overall style of my module. The question bank includes two types of questions. The first type of question relates to past examination questions. The second type of question relates to selected questions from a prescribed textbook, either marked as "must do" or "recommended to do." Students are instructed to complete all past examination questions and "must do" questions, as these are presented in a case study style and require extensive application across various contexts. Students are encouraged to complete

"recommended to do" questions, as they typically do not require any application; instead, memorisation, understanding, and recall are covered. Question banks also include a work schedule. The work schedule provides students with a suggested plan for completing all the questions in the question banks. Students are encouraged to follow the plan or to consider creating similar work schedules to accommodate their needs. What is essential and stressed is that students work diligently and consistently on the questions in the question banks, as this independent practice is needed to assess both their understanding of the content and to complement the examination techniques learnt in the orientation, presentation, and guided practice sessions. Students are encouraged to consult with instructors to clarify any misunderstandings regarding the content or exam techniques.

4.5. Evaluation

Evaluations primarily assess whether students have mastered the module content and can independently apply the skills which they have gained over the semester (Vlachopoulos & Makri, 2024). To this end, I employ strategies, as discussed in Table 3.2, to ensure that my evaluations are helpful to students.

Table 3.2: Evaluation Strategy

Strategies	My application
• My criteria are clearly communicated.	• This is achieved during the orientation, presentation and guided practice phases.
• I provide specific examples of what I expect.	• This is achieved during the presentation and guided practice phase.
• Evaluations are regularly conducted. • Evaluations are educative. • Evaluations are affirming.	• This is achieved during the guided practice phase and while conducting assignments and formative assessments during the evaluation phase.

Source: Compiled from Brookfield (2015)

I evaluate students using two approaches: assignments and assessments. Students engage in two types of assignments to help them to master the module content, including sharpening their examination techniques for upcoming assessments. Assignments are conducted on the principle of "mock tests" to help students to review module content and practice examination techniques before engaging in assessments (Rincon *et al.*, 2024). The first type of assignment is a weekly online assignment that includes multiple-choice, true-or-false, matching, or fill-in-the-gaps questions. The rationale for this assignment is to ensure that students consistently work on mastering the content and to assist them with any gaps in their understanding of the theory. These questions are important, as they help students to grasp fundamental knowledge that can be effortlessly recalled (Ashman, 2019). The second type of assignment requires students to write a continuous evaluation assignment under examination conditions. A venue has been booked, and invigilators have been appointed to facilitate the session. This assignment is set at the same level as official assessments. To ensure consistency with the way in which practical sessions are conducted and to use the assignment as a learning opportunity, students receive a recording of the continuous evaluation assignment that shows how I, as the subject lecturer, would read and interpret the case study and required, and how the information in the case study was used in producing the suggested solution for the case study (Mánez *et al.*, 2025).

The next type of evaluation is based on assessments. The first assessment type is formative and counts towards a student's semester mark. Formative assessments reinforce student learning and provide feedback on how students can improve their work (Mohammadi Zenouzagh *et al.*, 2025). As with the continuous evaluation assignment, students receive a recording of the formative assessment to guide them and receive feedback from their lecturer, which they can refer to at any time. The second type of assessment is summative. This assessment is high-stakes and is used to evaluate a student's mastery of content (Smeets *et al.*, 2025). This assessment is set in the same style and manner as questions covered in the practical sessions and formative assessments. However, what is tested differs, as these questions

are based on unique case studies. As this assessment represents the culmination of the module, students do not receive a recording of the case study breakdown.

5. Discussion

This study uses SDT as a framework to discuss the challenge of integrating teacher-centred and student-centred pedagogical approaches in developing enterprising students. The case study, as described in Section 4, demonstrates how essentialist direct instruction, scaffolded competence and relatedness, and the incorporation of student-centred elements progressively enhanced autonomy and motivation in developing enterprising students. While explicit instruction is important, the fulfilment of SDT needs also depends on the hidden curriculum (Mawdsley, 2025; McMillan & Jones, 2022). The case study demonstrates that combining pedagogical approaches is not mutually exclusive, as they can be applied synergistically to balance structure and student independence pragmatically. Notably, the affective and personal growth necessary for enterprising readiness often occurs implicitly through belonging and reflective engagement, a non-cognitive outcome that SDT helps measure (Wong, 2025).

SDT advances that motivation is driven by three psychological needs: competence, relatedness, and autonomy (Niemiec & Ryan, 2009; Ryan & Deci, 2022). The case study illustrates how these psychological needs can be satisfied by implementing a phased pedagogical approach that transitions from a structured, teacher-centred approach to a guided, student-led, independent approach.

A key insight from this case study is that competence must be established before students can effectively engage in autonomous learning. The teacher-centred elements in the pedagogical approach help students to acquire essential knowledge and develop technical mastery of module topics. This insight supports SDT, suggesting that as students build competence by overcoming challenges, they become more willing to engage with complex tasks (Yang *et al.*, 2025). However, research applying SDT to the hidden curriculum demonstrates that unspoken institutional norms and values may inadvertently

create equity barriers that undermine perceived competence and motivation for some groups (Mawdsley, 2025). By scaffolding my instruction grounded in essentialism and the five phases of direct instruction (Boxer & Bennet, 2019; Hornby & Greaves, 2022), particularly during "I do," "we do," and "you do" phases, students gradually moved from being passive recipients to active problem solvers. This highlights the necessity of managing both explicit instruction and implicit signals, as obstacles within the learning environment can inhibit the fulfilment of competence and autonomy needs (Bunce *et al.*, 2021). This structured progression reduces cognitive load and boosts confidence as students develop competence (Cheng, 2024; Darling-Hammond *et al.*, 2019). This pedagogical approach addresses criticisms of student-centred learning, which can be ineffective when students lack foundational knowledge or develop misconceptions, incomplete understanding, or disorganised knowledge (Hannafin *et al.*, 2014; Martin-Alguacil *et al.*, 2024).

The case study also showed the importance of developing relatedness in cultivating student motivation. Students engaged in examination-style questions under examination conditions before discussing the solution in a collaborative environment. Developing a sense of belonging is vital, as the personal and affective growth dimension of educational gain within the context of SDT generally occurs implicitly through these feelings of security, inclusion, and reflective engagement (Wong, 2025). This environment was intentionally structured to provide emotional support, ensuring that students felt safe and encouraged to engage with their peers, mainly when reflecting on mistakes. By modelling behaviours, the educator framed mistakes as learning opportunities, normalising struggle and the fear of failure (Zhu *et al.*, 2024). Additionally, students were encouraged to reflect on their emotions during assessments, acknowledge their experiences, and develop self-regulation skills (Bernard & Kermarrec, 2025). This social learning environment fostered a sense of belonging and relatedness amongst students, aligning with SDTs' assertion that student motivation increases when they feel acknowledged and supported in shared communities (Martin *et al.*, 2018). Moreover, this approach mitigated feelings

of isolation while allowing for scaffolding independence in a connected learning environment.

A further insight from the case study is that student autonomy should be developed through scaffolding, rather than assumed from the outset. The structured approach, which followed the five phases of the teaching method, ensured that autonomy was gradually transferred to students, progressing through the "I do," "we do," and "you do" phases, culminating in student-directed learning and problem-solving. This explicit approach is essential because the ultimate development of professional attributes is often dependent on the implicit messages and prevailing narratives embedded in the hidden curriculum, thus making intentional scaffolding imperative (McMillan & Jones, 2022). This insight aligns with the common understanding of SDT, which advocates a gradual assumption of autonomy to support and increase student motivation (Alfares, 2025). This study posits that pedagogy should gradually shift from teacher-led, with minimal autonomy, to student-led, with maximum autonomy expected. Thus, students exposed to this pragmatic pedagogy develop competence and a sense of relatedness. They are better equipped to take ownership of their learning, making autonomy a natural extension rather than a forced expectation (Zainuddin & Perera, 2017).

6. Conclusion

This study demonstrated that teacher-centred and student-centred pedagogies can synergise to develop enterprising students. Using the concepts of the hidden curriculum and SDT as a framework, the case study revealed that competence, relatedness, and autonomy should be developed sequentially, using a pragmatic, scaffolded approach to maximise student motivation and learning outcomes. These insights contribute to educational theory and practice by providing a scaffolded teaching model that aligns with SDT. Future research can explore how this teaching model applies to different disciplines and academic contexts to further refine best practices in enterprising education. Additionally, understanding how students feel about this teaching method could provide helpful guidance to better suit their needs.

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Chapter 4

Enhancing Student Engagement in Auditing Courses through Reflection

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Abstract

The study of auditing is characterised by theoretical topics that have traditionally been portrayed as difficult for students, often leading the academic module within accounting studies to be depicted as uninteresting and outdated. Drawing on reflection as a pedagogical approach, this study aims to assess the role of reflection in student engagement in accounting studies, specifically auditing, and to explore the introduction of innovative pedagogies to mitigate negative attitudes towards the field. The world of work is undergoing a significant transformation driven by rapid technological advancements and modernised business operations. Aspiring chartered accountants (CAs) are expected to develop both technical and broader skills to become responsible leaders in an evolving work landscape. Consequently, these pervasive competencies are often shaped through the implicit lessons, values, and expectations embedded within educational and workplace practices. Incorporating self-reflection into auditing education could serve as a powerful mechanism for engaging with the hidden curriculum, fostering self-awareness, professional identity, critical judgement, and adaptability. The chapter begins with a systematic literature review of reflection as a practice in academia, followed by an analysis of how reflection

is utilised in accounting studies, clearly illustrating its importance as a learning style. This chapter then describes auditing as a course which serves as the foundation of the context of this research, including the auditing syllabus's role in accounting studies, its foundational philosophy, the expected competencies, and learning objectives. Various methods adopted for reflective education pedagogy, such as journalling, self-assessment and technology-enabled reflective platforms, such as e-portfolios, amongst others, are highlighted to provide insights on the role of this learning style. The study's findings are assessed, and the chapter concludes with compelling recommendations for further research that promise to enhance understanding of the role of reflection.

Keywords: Accounting, auditing, higher education, reflection, reflective learning, student engagement

1. Introduction

Creating optimal learning environments in university auditing courses is essential for fostering student engagement and success in accounting programmes. The current literature highlights the significance of formal and informal learning contexts, yet many educators remain unaware of the hidden curriculum that influences student experiences and outcomes (Lee *et al.*, 2023). The accumulation of implicit expectations, values, and behaviours that students acquire through interactions with educators and the classroom culture contributes to a hidden curriculum (Sebele-Mpofu, 2024). This emphasises the necessity for innovative approaches that incorporate unconventional pedagogical strategies.

Research by Awidi and Klutsey (2024) indicates that students in a third-year management accounting class who engaged in reflective activities demonstrated greater motivation and persistence. Educators can encourage active participation and intrinsic motivation by requiring students to reflect on their learning processes. By thoroughly assessing the role of reflection in a student's learning cycle, students can be included and empowered to navigate their educational journey more effectively (Malan & Stegmann, 2018). This study explores how reflection can

transform traditional auditing learning cycles, thereby addressing the limitations of conventional curricula. Studies reveal that traditional accounting education often prioritises rote learning over understanding (Goosen & Steenkamp, 2023). This study examines perceptions of learning environments, focusing on how these settings facilitate or hinder student engagement and knowledge of the hidden curriculum. When educators actively incorporate interventions to bring awareness about the hidden curriculum, students report increased confidence and a deeper understanding of course material (Lee *et al.*, 2023; Sebele-Mpofu, 2024; du Toit *et al.*, 2024).

The hidden curriculum, also referred to as the implicit demands, encompasses informal social codes, behaviours, and skills that students must learn to navigate to successfully complete their courses (Kärner & Schneider, 2024; Malan & Stegmann, 2018; Lee *et al.*, 2023). These implicit demands—ranging from time management and collaboration to critical thinking and self-reflection—play a vital role in influencing a student's educational journey, ultimately guiding them towards academic success and professional readiness. These implied expectations emphasise the importance of creating transparent learning environments that convey academic content and prepare students for lifelong learning in their future careers. By fostering an awareness of the hidden curriculum, institutions can significantly enhance the cognitive abilities and performance of accounting students (du Toit *et al.*, 2024; Lee *et al.*, 2023).

The accounting profession plays a significant role in promoting stakeholder confidence in the market, including a need for access to timely and reliable information for users of financial statements, especially in an era of rapid technological advancements (Jejeniwa *et al.*, 2024; Rkein *et al.*, 2019). The environment where accountants' work has become more intricate over the years, resulting in prominence and increased focus of audit and accounting services in an analysis of the performance of an entity (Dwaase *et al.*, 2020). The important role of accountants is further amplified by the challenges brought about by the global financial crisis, advancements in information and communication technology, and the ongoing rollout of new accounting standards

(Heymann *et al.*, 2022). As early as 2003, the Education Committee of the American Accounting Association (AAA, 2003) notes that audit education will need to be transformed to develop prospective auditors fit for the 21st century, whilst the World Economic Forum (WEF)'s *Future of Jobs Report 2023* (WEF, 2023) highlights that businesses consider advanced skills such as decision-making skills, analytical skills, advising, and ethics to remain critical. The diverse and evolving requirements of businesses, coupled with the expectations of the accounting profession, play a crucial role in shaping the fundamental purpose of accounting education. These factors guide the curriculum, ensuring that future accountants are equipped with the essential knowledge and skills needed to navigate the complexities of the financial landscape.

There are various viewpoints regarding the skills which an accounting graduate should possess and who should be responsible for developing them (Makhathini & Akpa-Inyang, 2024; du Toit *et al.*, 2024; Low *et al.*, 2016). Accountancy is a rapidly changing profession, and students must be able to think critically and apply their knowledge and skills to new situations Lee *et al.*, 2023). However, du Toit *et al.* (2024) highlight various barriers to the development of integrated thinking in accounting education, including the volume of technical content to be covered, large classrooms, and a lack of lecturers' buy-in to adopt modified and integrated teaching methods, amongst others. Pincus *et al.* (2017) note that over the past 30 years, there have been ongoing discussions advocating a transformation in accounting education to better align with the profession's changing needs. In particular, the recommendations highlighted the urgent need for greater emphasis on essential skills and technical competencies, and for the implementation of more integrative and active learning models. This chapter aims to assess the importance of academics adopting reflective learning as an innovative pedagogy to enhance student engagement in accounting studies, and to highlight its use or non-use in auditing as a discipline.

According to Heymann *et al.* (2022), reflection in accounting education is the process by which students critically evaluate their learning experiences. It involves connecting theoretical knowledge to practical applications and developing professional

judgement and critical thinking (Kaemper *et al.*, 2024). Engaging in reflective learning enhances metacognition (thinking about your own thinking), ethical reasoning, and problem-solving skills, all of which are essential for success in accounting and auditing professions (Goosen & Steenkamp, 2023). In earlier years, Dewey (1933, cited in Baron, 1981:1) states that reflection in a learning context is an active and intentional process rather than just a passive recollection of an event. It involves thinking to promote learning. In more recent years, Thamizhiniyan *et al.* (2024) further postulate that reflection connects experiential learning with theoretical knowledge, allowing students to transform their experiences into valuable knowledge. In auditing, reflection helps students to contextualise abstract concepts, such as ethical judgement and risk assessment, within real-world scenarios (Kelly & Larres, 2025).

Research indicates that reflection can promote in-depth and engaged learning, enhance critical thinking abilities, and connect theoretical understanding with practical use (Kärner & Schneider 2024; du Toit *et al.*, 2024; Makhathini & Akpa-Inyang, 2024). Given the growing yet somewhat limited body of research on reflection and reflective thinking in accounting education, it is important to demonstrate how reflective learning has been adopted to equip graduates for success in an ever-evolving world (Goosen & Steenkamp, 2023).

2. Methodology

2.1. Research Paradigm

The research paradigm guiding this systematic review is interpretivism, as the study aims to develop a deeper understanding of reflection, a multifaceted skill that requires intellectual rigour and emotional engagement and that takes time to develop and master. The systematic review draws on a range of sources to highlight the importance of reflection as a lifelong skill, its role in higher education, and the adoption of reflective learning to enhance student engagement in accounting education.

The interpretive approach allows the researchers to explore the nuances and context-specific factors that shape the effectiveness of reflective learning in shaping knowledge

acquisition within higher education. By adopting an interpretive lens, the review can uncover students' and educators' subjective experiences and perspectives, leading to a more holistic understanding of the role of reflection in accounting education.

According to the University of Nottingham (2025), the interpretive approach enables researchers to examine the subtle, context-specific factors that influence the effectiveness of various learning methods in developing auditing knowledge and skills. By utilising this perspective, the review can reveal the subjective experiences and insights of both students and educators, offering a more comprehensive understanding of the impact of reflection in disciplines within accounting education.

2.2. Research Design and Sampling

A systematic literature review with an interpretive synthesis orientation, following a transparent, pre-specified protocol, was conducted. The protocol defined the research questions, eligibility criteria, information sources, search strings, screening procedures, data-extraction fields, quality appraisal tools, and synthesis plan (Massaro *et al.*, 2016).

Elsevier Scopus, Web of Science Core Collection, and ERIC were selected as primary databases for their comprehensive coverage of accounting, business and management, education, and professional-education scholarship. To ensure field relevance, the reference lists of included studies and domain-proximal journals in auditing and accounting education were also manually investigated.

Searches covered 1 January 2000 to 17 October 2025, using a combination of keywords related to "reflection", "reflective learning", "accounting education", "critical thinking" and "professional skills". Screening and data extraction were conducted manually, with automation limited to duplicate detection within the reference manager.

This review expands beyond South African contexts to include international perspectives, incorporating research from the USA, Netherlands, Switzerland, the UK and professional bodies. This global scope enriches the dataset and enables a comprehensive analysis of the literature on the topic.

To be eligible for inclusion, studies had to meet the following criteria:

- Focus on the use of reflection in higher education or professional development
- Investigate the adoption of reflection in higher education and accounting studies on the development of in-depth understanding and enhanced engagement in knowledge acquisition.

2.3. Research Method

The study employed a qualitative, systematic review approach to synthesise the existing literature on the critical role of reflection, particularly in higher education and the various disciplines in accounting studies, in enhancing student engagement.

2.3.1. Data Extraction

Using Microsoft Excel, we developed a structured data-charting form capturing bibliographic data; country or setting; participant characteristics; pedagogical modality (self-reflection / self-assessment / reflective practice); design features (reflective practices / student engagement / journalling / tacit skills / higher education / teaching pedagogy); Abstract; outcomes (knowledge / skills; critical thinking / professional scepticism; professional values); findings and limitations.

2.3.2. Data Analysis

Two reviewers independently extracted data for a 20% to 25% calibration set, reconciled discrepancies, and then completed the remainder with periodic reliability checks.

Consistent with the interpretivist paradigm, an interpretive thematic synthesis was used. The thematic analysis was conducted to identify the common themes and patterns across the included studies, with a focus on the benefits and challenges of reflective learning in enhancing knowledge and skills.

Analysis proceeded in three layers:

1. Coding of first-order data (participants / authors' constructs) and second-order interpretations (study-level themes) across included studies;

2. Translation of themes across studies to identify convergences / divergences in how reflection design features relate to outcomes;
3. Line-of-argument synthesis explaining how and why design choices (reflective practices / student engagement / journalling / tacit skills / higher education / teaching pedagogy) may transmit or counteract hidden-curriculum messages about "reflection" in auditing studies.

To enhance credibility and dependability, an audit trail was maintained, as well as the re-reading of themes based on keywords that depict the role of self-reflection in increasing student engagement in academia and in the development of pervasive skills. Findings were organised around the meta-themes derived from the synthesis.

2.4. Literature Review Protocol

A literature review is a process of searching for and gathering scholarly articles related to the topic under research, and summarising, critiquing, and synthesising the sources collected (Chigbu *et al.*, 2023). A systematic literature review (SLR) is a structured and rigorous approach to reviewing existing research on a particular topic (Lame, 2019). Unlike traditional literature reviews, which may offer a general overview, SLRs use a highly methodical process to identify, select, and synthesise research studies. This approach ensures transparency and replicability, making it a valuable tool for assessing and summarising evidence on a specific research question (Lame, 2019). A systematic literature review involves carefully analysing a collection of academic publications on a specific topic, enabling the synthesis of diverse studies to generate insights and assess the field's status. This structured approach aims to comprehensively summarise significant and innovative research, using transparent, systematic methods to evaluate existing studies (Massaro *et al.*, 2016).

The inclusion criteria comprised studies that focused on the use of reflection in higher education, studies that explored

the impact of these learning approaches on enhancing student engagement, particularly in accounting studies.

Selection criteria focused on studies that examine how reflective learning helps students to bridge gaps in theoretical knowledge. Articles were meticulously reviewed through screening and keyword identification, ultimately selected for in-depth analysis and summarisation of findings.

The literature review identified the adoption of reflection across various disciplines and modules in higher education. Multiple studies on reflection in higher education were examined to assess the benefits of reflection in enhancing understanding, even though not directly linked to the auditing discipline. The findings are used to identify areas of future research, specifically the use of reflection in enhancing student engagement in the auditing module.

Data collection was strategically aligned with the research objective to examine how reflective learning can bridge theoretical gaps and promote in-depth understanding amongst students. Through thematic analysis, the study has identified prominent insights, including the benefits of reflection in learning, the role of higher education in fostering reflective graduates and life-long learners, the adoption of reflection as a teaching pedagogy in accounting studies and areas where traditional education alone is insufficient, highlighting the need for more engaging teaching pedagogies within the auditing discipline. This approach gives insights across multiple sources, providing a thorough understanding of how reflective learning enhances student engagement.

3. Literature Review

The section follows a structured synthesis of literature categorised into the following themes:

- Reflection in higher education
- Reflective learning within accounting education
- Reflection and enterprising competencies.

Table 4.1 summarises insights into how each theme informs the role of reflection in enhancing student engagement in auditing

Table 4.1: Summary of literature review

Synthesis	Summary	Key Sources
Reflection in Higher Education	In this section, the results emphasise that incorporating elements of reflection in higher education fosters critical analysis of personal experiences, which, in turn, enhances a graduate's practice and value-add in the job market. Recent trends show that, in the era of digital transformation and the evolving landscape of AI, graduates are required to re-evaluate, adapt, and modernise their skills sets to remain adaptable to the ever-evolving job market. There is a paradigm shift in accounting practices, as many current accounting and auditing tasks are no longer relevant because the use of automated tools and techniques is seemingly providing greater efficiency, speed, and reduced error rates in traditional accounting duties. To meet professional expectations in this changing scenario, the profession has called for significant changes in accounting education and the training of accounting professionals. To increase student engagement in auditing courses amid the notable changes in business environments, reflective practices could promote auditing graduates' readiness and employability.	(Goosen & Steenkamp, 2023, IAASB 2024; Trimasse, 2024 Heymann *et al.*, 2022; Cornish, 2024; Hébert, 2015; Liu *et al.*, 2023).

Synthesis	Summary	Key Sources
Reflective learning within Accounting Education	The literature provides evidence of the implementation of reflective learning in professional accounting education and its role within the teaching and learning framework. There is a compelling need to redirect more research efforts toward understanding the social and institutional contexts in which reflection and reflective education occur. This chapter provides important perspectives on the practical implementation of reflective education in accounting studies and is relevant for educators dedicated to fostering reflective skills and experiential learning in their students by cultivating a culture of reflection. This focus is essential for accurately assessing the development of critical beings, deep learning and the capability to effect positive change. When students are given opportunities to examine and reflect on their beliefs, philosophies, and practices, they are more likely to see themselves as active change agents and lifelong learners in their professions. Currently, there are limited studies on the use of reflection in auditing courses; instead, the literature highlights that reflection in accounting education is commonly found in Financial and Management Accounting, Law and Virtue-based ethics programmes.	(Cornish, 2024; Kayapinar & Alkhaldi, 2023; IAASB, 2024; Dellaportas *et al.*, 2023; Makhathini & Akpa-Inyang, 2024)

(*Continued*)

Table 4.1: Summary of literature review (*Continued*)

Synthesis	Summary	Key Sources
Reflection and enterprising Competencies	In this section, the results highlight that reflective skills are seen as crucial for improving lifelong learning and continuous professional development. However, the question remains: do higher education teaching curricula effectively cultivate reflective learning skills, and do these skills seamlessly translate into meaningful reflective practices for graduates in their professional environments? Ultimately, the development of these skills contributes to more meaningful and effective outcomes throughout graduates' careers as future global leaders. In particular, it is even more evident from the cited importance of promoting the hidden curriculum that auditing graduates, who will be required to provide stakeholder confidence through various assurance engagements, could benefit from the use of reflection as a tool to enhance their interrelated skills, such as self-awareness, professional identity, critical judgement, and adaptability.	(du Toit *et al.*, 2024; Lee *et al.*, 023; Močinić & Tatković, 2021; Magnus, 2021; Malan & Stegmann, 2018; Kelly & Larres, 2023)

courses. To conclude the literature review, current contradictions, limitations and under-researched areas are highlighted.

A combination of a review of the literature on the development of reflection as a pedagogy in higher education, followed by a discussion on integrating reflective learning within accounting education, and an analysis of reflection and enterprising competencies could inform the importance, impact, and use of reflective practices for increased engagement in teaching and learning.

3.1. Reflection in Higher Education

The cultivation of reflective learning skills in higher education is of paramount importance, as it equips students to engage in lifelong learning and adapt to evolving professional environments (Trimasse, 2024). Murphy and O'Mahony (2023) emphasise that the significance of reflection in higher education and various academic disciplines is broadly acknowledged. In addition, they note that reflection is typically featured as an attribute of university graduates and professional body members. It is uncontested that reflection skills are beneficial to the development of university graduates (Dellaportas *et al*., 2023).

A thorough review of the literature on the role of reflection reveals a striking lack of consensus regarding its definition, emphasising the complexity and significance of this concept. However, reflection has a long-standing tradition rooted in philosophical discourse, particularly illustrated by the foundational work of John Dewey (1933), cited in Baron (1981), who emphasised the role of reflective thinking in fostering personal and intellectual development. Additionally, Donald Schön (1983), cited in Magnus (2001) expanded this concept through his exploration of reflective practice, which involves critical analysis of one's actions both during and after the experience (Carson & Fisher, 2006; Magnus, 2021). Dewey's approach is considered more reflective learning, whilst Schön is more on the practice of reflection (Hébert, 2015). The term "reflection" encompasses a diverse range of meanings, both in everyday contexts and within educational frameworks. It represents a multifaceted concept that includes processes during

actions, cognition separate from actions, the act of thinking and self-understanding for learning (Heymann *et al.*, 2022; Cornish, 2024; Hébert, 2025). In this chapter, we explore reflection in the context of learning approaches that foster thinking and self-understanding.

Hébert (2015) observed that the term "reflection" is frequently used in teacher education, but there is often a lack of a comprehensive understanding and clarity of its different lineage terms. Reflective learning is noted to be more concerned with the process of developing the skill, where practitioners employ various methods that foster students' internal examination and exploration of an issue, aiming to cultivate their self-construction, self-awareness, and coordinated understanding abilities (Daff *et al.*, 2024). In contrast, reflective practice refers to the ongoing application of knowledge and skills gained through reflective learning across experiences such as internships and work-integrated learning (Harvey *et al.*, 2016). This distinction highlights the importance of not only acquiring deep knowledge through reflective learning but also actively engaging in the continuous process of applying reflection in real-world settings. Researchers believe that reflective skills can be learned, but they need time and consistent practice to develop (Goosen & Steenkamp, 2023; Mauri & Neiva de Figueiredo, 2025).

Reflective learning as a skill should be developed in conjunction with imparting technical knowledge for graduates, and the aim of this section is to assess whether reflective learning is adopted in higher education. We have limited evidence on the effectiveness of the methods that are adopted across institutions and academic disciplines, as this chapter focuses more on assessing the adoption of reflective learning as a pedagogy for deep understanding of technical competencies. Further research could examine whether these skills seamlessly translate into meaningful reflections for graduates in their professional environments and in other simulated reflective practices (Kayapinar & Alkhaldi, 2023).

The review below assesses the tools that are used in higher education to gain insight into the various reflective learning

approaches being applied to foster the development of reflection skills for graduate students.

3.1.1. Tool: ePortfolios

McAllister (2015) examined student ePortfolios and their effectiveness in promoting critical reflection and pedagogical innovation in higher education. The results present various case studies from different faculties that demonstrate how ePortfolios can enhance student learning and academic teaching. The strategies discussed foster innovation in learning by helping students to connect formal and informal learning experiences with their personal and professional goals. Additionally, students gain clarity on their learning methods, develop employability skills, and build their professional identity through capstone events supported by the ePortfolio approach.

3.1.2. Tool: Reflective Surveys

Blended learning, which combines online and face-to-face instruction, was adopted in a company law course for accounting students to enhance teaching self-reflection in higher education. Student surveys and interviews indicate that blended learning technologies have enhanced assessment flexibility from both the facilitator and learner perspectives, promoted ongoing self-reflection amongst students, and contributed to fairness in assessment practices (Heymann *et al.*, 2022). Blended learning offers flexible, continued, accessible, and varied ways for students to reflect on their learning experiences, fostering greater self-awareness and growth.

3.1.3. Tool: Mapping and Journalling

Engaging in writing promotes a deeper examination of an experience by allowing students to reflect on and express their learning journey, often leading to a new or enriched understanding. Liu *et al.* (2023) examined the effects of computer-based mind mapping on students' reflection, cognitive presence, and learning outcomes in an online course. In summary, they noted that online mapping and journalling benefit education by enhancing understanding and increasing student engagement by encouraging active involvement and self-directed learning.

However, students may resist journalling if they find it hard to write reflectively and struggle with emotional aspects of personal reflection. Structured assessments can limit creativity, and grading reflective writing can be subjective, leading to a focus on meeting requirements instead of genuine reflection.

In a study on integrating reflective learning and virtue-based reasoning in ethics, Zafeer *et al*. note that reflective learning through journalling, role-play, and minute papers slows classroom progress, allowing students additional time to understand the material and connect it with their prior knowledge. Reflective learning helps to transform existing ideas and understandings, leading to a new understanding of experiences (Zafeer *et al*., 2023).

Deti *et al.* (2023) examined how reflective journal writing affects the cognitive development and academic achievement of first-year undergraduate students enrolled in a biology course. In particular, they explored the use of cognitive strategies during a learning task by dividing the students into two groups. One group received a scientific report, while the other received learning journals. The group of students with learning journals was noted to have an advanced understanding of learning concepts, with increased awareness of what they know and what they don't. Other methods that support reflective learning in higher education include students articulating their thoughts through both oral and written communication, engaging in peer interactions, and receiving constructive feedback throughout and after the completion of assignments using artificial intelligence (hereafter, AI) (Cai *et al*., 2024).

In this section, the results emphasise that incorporating elements of reflection in higher education fosters critical analysis of personal experiences, which in turn, enhances a graduate's practice and value-add in the job market. In the next section, we explore the adoption of reflection as a pedagogical approach in accounting education, drawing conclusions specifically for the auditing discipline.

3.2. Reflection in Accounting Education

It is noted that in various professional fields, such as healthcare and medical sciences, education, law, engineering, social work

and human services, the completion of fieldwork or practical experience is a mandatory requirement for obtaining a degree, which serves as an opportunity to solidify their theoretical knowledge through experiential learning (Gault *et al.*, 2018). In contrast, accounting education in South African higher institutions predominantly relies on theoretical instruction, delivered through lectures and tutorials, with limited opportunities for students to engage in practical reflection. While countries such as those in the United Kingdom, Australia, and New Zealand actively promote a model of concurrent study and work, enabling students to gain practical reflection alongside their academic commitments (Brosnan *et al.*, 2023), this approach is less common in South African accounting education. There is an increased need for accounting educators in South Africa to adopt more engaging teaching and learning methods to facilitate deeper learning of theory (Makhathini & Akpa-Inyang, 2024). Reflective learning is widely adopted as a teaching pedagogy in countries such as Australia and New Zealand (Kayapinar & Alkhaldi, 2023; Liu *et al.*, 2024).

For more than twenty years, there has been a common belief that accounting courses are outdated, traditional, and rely on one-way methods of teaching, learning, and assessment (Ntshangase & Mabusela, 2023; Makhathini & Akpa-Inyang, 2024; Lubbe, 2017; Pincus *et al.*, 2017). In this section, we explore the literature on the adoption of reflective learning as an essential element of academic pedagogy in accounting studies to develop thoughtful, value-adding graduates. In this context, we assess reflective learning through a set of activities or classroom exercises incorporated into the design of courses and the delivery methods used to impart accounting educational knowledge to students. Through a systematic literature review, we aim to assess the adoption of reflective learning in various accounting disciplines. The insights inform the analysis of teaching approaches adopted within the various disciplines of accounting education studies.

Accounting studies can be broken down into four core disciplines: Managerial, Financial Reporting, Auditing and Taxation. The various disciplines emerged from the social value

of accounting, grounded in the concept of trust, as noted by Nguyen and Dellaportas (2020). The role of accounting education continues to be an invaluable part of the process of restoring trust in the markets after the devastating effects of the 2007 to 2009 credit crisis and, recently, the collapse of Steinhoff because of accounting irregularities. Steinhoff, which collapsed in December 2017 after revelations of massive accounting irregularities, was once a global retail giant headquartered in South Africa.

This analysis explains the pervasiveness of accounting and finance as the "brain" of large organisations, and the critical nature of the ascription of honesty that management accountants obtain through their association with auditing (Kelly & Larres, 2023). This, in turn, has implications for the view and acceptance of innovative teaching approaches in accounting education to promote the development of ethical, skilled and value-adding accounting graduates (Nguyen & Dellaportas, 2020; Ntshangase & Mabusela, 2023; Makhathini & Akpa-Inyang, 2024).

The paradigm shifts in accounting practices in the era of digital transformation and the evolving landscape of AI consequently require accountants to reevaluate, adapt, and modernise their skill sets to remain adaptable to the ever-evolving landscape in which they operate (Cai *et al.*, 2024). This is evident in the view of the International Auditing and Assurance Standards Board (IAASB) that notes that the audit we know at present will need to be reevaluated and transformed to align with the changes in the global economy, and accordingly, that it is imperative to reflect on what factors influence the efficiencies of a modern-day auditor (IAASB, 2024). To address the growing complexity and rapid changes in the accounting field, especially amid technological advancements such as AI, the literature calls for adopting innovative teaching methods (Rana, 2023; Cai *et al.*, 2024; Lubbe, 2017).

Innovative teaching methods aim to enhance student learning and cultivate the essential competencies needed by new practitioners in the accounting profession. This section examines research on reflection and the implementation of reflective pedagogies in accounting studies, highlighting the adoption of a reflective learning approach to enhance student engagement

and deep understanding across various disciplines in accounting education, including Financial Reporting, Assurance and Auditing, Financial and Management Accounting, and Taxation.

Dellaportas *et al.* (2023) investigated the impact of reflective writing during a prison field trip on students' transformative learning in an accounting ethics course. Students were guided by specific prompts during the field trip to foster logical thought and reflection, and their narratives were collected before and after the visit. The analysis revealed signs of transformative learning, as students expressed changes in their views on accounting practices, white-collar criminals, and the responsibilities of a professional accountant (Dellaportas *et al.*, 2023).

The integration of reflective learning in accounting ethics education has been further explored by Deti *et al.*, (2023), who found that reflective journals allow students to internalise ethical principles and apply them to real-world scenarios. Because auditing relies heavily on professional scepticism and ethical reasoning, reflection can help students to navigate moral dilemmas and regulatory expectations, ultimately improving their preparedness for professional practice.

To encourage accounting education to move beyond procedural tasks and focus more on conceptual and analytical learning, educational blogs are introduced as a reflective assessment tool. This tool helps accounting students to interact with course material and reflect on their learning experiences (Bataller-Català, 2024). The use of blogs allows students to engage more deeply with the content by offering a platform to express their thoughts, insights, and reflections on what they have learned. This process of reflection not only enhances engagement but also improves learning outcomes by encouraging students to critically assess their understanding and application of accounting concepts.

Samkin and Francis (2015) introduced learning portfolios in an undergraduate accounting course, showing that reflective documentation enhanced student engagement and accountability. The systematic or unsystematic documentation of reflective thinking often takes various forms, including learning journals, learning logs, reflective diaries, and notebooks. Learning

portfolios, specifically, facilitate the development of students' reflective capacities by providing a structured mechanism for capturing and analysing their personal experiences. Liu *et al.* (2023) report on the use of reflective learning journals for formal assessment in a management accounting course. It addresses issues in accounting education related to learning processes and outcomes, aiming to inform the adoption of teaching innovations and the development of graduates' competencies. The reflection process enhances continued engagement and critically assesses their understanding and application of accounting concepts. An online reflective journal that incorporated an assessment criterion to support students' abilities to probe some of the traditional assumptions of marketing strategies.

A diverse array of enriching methods can ignite reflection in accounting education and nurture professional growth. These include thoughtfully crafted learning diaries, introspective reflection journals, curated portfolios of work, dynamic discussions about effective learning strategies, and the captivating use of video, audio, and keen observers within a learning context that highlights the mastery of reflection skills (Cai *et al.*, 2024; Zafeer *et al.*, 2023).

The literature provides evidence of the implementation of reflective learning in professional accounting education and its role within the teaching and learning framework. There is a compelling need to redirect more research efforts towards understanding the social and institutional contexts in which reflection and reflective education occur (Kelly & Larres, 2023). This focus is essential for accurately assessing the development of critical beings, deep learning and the capability to effect positive change. When students are given opportunities to examine and reflect on their beliefs, philosophies, and practices, they are more likely to see themselves as active change agents and lifelong learners in their professions (Cornish, 2024).

3.3. Reflection and Enterprising Competencies

Vorsah and Oginni (2025) argue that higher education standards prioritise scientific knowledge over professional expertise. They elaborate on the notion that theoretical frameworks

cannot be readily implemented in a straightforward manner, as the implications inherent in these theories require careful consideration and thorough examination to fully comprehend their applicability. Wang (2023) discusses the concepts of learning, classifying them into two categories. The first category represents learning conceptions in which learning is more of an instrumental process, significantly influenced by teachers, and the second category focuses on the personal aspect of learning, emphasising students as active agents seeking deep insights. There is an alarming rate of students who perceive learning as a simple acquisition of knowledge rather than a deep understanding of the what and why (Xu *et al.*, 2020). This emphasises the crucial need for students to receive education that sharpens their critical thinking skills, empowering them to create meaningful change, as Schön and Dewey asserted in their original work on reflection (Hébert, 2015).

The South African Institute of Chartered Accountants (SAICA) recognises the critical need to cultivate broad skills alongside technical knowledge for those aspiring to qualify as Chartered Accountants (SAICA, 2025). This dual focus ensures that future professionals are not only technically proficient but also equipped with the essential skills to thrive in a dynamic financial landscape. As the world evolves through advances in technology such as AI, the environment in which accountants operate also becomes more complex, leading to changes in accounting and auditing standards and related laws and regulations.

Barac and Du Plessis (2014) questioned heads of departments (HODs) on the various teaching methods and practices adopted by their universities to develop students as life-long learners. It is noted that 50% of respondents reported relying on academics to continuously update study resources and materials within each core discipline to develop students as lifelong learners. However, this method relies heavily on academics as the key drivers of change and students as pervasive recipients of new ideas and continuous developments. A study examining how accountancy students view learning found that while some students aim for a deeper understanding, most view learning more quantitatively, focusing on the acquisition,

reproduction, and application of knowledge (Awidi & Klutsey, 2024). Researchers highlight a crucial insight: when learning starts with personal experiences, students demonstrate increased intrinsic motivation (Močinić & Tatković, 2021; Wang, 2023; Awidi & Klutsey, 2024; Makhathini & Akpa-Inyang, 2024). Additionally, engaging tasks that prompt active reflection on new knowledge in relation to these experiences not only enhance understanding but also reinforce the value of the learning process (Xu *et al*., 2020; Goosen & Steenkamp, 2023; Griggsa *et al*., 2018; Kayapinar & Alkhaldi, 2023; Heymann *et al*., 2022). This approach makes the learning experience both meaningful and effective, fostering deeper connections with the material rather than forming habits of passive learning.

In accounting and auditing, it is vital for students to possess a strong foundation of essential skills upon entering the profession (Makhathini & Akpa-Inyang, 2024). These include a commitment to lifelong learning, sharp critical thinking abilities, and effective problem-solving skills (Malan & Stegmann, 2018; Zafeer *et al*., 2023, Heymann *et al*., 2022). Mastery of these competencies and employability skills is crucial for success as a critical thinker in a constantly evolving industry. Daff *et al*. (2024) posit that critical beings extend beyond the realm of critical thinking; they actively engage with the world around them, their personal identities, and the processes of knowledge acquisition.

Life-long learning, amongst other professional and pervasive skills, allows Chartered Accountants to remain abreast of changes in the environment (SAICA, 2025). Life-long learning is noted to be a crucial professional skill that involves gathering and developing new information, as well as generating new ideas (Wang, 2023; Dwaase *et al*., 2020; Kärner & Schneider, 2024) and an essential part of this process is one's ability to reflect, which activates the necessary learning (Daff *et al*., 2024; Baron, 1981; Heymann *et al*., 2022; Kolb, 1984; Kayapinar & Alkhaldi, 2023; Ramsden, 2003).

Kolb's experiential loop concept of making sense of experiences highlights reflection as a crucial step towards deep understanding and enhanced learning. The cycle consists of four stages: Concrete Experience, Reflective Observation, Abstract

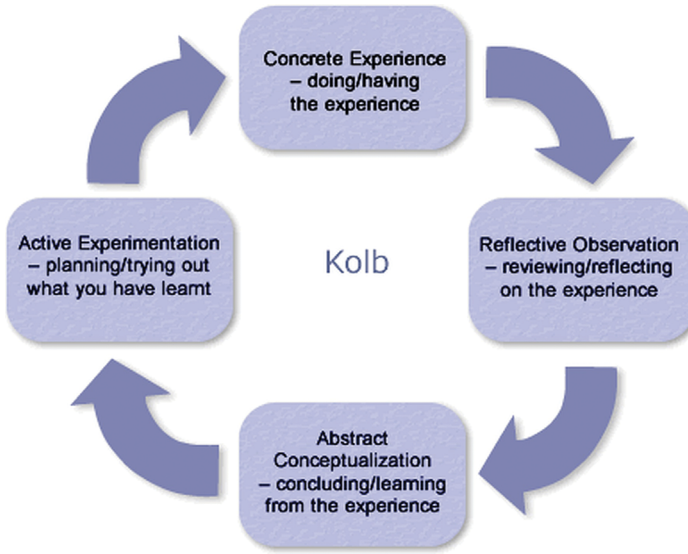


Figure 4.1: Kolb's experiential loop (EdShare, 2020)
Source: Adapted from Kolb (1984)

Conceptualisation, and Active Experimentation. The concept of reflective observation, as noted in Kolb's experiential learning loop, is examined to support researchers' observations that reflective practices can increase active engagement and critical thinking (Kelly & Larres, 2023; Heymann *et al.*, 2022; Vorsah & Oginni, 2025). Kolb notes that in the reflective observation stage, learners engage in critical analysis of their experiences, evaluating the effectiveness of various approaches and identifying both successes and failures. This reflective practice facilitates the development of insights, the recognition of recurring patterns, and the construction of new understandings. Through such analysis, individuals can deepen their understanding.

The concepts of "reflection-in-action" and "reflection-on-action" transcend the boundaries of traditional epistemology; it is not merely a theory of knowledge or a framework for understanding how we acquire information (Hébert, 2015). Instead, it embodies a dynamic process through which knowledge is actively produced and shaped in real time (Hébert, 2015). "Reflection-in-action" and "reflection-on-action" are processes

of engaging with experiences as they unfold, allowing individuals to critically analyse and adjust their actions in real time, based on immediate feedback and context. In this way, reflection-in-action and reflection-on-action foster a deeper understanding and a more nuanced perspective, as they encourage practitioners to learn from their experiences while they are actively engaged in them (Močinić & Tatković, 2021). It is noted that participants did not necessarily have the know-how of all specific concepts or theories. However, using reflection-in-action and reflection-on-action enhance the ability to identify gaps in their knowledge specific to a given task and increases motivation to pursue learning to problem-solve that task.

Goosen and Steenkamp (2023) suggest that providing students with support, explicit methods, and clear expectations for reflection helps to raise the bar on their ability and willingness to develop reflection as a lifelong skill. In particular, reflective journalling has been identified as one of the ways to break habitual thought patterns, thereby facilitating a sustainable enhancement of individuals' capacity to synthesise new and existing knowledge (Deti *et al.*, 2023)

There is now a strong emphasis on more engaging teaching and learning methods as a force of change in academia (Pincus *et al.*, 2017). The context within which teaching occurs significantly affects a student's likelihood of engaging in either deep or surface learning (Magnus, 2021). This evolution reflects the pressing need to prepare students not just academically, but also for the demands of the modern workforce, by integrating employability skills alongside technical skills (Heymann *et al.*, 2022). By incorporating innovative pedagogical strategies and emphasising reflection, educators can create more inclusive and effective learning environments that foster student success. A fundamental aspect of reflective learning is its ability to facilitate ongoing learning in response to changing environments. Class-based lectures are a traditional medium of learning in university education, as they enable the efficient transfer of information to large numbers of students. However, the lecture method has faced significant criticism for fostering a passive learning environment and for its effectiveness in promoting deep learning (Ntshangase

& Mabusela, 2023). Mindful delivery to teaching in higher education by adopting various approaches to reflective learning promotes deep understanding and metacognition to personal & professional development (Malan & Stegmann, 2018).

3.4. Critique and Gaps

In adopting innovative approaches to reflective learning, Cornish (2024) observes that educators require a robust understanding, practical experience, and a strong commitment to effectively facilitate teaching and learning through reflection. The development of reflective skills is not a stand-alone function; it is closely related to teacher awareness and faculty buy-in (Kayapinar & Alkhaldi, 2023). Aspects such as providing a safe space for all types of learners and accommodating different learning styles play a role in the effectiveness of developing lifelong learning skills. In addition, educators recognise the importance of being careful with their comments and feedback, particularly during the students' initial experiences with reflection (Sebele-Mpofu, 2024). Kayapinar and Alkhaldi (2023) argue that to incorporate reflective thinking in higher education, educators themselves should be proficient in self-reflection, with the support of faculty management and decision-makers, who, in turn, need to buy into the importance of reflective practices.

With specific reference to the literature on reflective practices in accounting education, authors emphasise the value of reflective learning in Financial and Management Accounting, Law and Virtue-based ethics programmes. Although the focus is on assessing the role of reflective learning in accounting education, the insights also highlight that there is limited application to auditing as a module and the approaches followed by audit educators within the wider accounting field of study.

Some challenges noted in adopting reflective learning in higher education include the need for educators to be skilled and passionate about fostering reflection amongst graduates. In addition, it has been noted that this becomes a great challenge in institutions with large student numbers per module. It is crucial to recognise that reflection in this context transcends mere cognitive processes; it is intricately linked to students' emotional

experiences and acknowledges the interplay between thought and action. This chapter highlighted the adoption of reflective learning in accounting studies, under the assumption that these methods were effective in fostering reflective learning and developing lifelong learners amongst graduates.

4. Conclusion

This chapter examines the literature on the use of reflection to enhance students' engagement in auditing courses in accounting education at institutions of higher learning. The chapter followed a structured synthesis of literature categorised into the following three themes:

- Reflection in higher education,
- Reflective learning within accounting education,
- Reflection and enterprising competencies.

The literature on reflection in higher education undoubtedly highlights the importance of incorporating interactive strategies that facilitate reflection as a pedagogical approach to enhance student engagement and understanding of technical knowledge. In addition, it challenges educators to question the status quo of focusing solely on students' theoretical knowledge rather than equipping graduates to be critical thinkers who can adapt to the ever-changing dynamics of the work environment.

As we continue to operate in one of the most modern times, where AI is revolutionising the commerce industry with its speed and diverse applications, accountants must adapt to serve the public as agents of trust. Because of the increased use of AI to meet institutional objectives and strategies in the 21st century, accounting educators need to change traditional teaching and learning approaches to intentionally place greater focus on the hidden curriculum. The literature on reflection and enterprising competencies indicates that reflection promotes critical thinking and problem-solving abilities and provides students with the opportunity to appropriately apply their theoretical knowledge in a modern, rapidly changing world of work. The review also highlights the benefits of reflective learning to develop life-long learning skills, which are essential for success as a value-adding

professional. There is a compelling need for higher education outcomes that foster graduates as critical thinkers, with deep learning abilities and the capacity to effect positive change in their environments.

Findings from the literature review on reflective learning in accounting education confirm its use in Financial Reporting, Management Accounting, and virtue-based ethics. However, there is limited research on adopting innovative pedagogies within the broader range of topics in the auditing discipline, except for virtue-based ethics. The literature was informative in highlighting that audit instructors should aim to achieve an appropriate balance between imparting knowledge, nurturing skills, and fostering professional due care and scepticism.

The lack of research on the use of reflective practices in auditing courses emphasises the need for constructive, thought-provoking academic engagement in the global context. Audit standard-setters and regulatory boards provide some basis for continued evolution and improvement in audit principles, and educators can use the observed changes communicated by regulatory bodies to enhance their teaching and learning methods in the audit discipline. Aspects of gathering credible audit evidence in the era of AI, which is currently topical, could be taught through more engaging and thought-provoking pedagogies, such as reflective portfolios on the various concerns and conundrums.

This chapter strongly advocates the involvement of academics and researchers in using reflection to increase engagement in auditing courses at institutions of higher education. By engaging in this discourse, academics can significantly enhance students' understanding of the intricacies of auditing. Furthermore, the use of reflection will advance the development of the pervasive skills essential to the work of auditing graduates. As future custodians of trust within an evolving economic landscape increasingly influenced by AI, these graduates must be equipped with self-awareness, professional scepticism, critical thinking, and adaptability. Prioritising academic engagement in this field not only bolsters the credibility of audit practices but also ensures that emerging professionals are well-prepared to navigate the complexities of a rapidly changing environment.

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Chapter 5

Fostering Creativity to Enhance Integrated Thinking Skills in Aspiring Professional Accountants

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Abstract

The International Integrated Reporting Council introduced the concept of integrated thinking to the accounting world, prompting many professional accounting bodies to expect higher education institutions to develop integrated thinking skills in students aspiring to become professional accountants. A crucial component of integrated thinking is creative thinking; a skill not traditionally associated with accounting education. Higher education institutions wish to develop integrated thinking skills in students; thus, they also need to develop creative thinking skills to achieve this goal. Unfortunately, very little guidance is available to academics in accounting education on how to do just this. The question that this research aims to answer is: "How can creativity be developed during the accounting education of prospective professional accountants?" Data were collected through questionnaires and interviews with accounting education experts, yielding both qualitative and quantitative data. The empirical part of the study uses a mixed-methods model that allows for both quantitative and qualitative research and permits triangulation amongst the literature, quantitative, and qualitative data. The research identified that the three most popular methods for developing creativity in accounting education are problem-based

learning (based on ill-structured real-life business problems), group work, and changing how students are assessed.

Keywords: Accounting education; creative thinking; higher education; integrated thinking; professional accountants

1. Introduction

The International Integrated Reporting Council (IIRC) identified integrated thinking as a forerunner to integrated reporting in accounting. As a result, integrated thinking skills have become a key notion in accounting education worldwide. Most academic research on integrated thinking in accounting education focuses on the concept at the organisational level (Busco *et al*. 2021; Dumay & Dai, 2017; Ecim & Maroun, 2022) with a significant gap in research on the development of integrated thinking at the individual level (Lorson & Paschke, 2015; McGuigan *et al*., 2020). The definition of integrated thinking from an individual's perspective, as opposed to that from an organisational perspective, is elusive. Several suggestions exist as to how integrated thinking can be defined for individuals, but it seems that most definitions agree that integrated thinking is used in complex problem-solving, as it allows the individual to solve the problem in a creative and inter-disciplinary manner whilst the decision-maker has the ability to face the conflict of opposing ideas constructively (Du Toit *et al*., 2024a; Martin, 2009). Although there is a gap in the literature, professional accounting bodies worldwide are looking to higher education institutions to help accounting students to develop integrated thinking skills. One such professional accounting body is the South African Institute for Chartered Accountants (SAICA). SAICA has introduced a new *Competency Framework* that prioritises critical and integrated thinking skills over a traditional, siloed approach to education (SAICA, 2021). The SAICA *Competency Framework* regards integrated thinking as the golden thread that weaves together professional values and attributes, technical competencies and enabling competencies (SAICA, 2021). The enabling competencies include business acumen, decision-making acumen, relational acumen and digital acumen (SAICA, 2021). As mentioned earlier, creativity is a key component of integrated thinking skills.

The ability to create and be creative is seen as the pinnacle of Bloom's Taxonomy (Armstrong, 2010) and the ability to think in an integrated manner has been linked to the ability to be creative (Al-Sabaty & Davis, 1989; Chang *et al.*, 2015; McGuigan, 2020; McGuigan & Kern, 2016; Syolendra & Laksono, 2019; Wang & Ruhe, 2007). Creativity is regarded as the "ability to see new opportunities, produce original ideas, flexibly adapt to changing situations, and apply one's imagination to solve complex problems" (Puccio, 2017). The decision-making approach to complex issues, integrated in this way, is based on finding new, creative solutions rather than simply choosing the best solution from a list of alternatives (Martin, 2009). The reviewed literature indicates that creative individuals are more at ease with complexity and disarray than the average individual, and creative people demonstrate a predilection for complexity over simplicity - intricacy fascinates, perplexes, and excites rather than frightens creatives (Barac *et al.*, 2020; Barron, 1958; Montuori, 2013; Sardar, 2010). Sardar (2010) believes that the most important components for coping in post-normal times are creativity and imagination and that these two qualities raise thinking from reasoned and simple analysis to higher synthesis (Montuori, 2013). Thus, to develop integrated thinking skills in students, higher education institutions must also cultivate creativity. Creativity is a sought-after skill that employers are emphasising.

Rather than great technical skills, which can be learned later by the right talent, employers are placing a huge emphasis on cross-functional skills for professional accountants, such as creativity, innovation, and problem-solving (Chartered Accountants: Australia and New Zealand, 2017; WEF, 2020a). The skills that accountants need to adapt to the new normal demands of Industry 4.0 and Industry 5.0 are technical and ethical competencies, creativity, intelligence, digital quotient, vision, emotional intelligence, and experience (Herawati *et al.*, 2021). Accounting professionals with strong critical thinking and problem-solving skills, as well as those who are creative and innovative, have received increased attention (Lawson *et al.*, 2014). This is in stark contrast to the traditional profile of a professional accountant.

The traditional profile of a professional accountant most certainly did not embrace creativity but rather adopted a rather rigorous, standardised approach (Van Oordt & Mulder, 2016). In contrast, today's professional accountants will be advising their clients tomorrow on problems that might not even have existed yesterday; hence, they need to approach complex problems creatively (Barac *et al.*, 2020). Creativity and decision-making are listed as two of the components of problem-solving and are explained as the ability of accountants to formulate solutions to complex problems by drawing on data, as well as technology (Blackline, 2018; Jackson *et al.*, 2020). This is exactly what integrated thinking is. Integrated thinkers consider causal relationships that are multidirectional and non-linear; they can keep the big picture in mind as they work on the specific aspects of a complex problem, and they come up with innovative solutions to the tensions that were present in the complex problem (Martin, 2007; Deloitte Global Business Coalition for Education, 2018). Creativity allows individuals to shift ideas, question existing beliefs, and navigate the ambiguity that it creates (Rossetto & Chapple, 2019).

Despite this emphasis on innovation, recent studies indicate that accounting students still lack skills in this important area (Birkey & Hausserman, 2019). Therefore, higher education institutions must grow creative skills in students to develop integrated thinking skills, as creativity, innovation, critical thinking, and metacognition are the elements of thinking skills required in the 21st Century (Suto, 2013). It is evident that there is a strong link between creativity and the ability to think in an integrated manner, and when a higher education institution wishes to develop integrated thinking skills in its students, the development of creativity is the starting point. However, there is a significant lack of literature on how creativity can be developed during higher education for prospective professional accountants. This article strives to provide information to address this gap in the literature.

2. Literature Review

Section 2 sets out the literature guiding the development of creativity in higher education.

2.1. Creativity as the Foundation of Integrated Thinking

Roger Martin states that integrated thinking is, by nature, a creative process and should be considered a form of art, as it is not a binary process or a formula (Martin & Austen, 1999). If art is considered an expression of creativity, then integrated thinking requires creativity to be considered a form of art. There are both direct and indirect links between integrated thought and creativity, and the literature on interdisciplinarity generally equates integrated and creative cognition (Sill, 1996). From a dispositional perspective, creativity encompasses a range of attitudes, including a willingness to take risks, learn from mistakes, and seek solutions to problems beyond a specific discipline (Amabile, 2018). Creative thinking is crucial, especially in the early stages of complex problem-solving (Bonk & Smith, 1998).

2.2. Creativity and Higher Education

Historically, creativity was limited to the arts and sciences, seen as a solitary process undertaken by an individual and associated with chaos and disorganisation (Montuori, 2011). Experimental pedagogies to develop creativity have long existed in higher education, but there is substantially less evidence of experimentation in universities that prepare mainstream professionals, such as education, law, and accountancy (McWilliam, 2007). However, over time, creativity has transformed and is no longer restricted to the arts and sciences; it has become an everyday activity that can be achieved in solitude but is equally successful in a participatory fashion (Montuori, 2011). This is excellent news for lecturers, as they can effortlessly weave creativity into lectures, case studies, group discussions, and various other teaching methods. Students' creative development is heavily influenced by their lecturers' responses to the instructional designs that they deliver (Jackson, 2014). Edgar Morin, the French philosopher, is renowned for his work on complexity and complex thought. He emphasises in his work the lecturer's use of creativity to develop complex thought in students (Morin & Kern, 1999; Ribeiro Piske *et al.*, 2016). Therefore, there

lies a great responsibility on lecturers to develop students' creative skills.

The World Economic Forum identified creativity as one of the top 15 skills for future professional accountants (WEF, 2020b). There is little doubt that the ability to think creatively is an essential attribute for students to develop and achieve the goal of integrated thinking (Lima *et al.*, 2004; McGuigan & Kern, 2016; Sill, 1996). Creativity, as a way of thinking, should be developed during higher education as part of the 21st-century skills for prospective professional accountants(Barac *et al.*, 2020; Suto, 2013). A 2016 study examined the impact of accounting education on students' verbal and figurative creativity (Cheng *et al.*, 2016). Accounting and business administration first-year students' verbal and figurative creativity was tested with the Torrance Tests of Creative Thinking. Four years later, these students repeated the same tests. The results were disconcerting. It indicated that the business administration seniors' verbal and figurative creativity increased, whereas the accounting seniors' verbal and figurative creativity remained stagnant (Cheng *et al.*, 2016). Consequently, it seems clear that higher education is falling short in its approach to developing creative skills. Entry-level chartered accountants in South Africa emphasised this, indicating that the development of their creativity skills during higher education was lacking (Marx *et al.*, 2020).

Some literature connects integrated thinking with liberal arts education during higher education (Fogarty, 2010; Jacobs, 2013; Willits, 2010). When observing the connection between integrated thinking and the liberal arts, a distinction must be drawn between two different perspectives:

- There is a growing body of literature that looks towards actual art and the way in which it can be taught in higher education to inform accounting programmes in the development of integrated thinking skills (Davison, 2015; Davison & Warren, 2009; Gallhofer & Haslam, 1996; McGuigan & Ghio, 2019; Parker, 2009; Vaughan *et al.*, 2025).
- Another viewpoint is that accounting education may be enriched by adding to it a foundation of classical liberal arts education (Fogarty, 2010; O'Keefe *et al.*, 2021; Willits, 2010).

> The accounting curriculum is often seen as too technical and rules-based and is criticised for not containing enough general education (Willits, 2010). Liberal arts education, in this sense, refers to a multi-disciplinary approach to higher education, which leads to graduates with a broader spectrum of skills and know-how (Godwin & Altbach, 2016). Art, in this sense, refers to a learned skill rather than the fine arts.

A crucial question is whether creativity can be developed during higher education. Paul Torrance, the creator of various creativity tests and programmes, conducted a thorough analysis of studies to demonstrate that creativity can, in fact, be taught (Torrance, 1972). There are, however, a few researchers who believe that only some components of creativity are teachable, such as thinking and application skills, which can be fostered through appropriate pedagogy (McWilliam, 2007). Other aspects of creativity, however, remain mystifying and idiosyncratic, despite research aimed at proving that creativity is teachable (McWilliam, 2007). The lack of agreement as to whether creativity is a skill that can be taught or not demonstrates dissent in the field (Egan *et al.*, 2017).

2.3. The Paradoxical Relationship Between Creativity, Art, and Accounting

Doctor Nicholas McGuigan, an Associate Professor at Australia's Monash Business School and a chartered accountant, is one of the global leaders in exploring how art can contribute to the development of integrated thinking in accounting. Integrated thinking depends on the ability to be creative and to view accounting from an artistic perspective, which allows one to address the complex issues that businesses struggle with in an integrated and creative manner (McGuigan & Ghio, 2019). Many will argue that art and accounting are the flip sides of a coin, but a growing body of literature connects them (Ghio & McGuigan, 2020; Hines, 1988; McGuigan & Kern, 2016; Yamey & Yamey, 1989).

The reviewed literature claims that teaching should be more artistic than procedural, more reactive than proactive (Dewey, 2016; Herr, 2015) and that the purpose of education is to help

students to respond not only critically but also creatively to the problems that they are presented with (Herr, 2015; Reed, 1997). Unfortunately, lecturers are not rewarded for creativity in today's commoditised and mass higher education domain (McGuigan & Kern, 2016). Lecturers are often hesitant to introduce creativity in their modules because they lack creative confidence. This can be rectified by educating lecturers about creative pedagogies and promoting collaboration (Harris *et al.*, 2017). Similarly, students also face barriers to creativity, as they are often afraid of failure, risk-taking, and doing things differently (Anderson, 2006). When developing creativity in students, lecturers must build their students' trust in their own creativity (Anderson, 2006). As part of an endeavour in a teaching and learning model that develops inter alia creativity, it could be useful to arrange a lecture that teaches the psychological components of creativity by emphasising the significance of cognitive flexibility, making them comfortable with unclear situations or undefined difficulties, and instilling in them the value of perseverance (Schlee & Harich, 2014).

Without creativity, problem-solving and integrated thinking become impossible (Blackshields *et al.*, 2015). Students are expected to take a creative approach to their education by putting a significant emphasis on constructivist-based pedagogical design and reflective practice in accounting education (McGuigan & Kern, 2016). They are asked to actively create their own learning, unlearning, and relearning of accounting (McGuigan & Kern, 2016) and are prepared for an uncertain future in which creativity, resilience, agility, flexibility, and integrated cognition will be crucial and highly valuable qualities (Davies *et al.*, 2011).

Although it is helpful if a student has a natural aptitude for this type of creative thinking, it is vital that creative practice is modelled by lecturers to further develop and promote integrative thinking (Blackshields *et al.*, 2015; Schlee & Harich, 2014).

2.4. Methods to Develop Creativity During Higher Education of Prospective Professional Accountants

Section 2.4 outlines several methods from the literature for developing creativity in a sound pedagogical manner. The point

must be made, though, that over and above following a specific pedagogical manner to develop creativity, the inclusion of small creativity exercises in all modules on a regular basis will also enhance the creative abilities of students (Barac *et al.*, 2020; Egan *et al.*, 2017; Hoever *et al.*, 2012; Marx *et al.*, 2020; Niu & Liu, 2009; Schlee & Harich, 2014). The methods listed in Section 2.4 are evident in the literature across all fields of higher education, but their application in the accounting education arena is sparse.

2.4.1. Interdisciplinarity as a Method to Develop Creativity

An interdisciplinary approach in higher education is viewed as an effective way of developing creativity, teamwork, and innovation (Ashby & Exter, 2019; Haynes, 2017) as integrated inter-disciplinary education benefits both students and lecturers (Ashby & Exter, 2019). Students who participate in inter-disciplinary activities improve their higher-order metacognitive abilities, including critical thinking, creativity, decision-making skills, communication skills, and the capacity to evaluate issues from several disciplinary perspectives (Ashby & Exter, 2019; Cotantino *et al.*, 2010; Ignjatovic, 2020). With an interdisciplinary education, students realise that in the real world, knowledge is applied in an integrated manner rather than in discrete bits and pieces (Summers, 2005). Students participating in an interdisciplinary approach to higher education also demonstrate a greater tolerance for ambiguity, enhanced metacognition skills, and sensitivity to prejudice and bias (Holley, 2017). An integrated interdisciplinary approach benefits lecturers, too, as they have more academic freedom to explore and analyse their own disciplines (Cruickshank, 2008). Unfortunately, academics are, in general, not awarded for developing and using creativity in their course, and, therefore, the focus is much rather placed on compliance and ensuring that standardised learning practices are in place (Martin, 2009). This, of course, stifles the academic's creative vision and appetite to take chances.

2.4.2. Digital Creativity and Use of Technology

If institutions want to remain competitive and relevant in the 21st century, they must embrace the opportunities offered by technology, particularly in teaching and learning (Edmunds

et al., 2012). Some view higher education as sluggish in embracing the innovation and transformation opportunities that technology provides, with change occurring on the fringes, frequently led by individual champions (Broad *et al.*, 2004; Ed *et al.*, 2016). The proper use of technology can greatly enhance the development of students' creative skills (McWilliam, 2007). One way to stimulate students' creativity in accounting education is to develop their digital creativity. The emerging field of digital creativity is at the intersection of creativity and digital technology (Lee & Chen, 2015). Digital creativity uses digital technologies and tools to explore various creative ideas and find new ways to display ideas, work, or research (University of York, 2019). In a recent study conducted at a South African university with undergraduate students pursuing the Chartered Accountant South Africa profession, authentic assessment (discussed in the section that follows) was used to assess students' digital creativity (Janse van Rensburg *et al.*, 2022). Overall, the students' perception of the project's usefulness was positive. However, some students felt that they would rather have spent time studying and preparing for assessments, which suggests the inherent fixation with pass rates in assessments. Sadly, these students do not understand the changing role of a professional accountant in a 21st-century job market (Janse van Rensburg *et al.*, 2022).

2.4.3. Authentic Assessment

A student's higher education experience is guided by assessment and effectively reinforces what they have learned and accomplished (Brown & Knight, 1994). Assessment reveals what students care about, as it influences how they spend their time. According to a 2008 study, students devote no more than 10% of their effort to non-graded academic subjects (Lombardi & Oblinger, 2008). As a result, assessment serves as a motivator for focus. Changing the evaluation techniques, thus, allows teachers to fundamentally affect how students learn (Brown *et al.*, 1997). By adjusting the assessment design to include creative responses to questions, the curriculum reinforces that the development of creativity is an integral part of the curriculum. The natural consequence will be that students are motivated to learn in ways that include creativity. It is of little use if

creativity is encouraged in the teaching of a curriculum but never assessed. This undermines the importance of developing creative problem-solving skills.

Despite the transition to competency-based assessment, assessment in accounting education remains characterised by high-stakes summative testing of knowledge for accreditation purposes (De Villiers & Venter, 2010; Janse van Rensburg *et al.*, 2022) and is often limited by a system that requires student performance to be expressed numerically (Rossetto & Chapple, 2019). Summative assessments are often disconnected from reality and based on artificial, overly simplified examples (Wiewiora & Kowalkiewicz, 2019). The nature of assessment must shift from summative to competency-based evaluations that reflect the competencies which students need for the workplace (Janse van Rensburg *et al.*, 2022), awarding marks for using creativity in their approach to constructing a solution. It is notoriously difficult to measure creativity and innovation (Venter *et al.*, 2022) and only a limited number of accounting lecturers have experimented with assessments that require creativity (Dellaportas, 2015).

2.4.4. Pedagogies Suitable for Developing Creativity

The pedagogies which lecturers adopt should engage students in complex, unfamiliar, and unpredictable scenarios. Students should be encouraged to take risks without being penalised if they are not successful (Jackson, 2014). If such an environment is created, students will be motivated to draw on their creativity rather than replicate the skills and knowledge that they already possess. Tacit learning approaches (as set out hereunder) will foster creativity amongst students. In tacit and constructivist learning approaches, students are encouraged to build their own knowledge from their experiences, and the lecturer's role shifts from instructor to facilitator (Du Toit *et al.*, 2024b).

2.4.4.1. Constructivism and Student-Centred Learning

Many academic researchers believe that a constructivist approach is necessary for the successful development of integrated thinking skills (Bowles *et al.*, 2020; Higgs *et al.*, 2010; Klein, 2006). According to constructivism, learning should be self-directed,

innovative, creative, and centred on the individual learner (Lattemann & Fritz, 2014). The constructivist theory is predicated on the notion that individuals build their own knowledge based on their own experiences (Duffy & Cunningham, 1996; Rossetto & Chapple, 2019; Stentoft, 2017) as opposed to being fed information passively by a lecturer. In general, student-centred teaching and learning approaches are also deemed effective in developing students' creativity (Bonk & Smith, 1998; Dewi & Murwaningsih, 2021). Introducing creativity into a module may be unsettling for some students, as it forces them to perceive and approach things differently (Rossetto & Chapple, 2019). When lecturers challenge their students' pre-existing conceptions, they create "cognitive dissonance", prompting students to use creative methods to restore balance, which leads to a deeper learning experience (Rossetto & Chapple, 2019). Students should learn to be curious and open to new ideas, as well as to think creatively and process other metacognitive abilities (Scheer *et al.*, 2012).

2.4.4.2. Computerised Business Simulations

Cognisance should be taken of the fact that most of the current student cohort is classified as Generation Z (born between 1995 and 2012) (Mitnick, 2021). These electronic-dependent digital natives have grown up with the Internet, social media, and sleek multiplatform environments, and they have had early exposure to web-based tools (Mitnick, 2021). Generation Z individuals are also very pragmatic, and thus, they are actively engaged when case studies relate to real-world problems (Nicholas, 2020). In developing an integrated curriculum, lecturers must sustain students' interest and harness their energy for learning (Qureshi & Stormyhr, 2021). It is from this perspective that computerised business simulations are highly effective in developing students' creativity skills (Eggers *et al.*, 2017). In Australia, a study was conducted that used a computerised business simulation in a management accounting course, with the primary learning purpose of helping students to practice their creative problem-solving skills (Wynder, 2004). The outcome of this study was very positive. Computerised simulations offer students the opportunity to experiment with ideas and receive immediate feedback, which, in turn, stimulates their reflection on

their own learning as they can adjust their decisions and see the consequences of those changes (Wynder, 2004).

2.4.4.3. Problem / Project-Based Learning and Group Work

Problem-based learning is a student-centred educational approach that simulates real-life, complex, professional, and multidisciplinary problems in a safe educational environment (Barrett & Naughton, 2015; Stentoft, 2017). It requires students to research and address unstructured and real-world problems both individually and in small groups (Gale, 2006). Often, the problems that students are presented with are open-ended, which stimulates their creativity as they search for acceptable solutions by referring to multiple sources, such as the library, digital sources, current news, their own experiences, and lectures (Barrett & Naughton, 2015). The problem-based learning process requires students to study and conduct independent research on an individual level, after which they come together in teams to discuss the problem and co-construct knowledge during a tutorial or lecture facilitated by a tutor or lecturer (Barrett & Naughton, 2015). The tutor or lecturer simply facilitates the session, as the emphasis is on students' learning process and their construction of knowledge rather than on the tutor or lecturer teaching (Barrett & Naughton, 2015). The roles in the groups should also rotate for students to experience the different responsibilities of various roles, such as being the leader, presenter, digital curator, etc. (Barrett & Naughton, 2015) as role-playing assists in the development of creativity (Bonk & Smith, 1998; Powell *et al.*, 2020). Because of Generation Z lacking social skills, group work is very important to increase their relational acumen (Carter, 2018). Generation Z prefers communicating online rather than in person, which has led to a decrease in social competence (Ismail *et al.*, 2023). Problem-based learning (whether facilitated for students individually or working in groups) is considered the supreme teaching strategy for the development of 21st-century skills (Luna Scott, 2015; Terblanche, 2018). Despite the undisputable benefits of problem-based learning, literature shows a limited use thereof in the accounting education field (Heagy & Lehmann, 2005; Malatji *et al.*, 2022; Stanley & Marsden, 2012). This might be attributed to larger class sizes, as the recommended group size

for a problem-based learning approach is between six and twelve students (Milne & McConnell, 2001).

Project-based learning is also recognised as a pedagogy that assists in the development of creativity (Dewi & Murwaningsih, 2021; Venter *et al.*, 2022). Although there are differences between problem-based learning and project-based learning, the lines between the two are often blurred. Problem-based learning starts with a real-life, ill-constructed problem and requires the student's initiative, using an enquiry model to solve it. On the other hand, project-based learning starts with a product, where students' roles are more passive, and a production model is required to complete the project (Sun & Li, 2017). A study conducted in South Africa found that a project-based assessment requiring team innovation fostered creativity in accounting education (Venter *et al.*, 2022). This study relied on teams or groups, which reinforces the view that creativity is best developed in a community rather than as an individual (McWilliam, 2007). The use of group work is thus paramount to developing creativity.

3. Research Methodology

Section 3 sets out the research methodology that guides this study.

3.1. Research Paradigm

Given that the authors employed a mixed-methods design, including a literature review, quantitative questionnaires, and qualitative interviews, to gather primary and secondary data, the authors adopted a pragmatic paradigm in this work. In this study, no particular research methodology was preferred; instead, knowledge was created by fusing subjective analysis with observable data.

3.2. Research Design and Sampling

Based on the research question and the study's objective, the most appropriate research design is a mixed-methods approach. The mixed-methods approach allows for the use of both quantitative and qualitative research to solve the research question (Creswell, 2017) and is a knowledge-based strategy that considers a variety

of attitudes, ideas, and perspectives (Johnson *et al.*, 2007). The mixed-methods technique also allows for triangulation, in which the researcher collects more than one set of data that all have an impact on the same study problem (Vosloo, 2014). The practice of triangulation enhances and enriches the research process, and quantitative and qualitative data are not treated as separate; rather, they inform each other (Creswell & Plano Clark, 2017). Triangulation also improves the validity and credibility of research findings (Noble & Heale, 2019). For this study, an explanatory sequential design was selected. An explanatory sequential design is especially suitable for a study where the researcher requires qualitative data to further expand on quantitative data (Morse, 1991). In the explanatory sequential design, a researcher first conducts a quantitative phase and then, based on certain results, a qualitative phase to explain the quantitative results (Creswell & Plano Clark, 2017). The explanatory design's name, which refers to how the qualitative data help to explain the quantitative results, reflects the goal of the qualitative phase: to explain the initial results in greater detail (Creswell & Plano Clark, 2017). Thus, in explanatory sequential triangulation, the findings of one approach serve as a prerequisite for the construction of the next (Johnson *et al.*, 2007). The strengths of the explanatory sequential design include that it appeals to quantitative researchers, as it starts with a significant quantitative orientation, and that it lends itself to emerging approaches, as the second qualitative phase is designed based on the outcomes of the first qualitative phase (Creswell & Plano Clark, 2017). In this study, questionnaires were used in the quantitative first phase, and interviews were conducted in the qualitative second phase. The explanatory sequential mixed-methods approach followed in this study is illustrated in Figure 5.1.

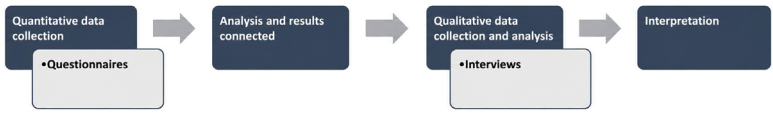


Figure 5.1: Explanatory sequential mixed-methods approach followed in this study
Source: Creswell and Plano Clark (2017:123)

A population can be defined as the total set of respondents from which a sample is drawn, and it usually contains shared traits or other features that identify it (Saunders *et al.*, 2012). For this study, the researchers aimed to determine whether it is possible to foster creativity amongst students pursuing a professional accountant designation and, if so, which methods are most effective. The researchers distributed questionnaires to academics who are experts in educating prospective professional accountants in South Africa to obtain the quantitative data. To collect data for the qualitative study, the researchers interviewed SAICA representatives, experts in accounting education.

For both the quantitative and qualitative studies, the expert sampling method was selected. A Senior Executive of SAICA selected the three SAICA representatives to conduct interviews based on their qualifications, knowledge, and experience in accounting education. Admittedly, the sample size is small, but the views of the three SAICA accounting experts are considered representative of SAICA's professional body.

To conduct the quantitative study, questionnaires were sent to the Heads of Accounting Departments of all 23 SAICA-accredited universities. The Heads of Departments were selected because they are regarded as experts in accounting education, based on their qualifications, knowledge, and experience. The Heads of Departments are also involved in teaching and in the design of the accounting curriculum in their respective departments. By including the Heads of Departments of all SAICA-accredited universities, a high response rate was achieved.

The qualitative study, which consisted of interviews, received a 100% response rate. The quantitative study, which used questionnaires, achieved an overall response rate of 83%.

3.3. Research Method

The primary data collected in this study were two-pronged, namely a questionnaire (phase 1) and interviews (phase 2). A range of questions were included in the questionnaire, including open-ended, closed-ended, polar, Likert five-point scale questions (where the answer options ranged from most

important or effective to least important or effective), and multiple-choice questions. The questionnaire was created and assembled in Google Drive, specifically using the Google Forms feature. The University of Johannesburg's School of Accounting Research Ethics Committee (SAREC) assessed the questionnaire. A pilot test of the questionnaire was conducted on academics and professionals in the commercial sector before it was distributed to respondents. After receiving feedback on the questionnaire, it was updated on Google Drive. Once a final version of the questionnaire was prepared, the Heads of Departments were emailed to explain the study's purpose and to provide a link to the questionnaire.

Following a thorough analysis of the questionnaires' quantitative data, pertinent interview questions were created. Individual interviews were conducted using a structured approach. After the interviews, each interviewee had the chance to discuss their experience. Every interview was conducted via Zoom and recorded for later transcription.

3.4. Data Analysis and Ensuring the Trustworthiness of the Conclusions

Quantitative data were collected by sending a questionnaire to the Heads of Accounting Departments of universities accredited by SAICA, and by conducting interviews with SAICA representatives regarded as accounting education specialists. Questionnaires were administered via a Google Form. The questionnaire results were analysed using descriptive statistics in IBM® SPSS®. Inferential statistics were not used because of the small sample size. Based on the statistical analysis, themes and questions were identified to inform further questions asked during the interviews.

Interviews were conducted via Zoom and transcribed afterwards. After the interviews were transcribed, the authors analysed the texts using thematic analysis, the most frequently used qualitative data analysis technique. The step of thematic analysis involves reading transcripts, coding data, identifying themes, comparing themes, and writing up the data (Jason & Glenwick, 2016). These steps were followed in this study. Thematic analysis is a well-recognised method of analysing qualitative data that involves a researcher's search for the meaning of phenomena

for participants (Jason & Glenwick, 2016). To ensure the internal validity of both qualitative and quantitative research findings, the findings were made available to participants who indicated that they would like a copy to confirm that the researcher understood the feedback correctly.

Finally, a triangulation was conducted amongst quantitative, qualitative, and existing literature data. Ethical clearance (ethical clearance number SAREC20221018/03) for both the questionnaire and interviews was obtained from the School of Accountancy Research Ethics Committee at the University of Johannesburg in South Africa.

4. Findings and Discussion

Section 4 presents the empirical study's results and discusses the findings.

4.1. Quantitative Findings

4.1.1. Ability to Develop Creativity

The purpose of this question was to determine whether participants believe that creative skills can be developed during higher education. Participants could select "yes" or "no". The frequency indicates the number of participants (out of 19) who chose "yes" or "no". Table 5.1 presents the participants' responses.

Table 5.1: Ability to develop creativity

	Frequency	**Percentage (%)**
No	2	10,5
Yes	17	89.5
Total	**19**	**100,0**

Source: Own compilation

It was important for the researchers to establish whether questionnaire participants believed that it is possible to develop creativity during higher education for prospective professional accountants, as traditional accounting programmes significantly

lack the development of creativity skills. If academics do not believe that it is possible to develop creativity skills, they will not make any effort to develop them. Of the total number of participants, 89,5% indicated that creativity can be developed in students. The participants' views align with the literature, which indicates that creative skills can be developed during higher education (Birkey & Hausserman, 2019; Torrance, 1972).

4.1.2. Methods to Develop Creativity

The importance of emphasising the development of students' creativity in higher education has been highlighted in numerous publications in the literature (Egan *et al*., 2017). Yet, there is still a knowledge gap regarding the evidence-based programmes being used in institutions to address this need (Egan *et al*., 2017). It is from this perspective that the next question was asked. This question was open-ended, asking participants to elaborate on ways to develop creativity in accounting education. The qualitative comments from participants are presented in Table 5.2.

Table 5.2: Methods to develop creativity

Participant	Comment
1	"As scenarios from case studies become more complex, students develop strategies to solve them."
2	"Through innovation and gamification."
3	"Solving unstructured business problems in a business ethics course. Thinking about how to solve social justice issues in South Africa."
4	"Group work, getting multiple minds together. Giving less structured guidance on projects. Bringing real-world topics into the class and getting students to discuss or debate them."
5	"Changing the way in which we present, frame, and ask questions. Providing information to students that requires them to read and process information more effectively. Align teaching and scenarios to real-world situations."

(*Continued*)

Table 5.2: Methods to develop creativity (*Continued*)

Participant	Comment
6	"I think we should create activities where the students can play different roles, i.e., CEO, CFO, external auditor, etc. Help students to start imagining what they will be doing in the real world."
7	"By means of assessments, specifically projects. For example, provide the same set of financial statements for the four core modules and test it in a different manner from the perspective of the module through a creative project. There are simple ways to get students to think out of the box."
8	"Mainly through individual and group projects (project-based teaching). For example, at my department, we give students a group project in which they have to develop and execute an intervention to address a Sustainable Development Goal of the UN of their choice. The students are very creative with this."
9	"To allow the student to research and analyse case studies in class and then compare by sharing thoughts in class."
10	"Lateral thinking."
11	"Students should be equipped with the principles and concepts necessary for them to perform tasks. Thereafter, they should be gradually given space to apply the learned principles and concepts to solve problems. In that system, the consequence for error should be minimal, otherwise, creativity (which comes from experimenting) is dissuaded. Guidance given to students in the learning process should be reduced gradually as students start to apply their own creativity in solving problems. In such a system, grading should not be based on a fixed solution but a rubric which rewards students for the efficiency and effectiveness of the approach(es) they use to handle a task at hand."

Participant	Comment
12	"Each thought is created, so thinking *per se* is a creative process. We should think differently about creativity. We have an infused approach to how we develop creativity and critical thinking."
13	"Through the use of unstructured and ambiguous case studies. Case studies that have alternative answers and require students to explain why both are relevant."
14	"Students can be asked to develop a video or infographic to synthesise content."
15	"Giving assessments that require students to think creatively and problem-solve."
16	"Changing the way in which problems and questions are structured. Deeper thinking of why?"
17	"Providing students with a problem set/case study."
18	"Problem-solving projects/assignments using real-life cases."
19	"Small group interactions/lectures with open-ended questions to stimulate creative thinking. Students need to be provided "space" to think and be creative within the technical workload."

Source: Own compilation

The total number of participants is 19, and, therefore, only a limited number of themes could be identified. The most frequently mentioned strategies for developing creativity skills during higher education for prospective professional accountants are summarised in Table 5.3.

Table 5.3: Emerging themes from quantitative comments

Theme number	Theme	Number of times mentioned
1	Using unstructured real-world business problems (problem-based learning)	6
2	Making use of group work to solve problems	3
3	Changing the way in which academics assess and how the assessments are marked	3

Source: Own compilation

From Table 5.3, academics believe that they can develop creative skills most effectively by introducing students to unstructured real-world business problems (typical of a problem-based pedagogy) and by expecting students to work in groups to solve them. In this way, peer learning will also be stimulated. Finally, academics should move away from traditional assessment methods and scoring practices to reward students who use creativity to solve the problem at hand.

4.2. Qualitative Findings

4.2.1. Ability to Develop Creativity

Interviewees were asked whether they believed that creativity could be developed during higher education. All interviewees agreed that creativity can be developed during higher education. Below are some of the comments made by the interviewees:

- Interviewee A: "I think that the answer here is yes – higher education institutions should develop creativity in students."
- Interviewee B: "[Creativity] should be amongst the top six of any graduate attributes of any university, and some people will group it together with problem-solving. [Creativity] is the ability to think outside of the box and be open to different ideas."
- Interviewee C: "We need to [develop creativity]. We need to do whatever we can to make students open-minded thinkers, and I think that is also a form of creativity."

4.2.2. Methods to Develop Creativity

Interviewees were asked to provide examples of how creativity can be developed during the higher education of prospective professional accountants. Below are the comments made by the interviewees:

- Interviewee A: "It's not that we expect [students] to do art and draw beautifully…it's creativity in your thoughts and being able to think outside of the box."
- Interviewee B: "The use of ill-structured real-life business problems will develop creativity. Working in groups [and using role play] is also important. Assessments should be scored using a rubric that allows multiple solutions. Modelling by the lecturer by using the think-aloud approach can also promote creative thought."
- Interviewee C: "I believe the use of group work … and changing the way in which we assess will increase creativity. Lecturers should ask thought-provoking questions in formal lectures and tutorial sessions to encourage student participation and creative approaches. I also think the curriculum should change so that students can enrol in a subject outside the accounting curriculum, for example, philosophy or anthropology. Recognise the learning that takes place outside of the formal curriculum."

4.3. Triangulation

4.3.1. Ability to Develop Creativity

The purpose of this section is to determine whether the results of the literature, qualitative and quantitative data, collectively show that creativity can be developed during the higher education of prospective professional accountants.

4.3.1.1. Quantitative Data

Most questionnaire participants (89,5%) believed that creativity should be developed during higher education.

4.3.1.2. Qualitative Data

All interviewees agreed that creativity should be developed during higher education.

4.3.1.3. Triangulation

All interviewees and 89,5% of respondents who completed the questionnaire agreed that creativity skills must be developed during higher education for prospective professional accountants. The literature agrees with these views, as developing creativity should be an important goal in higher education when fostering integrated thinking skills (McGuigan & Kern, 2016; Morin & Kern, 1999; Ribeiro Piske *et al.*, 2016). It is undeniable that developing creativity as a method of thinking during higher education is important for prospective professional accountants to acquire the abilities required in the 21st century (Barac *et al.*, 2020; Suto, 2013). Amabile's extensive research on creativity concludes that all humans have the ability to produce creative work under the right conditions (Amabile, 1996). Holding this core belief is critical for higher education lecturers who want to devote time, energy, and intellectual and emotional effort to assisting their students in developing and utilising their creativity (Jackson, 2014).

4.3.2. Methods to Develop Creativity

The purpose of this section is to determine whether the results of the literature, qualitative and quantitative data, collectively show which methods are most effective to develop creativity during the higher education of prospective professional accountants.

4.3.2.1. Quantitative Data

Respondents to the questionnaire indicated in an open-ended question that the most popular ways to develop integrated thinking skills in students are as follows: using unstructured real-world business problems, making use of group work to solve problems, and changing the way in which academics assess and mark these assessments.

4.3.2.2. Qualitative Data

In summary, Interviewee B's opinions aligned with the themes identified in the quantitative data, and they added that the lecturer's role-play and modelling were important. Interviewee A added that creativity in accounting education does not refer to the ability to draw beautifully but rather to being creative in one's thought process. Finally, Interviewee C believed that

thought-provoking questions and the ability to register for subjects outside the accounting curriculum would enhance creativity. Interviewee C also believed that adding group work and changing the assessment method would help to develop creativity. Interviewee C also believed that recognition should be given to learning that occurs outside the formal curriculum.

4.3.2.3. Triangulation

The quantitative and qualitative results were reviewed, and the most-mentioned comments were identified as themes. The emerging themes from both the qualitative and quantitative data are summarised in Table 5.4.

Table 5.4: Emerging themes from Quantitative and Qualitative Comments

Theme number	Theme	Quantitative study	Qualitative study	Combined results
		Number of times mentioned	Number of times Mentioned	Number of times mentioned
1	Using unstructured real-world business problems (problem-based learning)	6	2	8
2	Making use of group work to solve problems	3	2	5
3	Changing the way in which academics assess and how the assessments are marked	3	2	5

Source: Own compilation

The combined quantitative and qualitative results align with the literature, indicating that some of the most effective methods for developing creativity in students are problem-based learning (with unstructured real-world business problems), group work, and changing how students are assessed. The quantitative and qualitative data did, however, not indicate, contrary to the literature, that a constructivist approach and interdisciplinarity are an effective way to develop creative skills.

5. Conclusion, Limitations, and Recommendations for Further Research

The IIRC's introduction of the term "integrated thinking" has firmly placed it on the accounting education map, as many accounting professional bodies now require higher education institutions to develop integrated thinking skills in students who wish to become professional accountants. However, the reviewed literature proves a strong link between creativity and the ability to think in an integrated manner. Thus, if higher education institutions wish to develop integrated thinking skills, they must simultaneously foster students' ability to be and think creatively. Much research has been conducted worldwide on the development of creativity in higher education in general, but less is known about the development of creativity skills in the accounting education field specifically, as accounting education is traditionally not known for a creative approach. Traditional accounting programmes follow a siloed approach and focus heavily on technical content with little room for creativity. Given SAICA and other professional bodies' expectations that higher education should teach students to think in an integrated manner, it is inevitable that creative thinking skills will need to be developed to facilitate integrated thinking.

This study indicates, first and foremost, that academics believe that creativity can be developed during higher education for prospective professional accountants. This is a crucial starting point for all endeavours that will follow to develop creativity. If academics did not believe that creativity can be developed, they would not consider embarking on a journey to develop students' creative skills. This study also showed that the three

most popular methods for developing creativity in accounting education, identified by academics and SAICA representatives, are problem-based learning (where students are presented with ill-structured real-life business problems), working in groups, and a changed way of assessing students and scoring assessments. As additional research on this subject is conducted, more ways to stimulate creativity will be identified.

One limitation of this study is that it was conducted in a single country, South Africa, and much value would be derived if it were conducted in other countries as well, so that a global position can be determined. Furthermore, this study was performed by surveying only the Heads of Departments of SAICA-accredited universities and interviewing SAICA representatives. Further research should include the views of lecturers and students.

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Chapter 6

The Use of Mind Maps as a Multidimensional Assessment Tool for Online Accounting Students

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Abstract

The concept of a hidden curriculum is pertinent to Accounting education. In South Africa, Accounting students are required to develop technical as well as professional and enabling competencies. The advancement of such a curriculum requires the development and implementation of innovative teaching and assessment strategies. Accounting education has traditionally relied on set curricula and standardised teaching and assessment strategies often didactic in nature. This is changing in the 21st century with the advent of remote, blended and online Accounting programmes, as well as changing professional requirements. Assessment strategies remain an underexplored area of Accounting education research. This chapter explores the use of mind maps as a multidimensional assessment tool for an online Accounting programme at a South African university. The action research methodology was adopted to elaborate on the development, implementation and usefulness of this assessment strategy with the hidden Accounting curriculum in mind.

Keywords: Accounting education; assessments; hidden curriculum, mind maps; online learning, professional education

1. Introduction

The hidden curriculum refers to the implicit values, norms and behaviours transferred within an educational setting (Alsubaie, 2015). In Accounting education, the hidden curriculum serves to advance the professional, ethical and relational aspects of an accountant alongside the more technical aspects. The South African Institute of Chartered Accountants (SAICA) developed a competency framework outlining the competencies at the core of university Accounting programmes in South Africa. These include professional values and attitudes; enabling competencies (acumens) and technical competencies (SAICA, 2021b). The hidden curriculum in Accounting is key to the development of the soft skills associated with these competencies.

For the purposes of this book, the hidden curriculum encompasses the enterprising student who is adaptable and responsive to a fast-changing world. This requires thoughtful and innovative teaching and assessment strategies. Traditionally, Accounting education has adopted more conventional teaching strategies, although this has begun to change in recent years. Teaching methods in Accounting are well documented in the literature, while assessment approaches are less so. Against this background, this chapter will demonstrate the use of mind maps as an innovative assessment tool for Accounting students.

A mind map is a visual representation of thoughts and ideas around a central theme. Mind maps are constructed using keywords, images, interconnecting lines and colours. This may be performed digitally or by hand. Mind maps are a way of recording, organising and connecting information in a concise and creative way. Mind maps facilitate brainstorming, planning, and learning. Mind maps are positively associated with learning, as their structure mimics the thought processes and neural pathways of the brain (Buzan, 2024). The more formalised use of mind maps in teaching and learning has been documented in the literature. This chapter will demonstrate the suitability and usefulness of mind maps for assessing accounting students against various learning theories. Action research will be used to demonstrate the design and implementation of such an assessment tool within an online educational setting.

2. Literature Review

2.1. Mind Mapping in Higher Education

Mind mapping is recognised as a teaching and learning tool in higher education across various subjects, levels and modalities. While the general notion of a mind map as a visual representation of thought processes and ideas remains universal, variations in terminology should be noted. Terms such as knowledge mapping, digital mapping, information digitalisation, mental mapping, concept mapping, argument mapping and curriculum mapping appear in the literature. These are descriptive terms that clarify details about the application and purpose of mind maps within a given educational setting. Mind maps traditionally have a creative and spontaneous aspect to them while concept, argument and curriculum maps are more structured, purposeful and logical (Davies, 2011; Kinchin, 2014). Increasingly mind maps are produced digitally by using software, which explains the use of terms like digital mapping and information digitalisation (Beavers, 2014). For the purposes of this chapter, the general term "mind maps" will be used. Also note that this chapter refers to higher education exclusively.

Mind maps are considered a student-centred teaching tool (Zvauya *et al.*, 2017). A number of experimental studies examined students' perceptions of mind maps as a learning tool. A predominantly positive association with learning was reported. According to Noonan (2013) "students saw the benefit of the use of mind maps and felt that it focused their learning and 'got them thinking', provided them with a 'clearer view' of the topic and they felt they learned a lot". Boichenko *et al.* (2023) conducted an experimental study to establish the impact of mind mapping on students' perceptions of studying English as a second language at a Ukrainian university. The participants comprised first year students from Biology and Foreign Languages departments. The study found that the use of mind mapping positively impacted on students' interest and motivation when it came to studying English. Amin and Hina (2018) surveyed students at a Pakistani university to explore the impact of mind mapping on intrinsic motivation. The respondents included undergraduate and post-graduate students across six Social Sciences departments.

The study found that the introduction of mind mapping improved students' learning and performance, as well as their motivation.

The use of mind maps in blended, remote and online learning environments is recognised by the literature. It gained popularity more recently with the advancement of Information and Communications Technology (ICT). Alsuraihi (2022) investigated the perceptions of medical physics undergraduate students to mind mapping in response to the shift to online learning during the COVID-19 pandemic. This cross-sectional survey conducted at a Saudi university demonstrated student satisfaction with this learning intervention. Increasingly, software such as iMindmap is being utilised for generating mind maps in educational settings. This has the added value of advancing digital capabilities. Beal and Hontvedt (2023) proposed a framework for the use of video mind maps as a shared knowledge constructing and assimilating tool amongst undergraduate education students. Liu *et al.* (2023) conducted a quasi-experimental study amongst online big data students at a Chinese university. Their study found that the use of computer-based mind mapping positively impacted on students' performance and learning in terms of reflection and cognitive presence. With the rise of ICT and automation, further research is required on the theoretical basis, application and benefits of mind mapping in online learning environments.

Mind maps have been used as both teaching and assessment tools in higher education. However, mind map assessments remain underused despite their potential value to the learning process. Concerns have been raised about the design and usefulness of mind map assessments as well as the accuracy and consistency of mind map grading. Rubrics are typically used to grade mind map assessments. Zvauya *et al.* (2017); D'Antoni *et al.* (2009) and Evrekli *et al.* (2010) tested the reliability of mind map rubrics. Prior student knowledge, the instructional design of the mind map assessment as well as the nature of the rubric impacted on the effectiveness of mind map assessments. Furthermore, Zvauya *et al.* (2017) found that mind maps assess aspects not addressed by more conventional assessment methods. This has significance for the hidden curriculum.

The use of mind maps in higher education has been linked with the development of graduate skills. This implies the relevance of mind mapping to the hidden curriculum. A review of the literature on the use of mind maps in university education by Mitra *et al.* (2023) highlighted the role that this tool plays in facilitating key academic literacy skills such as note-taking, revision, brainstorming, comprehension and memory retention. A survey of the literature on concept mapping in higher education by Machado and Carvalho (2020) found that this tool was beneficial in building core graduate skills such as critical thinking, integrated thinking, communication and technology use. Furthermore, they found that in terms of the hidden curriculum, offering concept maps as a group activity promoted collaboration amongst students.

The literature reviews conducted by Mitra *et al.* (2023) and Machado and Carvalho (2020) demonstrate that mind maps and concept maps were most frequently used in professional education programmes including the Health Sciences, mathematical sciences, Engineering and Educational Studies. The development of professional skills is central to these programmes. A quantitative study by Wu and Wu (2020) demonstrated that the inclusion of mind mapping significantly improved the critical thinking ability of clinical nursing students based at Chinese university hospitals. The study, which tested critical thinking ability according to the Critical Thinking Disposition Inventory, also found that the open-mindedness, inquisitiveness, cognitive maturity and systematicity of nursing students improved following the introduction of mind mapping. These qualities have relevance to the hidden curriculum, guiding many professional education programmes.

2.2. Mind Mapping in Accounting Education

The use of mind mapping in accounting education has been under-explored despite its potential value to the learning process. This is partly attributed to the use of more traditional pedagogical approaches in accounting (Fouché, 2020; Tang, 2023). A notable observation from the literature is that concept mapping is preferred to mind mapping in Accounting education.

The more structured design of concept maps aligns with the more systematic and technical nature of Accounting. The Accounting education literature follows the trend of experimental research designs to evaluate student perceptions and performance in relation to mind mapping and concept mapping. The impact of this teaching intervention was mostly found to be positive. A quasi-experimental study by Kizilgol *et al.* (2016) established that concept maps were more effective than traditional methods in teaching fundamental Cost Accounting principles to third year Business Management students at a Turkish university.

The content and delivery of Accounting programmes is often informed by conceptual frameworks developed by professional accounting bodies, outlining required accounting graduate skills and competencies. The Accounting education literature acknowledges the role that mind maps and concept maps can play in developing these professional acumens. Ghaffari and Khozein (2022) demonstrate how concept mapping may be utilised to improve the teaching and learning of ethics – a key aspect of Accounting education. Simon (2010) explored how concept maps may be utilised by educators in curriculum development in Accounting and related modules. The literature recognises the need for clearer instructional guidance on the appropriate use of mind maps and concept maps as educational tools in Accounting. This is further complicated by the technical nature of Accounting and subject-specific areas within Accountancy e.g. Financial Accounting, Cost Accounting, Management Accounting, Auditing, Taxation etc. Tang (2023) explored the intervention of thinking mapping specifically in Financial Accounting. Mind maps have been linked to teaching theories and strategies relevant to Accounting such as active learning (Maas & Leauby, 2014). However, this is an area that requires further research and exploration. Similarly, there is a need for further research on the use of mind maps and concept maps for assessment in Accounting as well as their general use in online Accounting learning environments. A study by Wan Jusoh & Ahmad (2016) explored the use of the software iMindmap in Accounting education.

A similar pattern is observed in the South African Accounting education literature. Studies by Carstens *et al.* (2020)

and Immelman (2018) investigated the use of concept maps as a scaffolding technique for teaching concept literacy in Accounting programmes at South African universities. Despite the potential of concept and mind maps as an alternative teaching and assessment tool in accounting, guidance on their use and usefulness requires further investigation.

3. Theoretical Perspectives

Educators base their teaching strategies and methods on a particular philosophical perspective or paradigm. This section will explore the learning theories that guide the selection of mind maps as an educational tool. This theoretical basis provides a better understanding of the usefulness and appropriate application of mind maps in educational settings such as the one discussed in this chapter.

3.1. Constructivism

The constructivist learning theory asserts that individuals learn through experience. "Individuals will try to make sense of all that they perceive and … each individual will therefore construct their own meaning from the information" (Bada, 2015). According to constructivism learning occurs when new knowledge is built on the foundation of prior knowledge. New schemas, connections and associations are formulated in the brain contributing towards learning (Bada, 2015). A similar process is followed in mind mapping. A constructivist classroom is student-centric. Learning in this environment is constructed, active, reflective, collaborative, enquiry-based and evolving (Chand, 1995).

Mind mapping allows students to engage directly with learning material and construct their own knowledge and understanding of a topic in a personalised way. It is an active and creative way of learning. Mind mapping requires students to engage prior knowledge of a topic, build on to it and form associations. This is both reflective and engaging. Mind mapping is an enquiry-based activity. It involves self-learning, information processing and organising, and technology use. Mind mapping is suitable for individual and collaborative learning (Zheng *et al.*, 2020). Group mind mapping activities allow

students to collectively construct knowledge and learn from one another. Constructivism is recognised in Accounting education as this subject has a strong practical and technical component and prioritises the acquisition of skills. Mind maps may be integrated into accounting programmes as an active learning strategy.

3.2. Ausubel's Assimilation Theory

David Ausubel's Assimilation Theory adopts the principles of constructivism. According to Ausubel, the basis for learning is what an individual already knows i.e. existing or prior knowledge. Learning takes place when an individual builds on this basis by assimilating new knowledge with pre-existing knowledge (Seel, 2012). This learning process is facilitated by using advanced organisers. Advanced organisers are textual or visual cues that serve as a link between new learning material and prior knowledge (Hoffman *et al.*, 2021). Showing students a video of a certain scenario to evoke their personal experiences is an example of such an advanced organiser. Advanced organisers are utilised in Accounting education in the form of problems, scenarios and examples. Mind maps may serve as advanced organisers in Accounting and other subjects. Mind maps operate as advanced organisers by cognitively introducing a student to a new concept or topic. The student is able to process new information and make meaningful connections with their own ideas by following the structure and processes of a mind map.

3.3. Bloom's Taxonomy

Bloom's Taxonomy is a cognitive model that was first developed by American psychologist Benjamin Bloom in the mid-1950s. The model provided a hierarchical framework for structuring certain outcomes in order of their complexity. Its application in the classroom involves scaffolding learning activities so that students gain mastery over one element before moving on to the next more challenging one. This teaching approach contributes towards deeper learning and understanding, transferable knowledge and, ultimately, the development of skills and competencies (Ching & Da Silva, 2017). For this reason, it is commonly adopted in Accounting education. Accounting is complex and prioritises the

development of skills and mastery of competencies. Mind maps offer an alternative way to introduce scaffolded learning into Accounting. Bloom's Taxonomy was revised in 2001 and currently comprises six levels with "remembering" at the bottom and "creating" at the top of the model (See Figure 6.1).

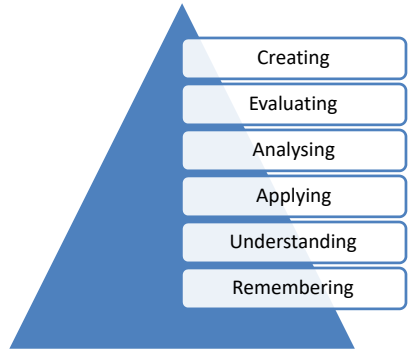


Figure 6.1: Levels of Bloom's Taxonomy
Source: Compiled from University of Florida CITT (2025)

Bloom's Taxonomy may be applied to curriculum development, instructional design and assessments (Ching & Da Silva, 2017). Mind maps have a cognitive structure which makes them align well with the principles of scaffolded learning. Mind maps help students to remember as they serve as a notetaking and studying tool. Mind maps assist with understanding as they allow students to process and organise information in a more concise and personalised way. Mind maps require students to establish connections and meaning, thereby strengthening their application, analytical capabilities. The structure and content of the mind map may also be transferred to other scenarios. And lastly, mind maps enable students to engage actively and creatively with learning material including by using technology.

3.4. Gardner's Theory of Multiple Intelligences

Howard Gardner's Theory of Multiple Intelligences argues that human intelligence is multifaceted. Therefore, for effective

learning to take place various types of intelligences must be engaged. Gardner has proposed the existence of nine types of intelligences: 1. Verbal-linguistic; 2. Logical-mathematical; 3. Visual-spatial; 4. Bodily-kinesthetic; 5. Musical; 6. Interpersonal; 7. Intrapersonal; 8. Naturalist and 9. Existential (Cavas & Cavas, 2020). Gardner emphasised that the intelligences should not be viewed as separate entities, but that they are interconnected and multi-faceted. The multiple intelligences differ from learning styles, which describe a unique, personalised approach to a learning activity. Intelligence refers to the individual's capacity and aptitude for various strengths that is constantly developing and evolving. It is possible to demonstrate strength in various aspects at the same time. Therefore, individuals may possess all nine intelligences, but be stronger in certain aspects thereof at different times (Cavas & Cavas, 2020).

Gardner emphasises pluralising teaching – in other words to teach in a multitude of ways to facilitate learning. Gardner challenges the notion that individuals learn in a one-dimensional way. The benefits of applying Gardner's theory and approach in the classroom is that it creates a learning environment that is inclusive for both students and educators by recognising their individuality and allowing them to build on their strengths and improve on their weaknesses (Cavas & Cavas, 2020).

The use of mind maps as an educational tool whether for instruction or assessment embraces the notion of pluralised teaching as it engages several of the intelligences simultaneously. Verbal-linguistically it requires students to select appropriate keywords or phrases. Logical-mathematically it requires students to think abstractly and conceptually, to make connections and draw inferences. Visual-spatially it requires students to represent a concept or topic visually through images, pictures and colours. Introspectively mind mapping allows students to demonstrate their individuality and creativity and promotes self-learning. Mind maps can also be created in groups and may be evaluated through peer assessment, discussions and presentations. This may also involve the bodily-kinaesthetic, interpersonal and musical intelligences. Depending on the topic and outcome,

mind mapping may also engage the naturalist and existential intelligences. Therefore, mind maps may be described as a multifaceted and multidimensional teaching tool. Accounting education has traditionally engaged the logical-mathematical intelligence. Mind maps offer an alternative and multidimensional teaching tool for accounting. This has implications for improved learning, motivation and knowledge retention as well as the capacity to develop and assess aspects other than just technical accounting.

3.5. Assessment for Purpose

Assessments are an integral part of the teaching and learning process and should not be viewed separately. For this reason, assessments must be fit for purpose. Educational theory distinguishes between two main assessment strategies, each with their own important functions: assessment for learning and assessment of learning. Assessment for learning encompasses formative assessment modalities. These types of assessment take place during learning and are designed to support learning. They are student-centred, multi-modal and low stakes assessments. The purpose of formative assessments is to facilitate learning, monitor progress and provide feedback. Examples include quizzes, activities and discussions (Murchan & Shiel, 2024). Mind maps are regarded as more suited as formative assessments.

Assessment of learning is achieved through summative assessment modalities. These types of assessment are carried out after learning. Their main purpose is to evaluate learning. Summative assessments are more formalised and high-stakes, typically involving written tests and exams (Murchan & Shiel, 2024). This type of assessment strategy has traditionally been preferred in accounting with the professional standards governing accounting education. The rise of ICT and generative AI in recent years has required educators to rethink their assessment strategies to be fit for purpose. Accounting education is no exception. This section provided a theoretical basis for the inclusion of mind maps as an alternative, student-centred assessment tool for online accounting students.

4. Methodology

The action research methodology was selected for this study. It is a methodological approach "in which practitioners seek to effect transformations in their own practices" (Tripp, 2005) such as in education. It involves a cyclical process of planning, implementing and reflecting on an intervention with the goal of bringing about positive change (Oranga & Gisore, 2023). Action research, therefore, has both academic and practical value.

Action research is a qualitative method that encompasses exploratory and descriptive research questions. Research subjects include those who participate in and are impacted by the intervention, including the researcher (Mouton, 2001). In the case of educational action, research participants may include educators, students and administrators. Data is collected by means of observations, semi-structured interviews, documents and self-reflections (Spencer Clark *et al.*, 2020). Qualitative methods and inductive reasoning are used to analyse data. Action research has the benefit of being systematic, reflective and impactful, however, it is also associated with low generalisability and bias (Spencer Clark *et al.*, 2020; Oranga & Gisore, 2023).

Action research was chosen for this study to critically evaluate the usefulness of mind maps for assessing online accounting students and to identify areas for improvement of this assessment strategy. The University of Johannesburg launched its first fully online undergraduate accounting programme – the *Bachelor of Commerce in Accountancy* in 2019. This online course which trains students as entry level accountants includes subjects in Accounting and Finance. One of these subjects, Accounting Studies, will be discussed here. Accounting Studies (not to be confused with Accounting) is a supportive subject to the more technical commerce subjects. It is offered full-time over the course of seven weeks at the 2nd-year level. Its content explores the broader professional and social aspects of accounting. A key outcome of this module is the development of graduate skills and competencies as set out by the competency framework of the South African Institute of Chartered Accountants (SAICA). 165 students enrolled for the Accounting Studies online module in 2024.

The steps in the action research process were followed to investigate the usefulness of mind maps for assessing these students. A variety of sources of data were collected and consulted including instructional documents, student work examples and the researcher's (module instructor) observations and reflections. The usefulness of mind mapping was evaluated against the learning theories discussed previously in the chapter.

5. Findings and Discussion

5.1. Action Research Results

5.1.1. Identifying the Problem

The first step in the action research process involved identifying the problem and deciding on an appropriate intervention. The online Accounting programme necessitated the development of assessment modalities suited to this learning environment, while at the same time upholding professional Accounting education requirements. The first consideration was that assessments needed to be varied enough to accommodate students from a diverse range of backgrounds and with different learning styles. Secondly, they had to actively engage students and encourage participation. Thirdly, they had to be appropriately paced and scaffolded to accommodate different levels of knowledge and facilitate learning. Fourthly, they needed to be developed with the hidden curriculum and skills development in mind. And lastly, they needed to adhere to appropriate levels of academic quality and integrity. For these reasons, mind maps were selected as one of the assessment methods for Accounting Studies.

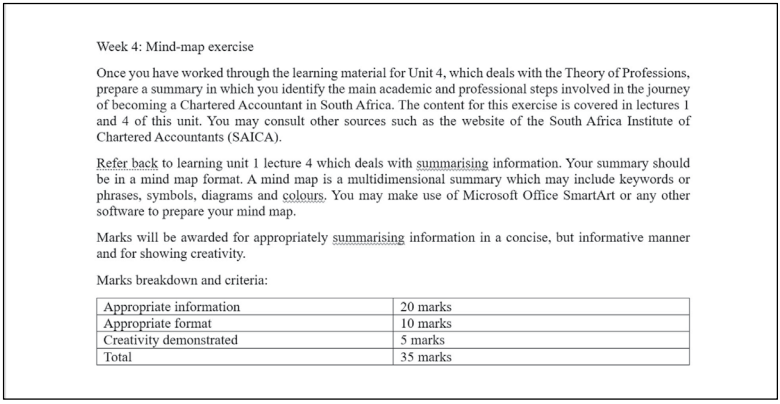
5.1.2. Introducing the Mind Map Assessment

The next step involved introducing the intervention. Continuous assessment was adopted to keep students engaged during the course of the seven-week module. This comprised of shorter formative assessments (discussion boards, quizzes, activities) and a longer summative essay assignment. The mind map exercise was introduced during week four (unit 4) as a formative assessment contributing towards the final mark. Unit 4 dealt with the topic of professionalisation in Accounting. The learning

material comprised prescribed readings and lecture videos on this topic. Students were instructed to prepare a mind map in which they summarised the professional steps to qualify as a chartered accountant in South Africa. Guidance was provided on the format of the mind map as well as on the marking criteria to clarify outcomes (see Figure 6.2).

5.1.3. Observations

The instructor then made observations regarding students' engagement with this assessment method. The mind maps were completed digitally and uploaded to a learning management system (LMS). Only eight students did not complete the mind map assessment, making the completion rate 95%. This is high for a formative assessment. All the students who completed the assessment passed and the average mark was 76%. The mind maps were graded by means of a weighted rubric (see figure 6.3) and additional feedback was provided individually to students directly on the LMS. Students demonstrated that they could appropriately summarise information on a topic relevant to Accounting and apply it to a particular example. Furthermore, they demonstrated the use of software to create digitalised mind maps. In cases where lower marks were awarded, students were given feedback on how to improve on certain aspects. Figure 6.4 shows an example of a mind map submitted by a student.



Week 4: Mind-map exercise

Once you have worked through the learning material for Unit 4, which deals with the Theory of Professions, prepare a summary in which you identify the main academic and professional steps involved in the journey of becoming a Chartered Accountant in South Africa. The content for this exercise is covered in lectures 1 and 4 of this unit. You may consult other sources such as the website of the South Africa Institute of Chartered Accountants (SAICA).

Refer back to learning unit 1 lecture 4 which deals with summarising information. Your summary should be in a mind map format. A mind map is a multidimensional summary which may include keywords or phrases, symbols, diagrams and colours. You may make use of Microsoft Office SmartArt or any other software to prepare your mind map.

Marks will be awarded for appropriately summarising information in a concise, but informative manner and for showing creativity.

Marks breakdown and criteria:

Appropriate information	20 marks
Appropriate format	10 marks
Creativity demonstrated	5 marks
Total	35 marks

Figure 6.2: Mind map assessment instructions
Source: Compiled by the author

Criteria	Did not meet	Partially met	Met	Exceeded
Appropriate information: Professional criteria of CA (SA)	1–5 No criteria included Not applied to CA(SA)	6–10 Some criteria included	11–15 Most criteria included	16–20 All criteria included Additional points and insights included
Correct format: Mind map (keywords/ phrases, images, connecting lines)	1–2 Not in mind map format	3–4 Partially in mind map format	5–6 Mostly in mind map format	7–10 Well structured and developed mind map
Creativity demonstrated: Colour, innovative structure, graphics, software	1 No software used Text only	2 Software used	3 Software, colour and graphics used	4–5 Visually striking mind map Intricate structure

Figure 6.3: Mind map marking rubric
Source: Compiled by the author

5.1.4. Reflections

Following the completion of the assessment the instructor reflected on its design and usefulness. Mind mapping aided online students in navigating the theoretical topic of professionalisation. Students consulted the online learning material to build on their existing knowledge of the profession to complete the assessment. The instructor was able to gauge their level of understanding of the theoretical topic through its application to a specific example. More significantly, students gained a greater awareness of their social role and obligations as accountants through this exercise. These professional values and attitudes are a key aspect of the

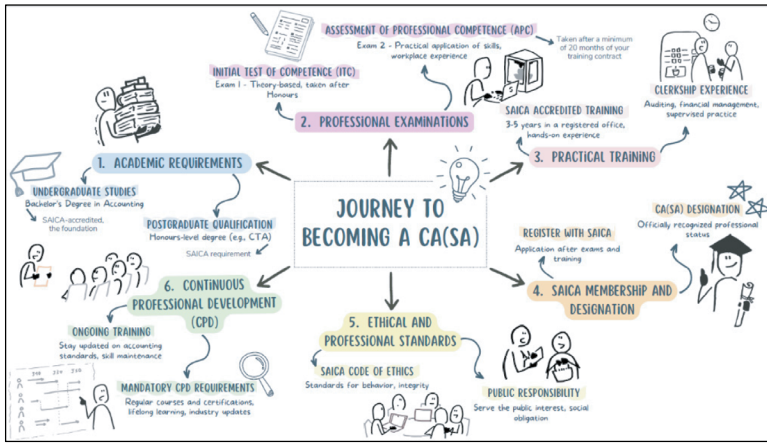


Figure 6.4: Mind map student example
Source: Compiled by a student

SAICA Competency Framework and addresses the advancement of the hidden curriculum.

Figure 6.4 illustrates how students made use of software to create their mind maps. Students developed important information processing, organising and computer literacy skills during this process, which may be transferred to other areas of their studies. The use of technology was appropriately scaffolded at the entry-level to accommodate students with different levels of proficiency. Microsoft Office Smart Art was recommended, but students were permitted to make use of any type of software. The instructor noted that most students made use of more advanced software to create their mind maps. Students were permitted to use different stylistic approaches to create their mind maps and creativity was encouraged. This allowed students to approach the task holistically and express their individuality, which is important for online learning. Students incorporated visual and verbal elements into their mind maps, which were presented in a variety of styles.

The use of a rubric clarified outcomes and streamlined the marking process. It also ensured consistent and fair marking. Strengths and areas for improvement were easily identifiable for students. Further individual feedback was provided, where applicable. The mind map assessment, although formative

(contributing less than one-fifth towards the final mark), was effective in facilitating and evaluating learning of unit 4. It required students to actively engage with the material on professionalisation and to demonstrate academic and computer literacy skills. It also deepened their knowledge and understanding of the profession in a holistic way. In addition to this, mind mapping was distinctive from other assessment modalities offered during the module, thereby accommodating different learning styles.

5.1.5. Improving Pedagogy and Practice

The final step in the action research process involved re-evaluating the intervention and identifying areas for improvement. While mind maps proved to be effective for formative assessment and learning it was not clear to what extent they may be used to assess more complex accounting topics. The accounting education literature suggests the use of more structured concept maps for this purpose. The design of mind map and concept map assessments should be appropriately aligned with learning outcomes, as should their weightings. Increased complexity may be obtained through the requirement of more detailed formatting, the use of more advanced software and higher levels of application of content. In the case of the mind map assessment for this module, it was appropriately scaffolded for the topic of professionalisation and for the online learning environment. Experimentation and creativity were given priority over complexity. However, the technological capabilities of the students exceeded expectations, and the instructor would consider introducing more advanced software for future mind map assessments.

A key consideration for online learning is student participation. The instructor would consider developing synchronous (live) mind map assessments through group work, presentations and peer assessment to better facilitate this aspect. Academic quality and integrity are key to any assessment strategy including online ones. The use of generative AI is a concern with asynchronous mind map assessments. This may be mitigated by switching to synchronous modalities, training students on academic integrity and by making use of AI detection and invigilation software.

5.2 Future Research

The application of action research produced valuable qualitative insights on the use and usefulness of mind maps in an online educational setting; however, the addition of quantitative data on students' perceptions and performance and the correlation of mind maps with learning outcomes, would strengthen the validity of these findings. Furthermore, collaborative and comparative research on mind mapping would address the subjectivity associated with action research methods in accounting education.

6. Conclusion

This study highlighted the need for innovative and multifaceted teaching and assessment strategies in accounting education, particularly for online learning. This is pertinent to professional development and the advancement of the hidden curriculum in 21st century higher education. Through reflective research the use and usefulness of mind maps for assessment in an online accounting programme at a South African university was demonstrated. These findings were supported by educational literature and learning theories. Mind maps were shown to be fit for purpose as formative assessment tools contributing towards learning, understanding and skills development. Furthermore, they were suited to online learning as they engaged students, developed their technological acumen and appealed to different learning styles. The study presented guidelines on the design and effective implementation of mind map assessments in online Accounting programmes, which was a valuable addition to the existing experimental research on the use of this tool. The study identified potential challenges and areas for future research on mind mapping assessments in accounting.

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Chapter 7

Utilising GenAI as a Teaching Assistant in Higher Education

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Abstract

Graduates lack the unspoken digital fluency demanded by tomorrow's economy. This is not a curriculum gap; it is a failure to exploit the hidden curriculum through teaching and learning practices that embed tacit knowledge to shape industry readiness. While generative artificial intelligence (GenAI) has rapidly evolved and reshaped professional workflows, commerce educators are left without established frameworks to redefine the hidden curriculum on digital competence. This chapter tackles this gap by revealing how GenAI can be strategically deployed as a teaching assistant to upskill educators in higher education, enabling them to intentionally reshape the hidden curriculum for commerce students. GenAI can serve as a tool to intentionally scaffold the hidden curriculum, ensuring that students graduate with industry-ready digital prowess rather than just theoretical knowledge.

This research conceptualises a hidden "thinking" curriculum, in which commerce educators can make use of GenAI as a teaching assistant to develop skills and competencies that can be transferred to students through innovative teaching and learning practices. The following objectives are explored: (i) to explore the progression levels for commerce educators to implement GenAI in commerce education, (ii) to map the skills

and competencies required at the different progression levels, and (iii) to propose guidelines for implementing hidden curriculum for GenAI learning in commerce education.

This research utilises critical realism and retroductive analysis to model the progression levels of GenAI, identify necessary skills and competencies, and suggest implementation guidelines. It explores what is required for GenAI to serve as both a teaching assistant and a hidden curriculum carrier. This approach reveals how GenAI influences business thinking, decision-making, and promotes behavioural change, aspects that are frequently neglected in empirical studies. Overall, the study aims to provide a strong theoretical basis for future research.

Keywords: AI literacy, business education, GenAI, hidden curriculum, higher education

1. Introduction

We live in an artificial intelligence (AI)-driven era, where commerce education faces a silent crisis: students graduate with theoretical business knowledge but lack the unspoken, context-specific digital skills demanded by tomorrow's global economy (Baber *et al.*, 2022; Martin & Grudziecki, 2006). For example, the future global economy needs students capable of ethical AI auditing in supply chains, regulatory foresight in fintech, and AI-mediated strategic decision-making. This gap is not a failure of commerce curricula alone; it is a failure to exploit the hidden curriculum through teaching and learning practices that embed tacit knowledge to shape industry readiness (Anderson *et al.*, 2025; Bell & Bell, 2023). While generative artificial intelligence (GenAI) has rapidly evolved and reshaped professional workflows, commerce educators are left without established frameworks to redefine the hidden curriculum on digital competence (Chen *et al.*, 2024; Tzirides *et al.*, 2024). This chapter tackles this gap by revealing how GenAI can be strategically deployed as a teaching assistant to upskill educators in higher education, enabling them to intentionally reshape the hidden curriculum for commerce students (Farias-Gaytan *et al.*, 2023; Portuguez-Castro & Marchena Sekli, 2025).

Current literature on GenAI in education centres on technical implementations (e.g., content creation) (Abulibdeh,

2025; Almatrafi *et al.*, 2024; Yusuf *et al.*, 2024), but neglects how commerce educators can make use of GenAI to actively exploit the hidden curriculum. That is, the unspoken, industry-aligned skills which students absorb through classroom interactions (Garrison & Arbaugh, 2007). When educators use GenAI to simulate real-world ethical dilemmas in financial modelling, such as asking questions like, "What biases come up in this AI-driven credit scoring tool? ", they go beyond just teaching content. They also help students to absorb unspoken skills and knowledge about using AI responsibly. This becomes a fulcrum for skills transfer, i.e., GenAI becomes a tool to intentionally scaffold the hidden curriculum, ensuring that students graduate with industry-ready digital prowess, not just theoretical knowledge (Mirzaei Rafe *et al.*, 2021).

The intentional redesign of the hidden curriculum is paramount, as failing to recognise this could reinforce inequalities when adopting GenAI in commerce education, e.g., by leaving students in developing economies without critical digital literacy (Funda & Mbangeleli, 2024). This research bridges the gap by establishing how commerce educators can utilise GenAI as a teaching assistant to upskill themselves and transfer industry-ready digital competence through the hidden curriculum (Gimpel *et al.*, 2025). It is not only about tool usage, but also about enabling agency in commerce education and ensuring that students graduate not with fragmented skills, but with adaptive, ethical, and contextual digital fluency that aligns with industry readiness in 2025 and beyond.

This research conceptualises a hidden "thinking" curriculum, in which commerce educators can utilise GenAI as a teaching assistant to develop skills and competencies that can be transferred to students through innovative teaching and learning practices. The following objectives are explored: (i) to explore the progression levels for commerce educators to implement GenAI in commerce education, (ii) to map the skills and competencies required at the different progression levels, and (iii) to propose guidelines for implementing hidden curriculum for GenAI learning in commerce education.

This research utilises critical realism through retroductive analysis to conceptually model the progression of GenAI, map skills and competencies, and propose implementation guidelines.

The retroductive approach examines what must be true for GenAI to function as both a teaching assistant and a carrier of the hidden curriculum. The retroductive approach unveils generative mechanisms (Cunliffe, 2011) on how GenAI empowers and constrains business thinking, structures challenging analytical decision-making, and embodies a layered approach from tool use to behavioural change. These perspectives are often overlooked in empirical studies (Hedström & Ylikoski, 2010). This research establishes robust theoretical foundations for impactful avenues of research.

2. Theoretical Foundations

2.1. Affordances in the Educational Technology Context

Educational affordances relate to the potential actions and interactions that technology enables students and commerce educators to engage in within the teaching and learning environment. The notion of affordances stems from Gibson's affordance theory, where the focus is on how an environment offers opportunities for action to an organism (Aagaard, 2018). Educational technology provides commerce educators with many opportunities to enhance their teaching and learning practices. For example, mobile devices in the classroom can attract attention rather than distract students. This enables hybrid environments that enhance student engagement and achieve learning outcomes through the digital integration of teaching and learning practices. Ongoing research and theoretical exploration are critical to illuminating our understanding of educational affordances and their practical applications, unearthing new possibilities for rethinking learning and engagement (Al-Maawali, 2020).

Technology is often considered a tool within different contexts. The advent of GenAI is no different, as commerce educators can utilise it as a teaching assistant to enhance their teaching and learning practices. GenAI's affordances as a teaching assistant are considerable. GenAI enables commerce educators to create personalised learning and lesson plans that cater for variables such as student demographics and learning needs (Karpouzis *et al.*, 2024), thereby implicitly shaping students'

understanding of industry expectations through scaffolded, real-world scenarios (Anderson *et al.*, 2025). This allows commerce educators to develop personalised learning experiences that model professional ethics and adaptability, critical dimensions of the hidden curriculum. The direct and indirect effects would be enhanced student engagement and learning outcomes through interactive environments, particularly as commerce educators design inclusive practices that teach equity and ethical decision-making (e.g., accommodating diverse client perspectives) (Nithithanatchinnapat *et al.*, 2024). Commerce educators also benefit from GenAI's efficiency, as it automates content creation (Yusuf *et al.*, 2024) and provides personalised feedback (Walter, 2024), while simultaneously embedding industry-relevant skills into the unspoken learning processes.

The benefits and affordances of GenAI must, however, operate within specific boundaries that consider the limitations and appropriate scope of ethical use while maintaining academic integrity. This can be constrained by educator professional development and support. A recurring theme in educational AI technologies is the training of educators and the integration of AI (Al-Zahrani & Alasmari, 2024; Bond, 2024). Thus, we must explore the concept of AI literacy, as it serves as the foundational element of realising the potential affordances of GenAI.

2.2. AI Literacy and Practical Integration

AI literacy is a natural evolution of digital literacy and expands the multiliteracy view that digital literacy embodies. AI literacy focuses on enabling an understanding of the skills to navigate and utilise the power of AI in education, life and working contexts (Walter, 2024). The essence is understanding, using, evaluating, and ethically engaging with AI to use it responsibly and effectively. Ng *et al.* (2024) contextualise AI literacy in terms of pedagogical, content, and technological knowledge, which implies a reflective orientation of how one embeds the concept in educational environments. Technical understanding is not the only requirement to utilise AI literacy effectively, as there are other considerations that educators must acknowledge before adopting it (Chiu *et al.*, 2024; Kohnke *et al.*, 2025). However, like

digital literacy, there is no single definition or interpretation of AI literacy; one must reflect on its fundamentals.

While there are multiple views of AI literacy, there are several elements to consider: knowledge, skills, evaluation, collaboration, contextualisation, and autonomy (Allen & Kendeou, 2024; Almatrafi *et al.*, 2024). Knowledge is two-pronged. Technical knowledge focuses on the basic concepts of machine learning and how data is processed through algorithmic operations (Southworth *et al.*, 2023). AI knowledge focuses on the technologies guiding AI to understand their capabilities and limitations (Chiu & Sanusi, 2024). The skills element is practically oriented by acknowledging how AI tools and technologies can be used in real-world situations. Drawing on information literacy, evaluation requires critically assessing AI solutions' implications, biases, and outcomes (Lintner, 2024). This inherently implies understanding and managing ethical issues such as privacy and the societal impact of AI usage. Collaboration embodies a social contract philosophy where humans and AI work together to achieve common goals that benefit society (Pahi *et al.*, 2024). This leads to contextualisation, where the focus is on social-ethical understanding by reflecting on recognising the role of AI in society and its impact on different communities and industries (Almatrafi *et al.*, 2024). Autonomy suggests that one cannot be idle in the ever-changing technology landscape, as there must be a continuous learning and adaptation mindset to new AI developments (Walter, 2024).

It is essential to explore AI's theoretical connections to pedagogy and knowledge domains, as well as its practical integration, to understand how it fits into teaching practice. Pedagogical constructs are critical in how educators philosophise and approach teaching and learning endeavours. The proliferation of AI tools and techniques implies that educators must consider how AI's integration aligns with pedagogical models and theories. Multiple models and theories have been adapted or emerged within the educational technology context (Asad *et al.*, 2023), including the Substitution, Augmentation, Modification, Redefinition (SAMR) model (Jiménez-García *et al.*, 2024),

Technological Pedagogical Content Knowledge (TPACK) model (Chiu, 2025), Technology Acceptance Model (TAM) (Yang *et al.*, 2025), constructivist learning theory (Anderson *et al.*, 2025), and Bloom's Taxonomy (Ng *et al.*, 2024). SAMR explores how technology can augment or change teaching and learning practices from basic to redefining educational activities. TPACK emphasises the cross-section of technology with pedagogical and content knowledge. SAMR and TPACK are models that explore how AI can transform teaching and learning practices while ensuring that they balance with technical and disciplinary requirements (Chiu, 2025; Jiménez-García *et al.*, 2024). TAM takes a different approach by considering technology's perceived ease of use and usefulness, which are vital for educators in realising AI's potential (Yang *et al.*, 2025). Alternatively, constructivist learning theory reiterates that students should actively construct their own understanding and knowledge through experiences (Anderson *et al.*, 2025). For example, GenAI is a tool that supports personalised and interactive learning experiences in and beyond the classroom. Jiménez-García *et al.* (2024) contextualise AI tools across the different cognitive levels of Bloom's Taxonomy and reiterate metacognition's role in enabling critical thinking.

While the various models and theories position AI from different perspectives, two pedagogical approaches emerge: educator-guided vs. AI-guided enquiry and collaborative modelling (Chan, 2023; Holmes & Tuomi, 2022). Educators can embrace a range of perspectives on integrating AI into their classrooms. Some educators may harness AI as a supportive partner to traditional teaching methods, fostering a teacher-guided environment (Holmes & Tuomi, 2022). In contrast, others may be brave enough to allow AI to lead the learning process, creating an AI-guided approach (Chan, 2023). This creative approach views AI not as a replacement but as a powerful assistive tool that enhances educators' roles. The symbiotic relationship between AI and human educators offers opportunities to unlock new teaching and learning experiences (Table 7.1) that empower students and elevate their educational journey.

Table 7.1: Practical Integration of AI with Teaching and Learning Practices

Dimension	Teaching Practice	AI Integration	Affordances	Challenges
Content Development	Manual creation of materials, sourcing from textbooks and online platforms	AI-assisted content creation, curation, and customisation	Time savings, diverse content formats, and personalisation	Quality control, academic integrity, originality, human-in-the-loop
Assessment	Standard assignments, manual grading, limited feedback	Automated grading, formative feedback, varied assessment types	Timely feedback, reduced grading load, and assessment variety	Nuanced feedback and evaluation, handling specific cases, bias,
Student Support	Office hours, email communication, and delayed responses	24/7 AI tutoring, immediate responses to queries, personalised guidance	Expanded availability, consistent support, and scalability	Depth of understanding, emotional intelligence, context awareness
Pedagogical Approaches	Fixed teaching methods, mostly one-size-fits-all delivery	Adaptive learning paths, personalised approaches, data-informed methods	Differentiated instruction, targeted interventions, evidence-based approaches	Over-reliance on data, pedagogical coherence, teacher agency and autonomy

Dimension	Teaching Practice	AI Integration	Affordances	Challenges
Course Administration	Manual tracking, static schedules, fixed policies	Automated administration, dynamic scheduling, adaptive policies	Efficiency, consistency, and reduced administrative burden	System rigidity, transparency, control
Curriculum Design	Static curriculum, slow updates, traditional sequencing	Data-informed design, rapid iteration, competency-based progression	Relevance, adaptability, skill alignment	Curricular coherence, academic freedom, and quality assurance
Classroom Interaction	Limited engagement tracking, mostly uniform delivery	Real-time analytics, engagement monitoring, adaptive delivery	Enhanced participation, targeted interventions, dynamic adjustments	Privacy concerns, classroom dynamics, and authenticity
Research Integration	Separation between teaching and research	Research-informed teaching, student research opportunities	Evidence-based practice, authentic learning, enquiry skills	Complexity, accessibility, alignment

(*Continued*)

Table 7.1: Practical Integration of AI with Teaching and Learning Practices (*Continued*)

Dimension	Teaching Practice	AI Integration	Affordances	Challenges
Professional Development	Periodic workshops, standardised and generic training	Personalised professional development, just-in-time learning, skills-focused development	Targeted skill building, efficiency, and continuous improvement	Technology adoption, time investment, support structures
Accessibility and Inclusion	Reactive accommodations, limited personalisation	Proactive accessibility, diverse learning paths, language support	Broader access, diverse learner support, equitable opportunities	Technical barriers, digital divide, bias mitigation

Source: Adapted from Holmes and Tuomi (2022) and Moundridou *et al*. (2024)

Table 7.1 provides an overview of integrating AI with teaching and learning practices from multiple perspectives, including the affordances and challenges. Four fundamental themes emerge that can embed the hidden curriculum agenda for commerce educators: efficiency and time optimisation, personalisation and adaptive learning, scalability and accessibility, and data-informed practice. Improving efficiency and saving time helps students to understand professional workflows by simplifying administrative tasks, such as providing real-time analytics. This approach teaches important lessons in operational discipline, a key part of commerce education. GenAI tools will also enable educators to rethink personalised learning via adaptive content, explicitly modelling inclusive business practices through Universal Design for Learning (e.g., multilingual resources). This enables diverse learning approaches that implicitly teach students the importance of equity in commercial decision-making. GenAI offers great opportunities for scalability and accessibility, enhancing personalised learning. It shows that equal access to resources promotes professional adaptability, which is an essential skill in business. Data-informed practice facilitates continuous improvement by providing real-time feedback on ethical business operations, thereby educating students in the hidden curriculum of responsible digital citizenship.

The counterargument, however, is that challenges will emerge. Similarly, four themes emerge from the challenges: quality and integrity concerns, preservation of the human element, equity and access issues, and implementation complexity. Addressing system bias becomes a critical hidden curriculum lesson in ethical commerce, as students must learn to critically evaluate AI outputs in business contexts. Quality and integrity concerns revolve around upholding academic integrity while simultaneously reinforcing the hidden curriculum of responsible AI governance. Preserving the human element is about modelling authentic leadership and emotional intelligence in commerce education. This is a dimension which GenAI cannot replicate. Overreliance on GenAI could create a void in the hidden

curriculum of human-centred business judgement, directly impacting students' future industry readiness. Implementation complexity means that we need to balance new ideas with teaching how to use AI responsibly. This is a crucial lesson that illustrates what real business understanding entails.

3. Methodology

3.1. Overall Approach

This research adopts a critical realism philosophy, as it acknowledges that reality exists in layers (Bukowska, 2021; Mirzaei Rafe *et al.*, 2021): what we observe, what actually happens, and the underlying mechanisms that generate events. The reality for commerce education is that educators must look beyond basic GenAI use and reflect on how to enable it as a productivity mechanism in the teaching of business and economics. Walter (2024) calls for a critical reflection on integrating GenAI tools into the teaching and learning environment. Bond (2024) asserts that integrating AI literacy into educator professional development to build skills and confidence for effective use of GenAI tools. The implication is that educators must upskill themselves before transferring and upskilling students on good GenAI usage practices (Gimpel *et al.*, 2025). Mirzaei Rafe *et al.* (2021) explore the role of critical realism in empowering a "thinking curriculum" that considers emancipatory education, where knowledge learnt in the curriculum is applied to the everyday lives of students, society, and commerce. This research conceptualises a hidden "thinking" curriculum, in which commerce educators can make use of GenAI as a teaching assistant to develop skills and competencies that can be transferred to students through innovative teaching and learning practices. Critical realism straddles the different layers of reality and requires retroductive analysis, i.e., reasoning from the concrete to the abstract and back to the concrete again (Fletcher, 2017).

3.2. Retroductive Development Process

The development process asked questions about the mechanisms that must be in place for GenAI to simultaneously teach and

transfer technical skills in commerce education. The retroductive approach examines what must be true for GenAI to function as both a teaching assistant and a carrier of the hidden curriculum. A three-stage retroductive analysis was performed on GenAI literature (Oliver, 2011a): (i) first, mapping basic functions, (ii) then, adding support structures, (iii) finally, refining connections based on logical testing. The three stages were conducted to develop a conceptual GenAI teaching assistant model, a skills and competencies matrix, and practice guidelines. Alongside the stages, two principles embodied the analytical process. First, retroductive analysis involves working backwards from what we observe to understand why it happens in that way (Sayer, 1992). Second, the hidden curriculum reflection point was looking for what GenAI teaches without saying it teaches it (Jackson, 1968).

The model began by mapping observable GenAI functions and identifying the necessary support structures to conceptualise the relationships between elements of a GenAI teaching assistant model. The matrix examined and listed observable GenAI and AI literacy skills and competencies that were then organised by complexity level. The practical guidelines analysed implementation patterns and identified the necessary conditions for success, while recognising multiple valid pathways, i.e., not a one-size-fits-all approach. An iterative refinement approach was adopted, as each element informed the others (Oliver, 2011a).

3.3. Validation and Limitations

A multipronged approach was taken to validate the retroductive development process. First, logical consistency testing focuses on testing whether the different elements coherently fit together and whether the outcomes align with the research intent (Whetten, 1989). Second, this was supported through peer review with practising educators who examined the GenAI teaching assistant model, skills and competencies matrix, and practical guidelines for practical validity and completeness (Shulman, 1986). Third, an alignment check was conducted through an analysis of educational technology literature to ensure coherence, while

expanding existing GenAI and hidden curricula scholarship (Oliver, 2011b). Fourth, transparent reasoning provided verified steps, making the observation to conclusion explicit and traceable (Cornelissen, 2017). These strategies collectively embody what Cornelissen and Durand (2014) define as conceptual rigour, characterised by internal consistency, external validity, and a strong theoretical contribution.

A limitation of this research is that it is conceptual (Shepherd & Suddaby, 2017), and it is not yet possible to confirm whether the embedded hidden curriculum manifests GenAI skills transfer or whether the guidelines effectively embed the hidden curriculum agenda in commerce education. The teaching assistant model, skills matrix, and guidelines require empirical testing (Podsakoff *et al.*, 2016) through longitudinal studies of student development, comparative institutional analyses, and ethnographic observation of actual GenAI-mediated teaching. Alternatively, the commerce and business focus is predominantly from a Western higher education focus, which limits generalisability and applicability in diverse local contexts, such as developing nations and the Global South (Marginson & Rhoades, 2002).

Despite these limitations, conceptual analysis makes unique contributions. A retroductive approach unveils generative mechanisms (Cunliffe, 2011), i.e, how GenAI empowers and constrains business thinking, structures challenging analytical decision-making, and embodies a layered approach from tool use to behavioural change. These perspectives are often overlooked in empirical studies seeking to establish correlations and make predictions (Hedström & Ylikoski, 2010). This research establishes robust theoretical foundations for impactful avenues of research. Critical AI literacy studies can utilise our hidden competency matrix, while policy researchers can explore how institutional GenAI guidelines may extend business ideology. Additionally, comparative education researchers can adapt the insights to study the hidden curricula that emerge across diverse cultural contexts. This is exemplified by Shepherd and Suddaby (2017:80) who argue that "*As the story progresses across subsequent papers, so too does the original contribution*".

4. Conceptual Model Development

4.1. GenAI Teaching Assistant Model

The proliferation of GenAI and related tools must be considered in the context of how one plans to adopt them. Yes, higher education commerce educators can apply GenAI tools for various reasons, such as traditional information searching, clarifying concepts, or simple exploration. Still, the discipline must reflect on how to utilise it as an assistant in a fast-moving global landscape. The most common adoption of GenAI involves a "patient" mindset, where humans lose their ability to act independently and autonomously (Lötter, 2021:77-78) by succumbing to relying on what the tool outputs. This implies a loss of will or inclination towards academic integrity. Lötter (2021:77-78) argues that teaching excellence requires agents who have "*the potential to exert power, produce an effect, cause an outcome, or influence its environment.*" Educational technology has evolved remarkably, transitioning from simplistic tools to advanced systems that profoundly enrich the commerce teaching and learning experience (Kohnke *et al.*, 2025). That said, GenAI can be a powerful tool to assist educators in their multiple academic roles and responsibilities, especially teaching and learning (Taufikin *et al.*, 2024). A challenge, however, is that commerce educators must first explore and experiment with GenAI to upskill themselves before transferring these skills to students (Gimpel *et al.*, 2025; Portuguez-Castro & Marchena Sekli, 2025). This provides the platform for embedding a hidden curriculum centred on good GenAI usage practice that can be applied in industry (Huo & Siau, 2024; Portuguez-Castro & Marchena Sekli, 2025).

Four key components guide the use of GenAI as a teaching assistant.

- **Functional capabilities (what it can do):** Educators must reflect on what GenAI can do to ensure that they do not fall into the "patient" trap when using the various tools available (Lim *et al.*, 2023). For example, GenAI can generate quiz questions and answers to support teaching and learning

(Chen *et al.*, 2020). Regarding research, it can assist with conducting literature reviews (Wagner *et al.*, 2022) and supporting postgraduate supervision through more reflective feedback and points of departure (Huang *et al.*, 2025). On the administration front, GenAI can automate operational tasks such as email drafting and automatic grading (Chassignol *et al.*, 2018). The key takeaway is that GenAI can support teaching and learning practices, research, supervision, and educators' administrative responsibilities.

- **Interaction modalities (how educators engage with it):** While awareness is the starting point, the level of interaction can depend on the educator's will and interest in adopting GenAI tools (Chaudhry & Kazim, 2022). Understanding how these tools work provides educators with conceptual foundations for effectively exploiting their various functional capabilities. The caveat is that educators must use GenAI ethically while being cognisant of the inherent bias embedded in the models supporting the tools (Kohnke *et al.*, 2025). Subsequently, educators engaging with GenAI is a function of familiarity and confidence (Kohnke *et al.*, 2023).
- **Integration points (where it fits in teaching and learning practice):** The integration of teaching and learning practice is distinctively detailed in Table 7.1. Adaptive teaching and personalised learning through enhanced practices can be facilitated by GenAI, as these tools enable educators to generate new and diverse resources (Gupta, 2024). The evolution of educators implies becoming designers of inventive experiences, co-learners, and supporters through effective GenAI integration (UNESCO, 2025:63). That said, the human element must not be forgotten and must reflect on implementation complexities while addressing equity and access issues (Pahi *et al.*, 2024). The reflection process must be facilitated through training, support initiatives, and policy development.
- **Boundaries (limitations and appropriate scope):** Adopting GenAI as a teaching assistant must exist within clearly defined boundaries to ensure proper use of the technology. Utilising GenAI as a collaborative partner means not solely relying on it to perform tasks, as educators must continue to

exhibit autonomy in their roles and responsibilities (Lötter, 2021). The aim is to mitigate quality and integrity concerns regarding the whole teaching and learning environment (Yusuf *et al.*, 2024). An active awareness of the ethical use of GenAI must also be considered by educators when working with students and institutional data, as most GenAI platforms exploit the data to improve their fundamental models (Al-Zahrani & Alasmari, 2024). Educators must carefully consider the scope of application when determining the boundaries of GenAI's use.

Once the key components are established, the next phase is articulating the implementation dimensions to realise GenAI use effectively.

- **Depth of integration (peripheral vs. central):** The degree or depth of GenAI integration is not a "one size fits all" approach. Educators will have varying needs and expectations regarding GenAI use (UNESCO, 2024). Those starting to venture into GenAI will use it ad hoc for simple and menial tasks. Conversely, those who fully embed GenAI will use it to perform tasks that support their daily operations and critical thinking engagements (Chen *et al.*, 2024). This mindset variation determines if GenAI is a peripheral or central tool for educators' roles and responsibilities (Portuguez-Castro & Marchena Sekli, 2025).
- **Scope of application (narrow vs. broad):** Like determining boundaries, an educator's depth of integration will indicate their scope of using GenAI. When GenAI is used peripherally, educators may have a narrow scope of application, focusing on teaching and learning practices, research, supervision, or administration. Where GenAI is used centrally, it will be calculated and distinctly used across all academic areas (Chen *et al.*, 2024). A comprehensive approach implies that educators will make use of multiple tools and features to achieve specific outcomes they have actively planned and reflected on (Gimpel *et al.*, 2025).
- **Level of autonomy (guided vs. independent):** The level of autonomy arguably has the greatest rhetoric as the implications of whether GenAI will be used as a crutch or

instrument are determined by whether educators adopt a guided or independent approach (Lötter, 2021). Educators starting their GenAI journey will be guided by the tools while ensuring that they pay special attention to review and reflect on the tools' outputs (Chan, 2023). Conversely, more well-versed educators will be independent in their process and proactively engage and execute tasks using GenAI while ensuring that they are kept abreast of developments in the field (Lim *et al.*, 2023). The challenge for educators is maintaining a delicate balance between the crutch and instrument analogy.

- **Complexity of tasks (simple vs. complex):** Depending on an educator's depth of integration and scope of application, the degree of task complexity will vary. When used centrally for an educator's daily tasks, GenAI implementation will inherently be more complex and interconnected across teaching and learning practices, research, supervision, and administration responsibilities (UNESCO, 2024). Furthermore, educators who delve deeper into the GenAI "black box" are more prone to exploring its capabilities as they aim to perform more complex tasks. While peripheral use does not imply a narrow application scope, the level of complexity diminishes amongst educators who are more reluctant or lack confidence in exploring GenAI's vast capabilities (Chan, 2023).

However, after reflecting on the three levels, this research branched into a deeper level two, reflecting a minimal, gradual progression in GenAI usage. The decision aligns with Dreyfus *et al.*'s (1987) expertise development model, which demonstrates that meaningful competency assessment requires characterising knowing, knowing-how, showing, and doing. Figure 7.1 contextualises the different educator progression levels when using GenAI as a teaching assistant. Educators starting their GenAI journey use these tools to build confidence in their initial exploration. There is a gradual transition to minimal GenAI engagement, with tools used sparingly and on an ad hoc basis, as educators mostly rely on traditional methods. Gradual adoption

signifies a progressive movement towards integrating GenAI into an educator's daily routine. Educators who are confident in GenAI can embed it fully across all academic areas to realise comprehensive GenAI integration. Figure 7.1 serves as the foundation for articulating a skills and competencies matrix that details progressive levels for adopting GenAI as a teaching assistant.

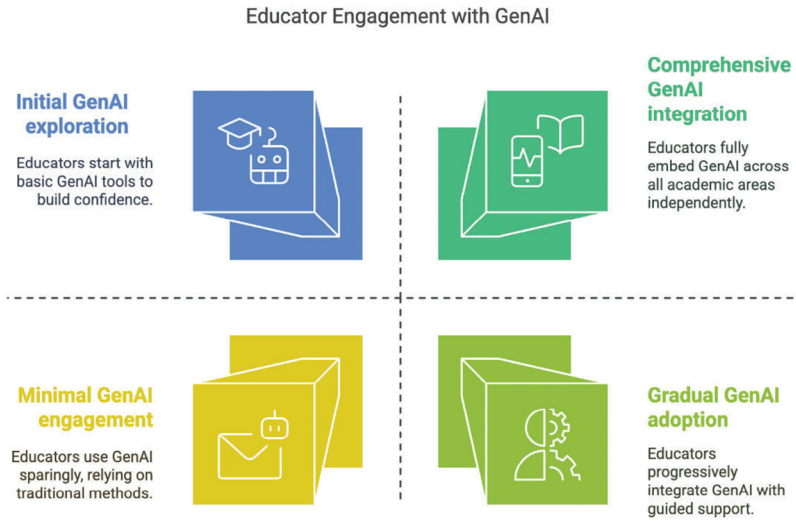


Figure 7.1: GenAI teaching assistant model
Source: Own compilation, adapted from Dreyfus *et al.* (1987) and UNESCO (2024)

4.2. Skills and Competencies Matrix

Table 7.2 expands on Figure 7.1 and presents an overview of the four progression levels, development path, and supporting resources to realise each level. Higher education commerce educators' progression levels with GenAI can exist across four levels (Dreyfus *et al.*, 1987): novice, competent, proficient, and expert.

Educator progressive skills development is the core takeaway from Table 7.2, as there is a clear staged progression from novice to expert-level engagement (Gimpel *et al.*, 2025; UNESCO, 2024).

Table 7.2: Progression levels of GenAI application

Level	Engagement	Development Path	Supporting Resources	Practical Examples
Novice	Aware of GenAI concepts but has minimal hands-on experience. Uses basic GenAI tools in education and administration.	Engage in AI literacy workshops, online introductory courses, and guided tutorials.	Introductory courses (e.g., "AI for Educators"), YouTube tutorials, and AI-powered tools like Grammarly.	**Teaching & Learning Practices:** Uses GenAI as a "thinking" search tool. **Research:** Exploring GenAI tools to clarify concepts. **Supervision:** Using GenAI to assist with language editing of students' work. **Administration:** Using GenAI for email drafting.
Competent	Uses GenAI passively in education and administration.	Structured GenAI tool experimentation and guided implementation in specific contexts.	Hands-on GenAI tools (Perplexity AI, ChatGPT), guided projects, and institutional AI workshops.	**Teaching & Learning Practices:** Using ChatGPT to generate quiz questions or outline lesson plans. **Research:** Exploring GenAI tools for literature reviews (Elicit, Scite). **Supervision:** Guiding students on GenAI- assisted conceptual understanding. **Administration:** Drafting report or memorandum outlines.

Level	Engagement	Development Path	Supporting Resources	Practical Examples
Proficient	Understands and applies GenAI tools in teaching, research, and administrative tasks with some guidance.	Engage in GenAI-driven research projects, experiment with AI-powered tools, and mentor colleagues.	Advanced AI courses (Deep Learning in Higher Ed), AI research conferences, and industry-cademic partnerships.	**Teaching & Learning Practices:** Creating innovative and engaging class activities and exploring an AI-powered adaptive learning module. **Research:** Using AI for basic data analysis (Julius AI, Tableau AI). **Supervision:** Supporting students with AI-based feedback and direction. **Administration:** Automating grading and feedback analysis using AI.
Expert	Uses AI effectively for problem-solving, research, and improving educational outcomes. Evaluates AI ethics and bias.	Contribute to AI research, publish on AI in education, and collaborate on interdisciplinary AI projects.	Research grants, international AI collaborations, and AI innovation hubs.	**Teaching & Learning Practices:** Designing an AI-powered personalised learning system. **Research:** Publishing on AI's impact on education. **Supervision:** Leading a doctoral programme in AI applications in higher education. **Administration:** Using AI dashboards for tracking student performance and institutional data.

Source: Own compilation, adapted from Dreyfus *et al.* (1987) and UNESCO (2024)

This requires an incremental approach to GenAI tool usage, in which complexity is determined by increasing the depth of engagement and understanding of these tools (Portuguez-Castro & Marchena Sekli, 2025). Similar to how educators should continuously reflect and develop their teaching and learning practices (Gravett & Kinchin, 2020). Adopting GenAI as a teaching assistant requires educators to continuously learn and enhance their skills. While GenAI can be used for various purposes, educators must consider the context in which it is used. Commerce education not only describes business practice, but it also aims to shape the reality of industry professionalism (Cabantous *et al.*, 2016). The GenAI era introduces a new dimension in which educators must embark on a developmental journey to upskill, as GenAI is not just a tool but a preview of students' professional futures (Verhoef *et al.*, 2019). This research provides a simplified approach by reflecting on the application within the context of teaching and learning practices, research, supervision, and administration (Zawacki-Richter *et al.*, 2019). Reflecting on these contexts will simplify where educators should focus their skills development to realise GenAI's technological and pedagogy affordances through a hidden curriculum agenda (Chan, 2023; Mirzaei Rafe *et al.*, 2021).

Educator progression from novice to expert is imperative in commerce education for two reasons. First, commerce educators' GenAI expertise level shows students whether AI literacy is peripheral or central to professional success (Nithithanatchinnapat *et al.*, 2024). Second, educators who visibly progress through different levels demonstrate to students the inherent need for continuous learning in commerce (Bell & Bell, 2023). The different progression levels reveal a gradual development of technological competence from basic awareness to advanced problem-solving. This inherently increases AI tool utilisation, and commerce educators grow more independent in their GenAI application. The path to multidimensional skills development requires educators to articulate technical and pedagogical skills grounded in an ethical understanding of AI and to critically evaluate its capabilities (Sperling *et al.*, 2024). However, skills development cannot exist in isolation, as there must be collaboration between peers at different levels and a

culture of mentorship to cultivate professional skills development (Díaz & Nussbaum, 2024). Higher education institutions play a critical role in cultivating development by adopting a systematic approach to AI adoption and providing supportive infrastructure development avenues (Moundridou *et al.*, 2024). There must be a strategic drive for implementation across institutional functions guided by organisational learning and adaptation that reflects on the affordances and challenges of AI (Tan *et al.*, 2025).

The reality of AI and GenAI is that there are inherent ethical challenges to how commerce educators apply it. Ethical and critical engagement must be evident to ensure that educators use GenAI ethically and assess how the tools process and use the data provided. Educators must also develop their understanding of how these tools are built and function to recognise the inherent bias in the models that guide them (Kohnke *et al.*, 2025). A sense of human agency must exist to ensure responsible innovation when adopting GenAI as a teaching assistant (Pahi *et al.*, 2024).

GenAI's transformative potential and affordances require a progression from passive to active AI engagement, facilitating innovative approaches to educational practices. The culmination of affordances will empower the development of new learning and research ecosystems that propagate potential institutional and educational transformation. The important message is one of deliberate, structured, and ethical progression in AI capabilities, emphasising continuous learning, contextual application, and maintaining human-centred innovation.

5. Guidelines for Practice

5.1. Embedding GenAI Learning through the Hidden Curriculum

This section expands on Figure 7.1 and Table 7.2 by articulating how the different progression levels of GenAI applications can embed and transfer GenAI skills through hidden curriculum activities.

The novice level focuses on foundational building to create basic awareness of GenAI. The skills development objectives of this level emphasise building awareness of GenAI potential by developing a basic understanding of the concept and establishing foundational AI literacy. Alongside a conceptual understanding,

commerce educators must explore business-specific tool navigation, such as using ChatGPT for market analysis, GitHub Copilot for business analytics, and Microsoft Live for broadcasting with accessibility (Anderson *et al.*, 2025). Focusing on ethical considerations cannot be overstated, as educators must understand algorithmic bias in business terminology, the AI hallucination effect on business reporting outputs, and data privacy in business analytics (Huo & Siau, 2024). The learning and skills transfer path for novice commerce educators requires them to participate in AI literacy workshops and complete introductory online courses that explore business-related topics, such as case study development and basic business analytics (Portuguez-Castro & Marchena Sekli, 2025).

Competent commerce educators have a more structured approach to GenAI, aiming to develop practical GenAI use and transfer business-specific implementation skills by enhancing their critical evaluation of available tools. Prompt engineering for business contexts would equip professionals with skills in financial modelling, marketing campaign generation, and strategic analysis (Bell & Bell, 2023). The ideology of a competent educator must reflect the transfer of an "intelligent co-ideation" mindset for business problem-solving, where AI serves as a sounding board for analysing and refining business strategies (Huo & Siau, 2024). The recommended learning and skills-transfer path for competent educators requires them to be hands-on with GenAI tool projects through guided business-implementation exercises. Higher education institutions must facilitate AI workshops and create a culture of peer learning groups where educators can learn from their experiences and good practices to realise practical application scenarios (Díaz & Nussbaum, 2024).

Moving towards the proficient level requires commerce educators to have an advanced command of GenAI tools and apply themselves innovatively. The underlying focus is on management-level skills, where proficient educators embed "AI as co-pilot" expertise for complex business tasks, such as merger analysis, strategic planning, and risk assessment (Nithithanatchinnapat *et al.*, 2024). This can be realised through hackathons focused on business challenges (Eimler & Straßmann, 2023) or creating startup initiatives where students use GenAI

throughout the entrepreneurial process (Bell & Bell, 2023). Educators must understand the role of GenAI in automation to convey the notion that AI can handle routine tasks while humans focus on strategic decision-making (Huo & Siau, 2024). Mentorship and knowledge sharing become more prevalent, as educators at this level are expected to cultivate an accepting and conducive environment for using GenAI as a teaching assistant. The undertone here is networking and collaboration beyond an institution's internal structures.

Being an expert in any field implies having the knowledge and skills with a specialised focus and having a significant impact as an advisory authority. To achieve expert-level status, skills development centres on AI integration leadership, where commerce educators develop capabilities for "rethinking curriculum" through interdisciplinary AI integration across business areas, such as finance, marketing, and operations (Nithithanatchinnapat *et al.*, 2024). This would inherently require the creation of AI governance frameworks within the business school context to ensure there is a balance between promoting AI innovation while maintaining human value and relevance, e.g., accountability, interpersonal skills, and ethical decision-making (Corvello, 2025; Huo & Siau, 2024). This will require fostering ecosystem innovation and ethical AI leadership that acknowledges the barriers and resistance to AI adoption beyond GenAI use. Expert educators play a critical role in mentoring and skills development in and outside their institution, as their level of advisory authority is well respected (Jin *et al.*, 2025).

5.2. Implementation Guidelines for Commerce Educators

The practical implementation of enabling and realising different commerce educator progression levels is central to higher education leadership. Multiple elements must be considered (Chan, 2023; Huo & Siau, 2024; UNESCO, 2024): institutional implementation strategy, operational implementation approaches, ethical considerations, and continuous improvement. Higher education institutions must drive a strategy that develops a progressive AI integration road map to guide the journey (Chan, 2023; Jin *et al.*, 2025). The road map includes creating

comprehensive AI literacy programmes for staff and students, establishing clear ethical guidelines, implementing supportive socio-technical infrastructure, and developing continuous learning mechanisms. Embedding GenAI learning can be achieved by educators operationalising implementation guidelines that address teaching and learning practices, research, supervision, and administration.

- **Teaching and learning practices:** Frame activities through a strategic business reasoning lens to operationalise critical thinking in a business context. Educators can design AI-enhanced business case analyses that enable students to critically examine AI-generated market analyses, financial projections, and strategic recommendations. Rethinking assessment is imperative, and multimodal approaches that combine AI-generated content and visualisations to support student presentations are essential. Another method would be to implement iterative business planning activities that reflect decision-making processes alongside AI-sounding.
- **Research:** GenAI can perform business-related research and reporting, which requires educators to establish business-specific protocols for using GenAI in market research, competitive analysis, and financial modelling. This can be supplemented twofold. First, encourage triangulation by cross-referencing AI analysis with industry reports and practitioner insights. Second, creating industry-academic partnerships where students explore GenAI alongside industry mentors.
- **Supervision:** It is essential to facilitate workshops comparing theoretical frameworks with or without AI assistance to highlight innovation and collaboration boundaries. Supervision can extend through peer-review groups that address AI over-reliance and build collective wisdom around good practice. Another mechanism is to implement defence presentations, in which students must justify the use of GenAI and demonstrate a deep understanding of business concepts. Documenting human-AI supervision interactions can also model appropriate AI use through feedback patterns and informal discussions.
- **Administration:** Governing the GenAI learning process requires co-developing business-specific AI policies for

grading business plans, financial models, and strategic recommendations. A key facet would be establishing data handling procedures that mirror corporate governance and government legislation requirements. Educators can create and share AI-powered dashboards that track student development in negotiation, presentation, and analytical thinking through AI interaction patterns.

The hidden curriculum emerges through a skills-transfer mechanism: students observe educators' use of GenAI and learn unspoken industry norms of AI good practice. This leads to the formation of a professional identity, where students develop their professional personas by striking a balance between AI efficiency and authentic business intelligence. Through continuous exposure to AI, students develop professional standards for responsible and ethical decision-making. The culmination is industry readiness, as they understand, through practice, which business skills are uniquely human and which can be enhanced by AI.

The implementation guidelines are not complete without continuous improvement. Establishing regular AI skills assessments will guide which level commerce educators are operating at and what interventions are required to ensure that the GenAI hidden curriculum agenda does not stall. Creating feedback loops to assess AI tool effectiveness and utilising well-versed peers are essential to drive peer collaboration, mentorship, and knowledge sharing. Institutions could explore building a community of practice to monitor emerging AI technologies, stay ahead of the curve, mitigate disruption, and advance the hidden curriculum agenda. Similarly, experimental approaches must be encouraged, and adaptive implementation strategies must be developed in the context of commerce education.

6. Conclusion and Implications

This research conceptualised the role of a hidden curriculum for higher education commerce educators to make use of GenAI as a teaching assistant to develop skills and competencies that can be transferred to students through innovative teaching and learning practices. The GenAI teaching assistant model showed how commerce educators can articulate and develop GenAI capability.

Figure 7.1 characterised the educator development path by reflecting on what GenAI can do, how educators engage with it, where it fits in teaching and learning practices, and its boundaries. Therefore, institutions should proactively invest and drive educator development to ensure that the upskilling process does not lag too far behind future disruptions. This shifts the focus from vague "engagement" goals to creating meaningful and effective initiatives that enable structured experimentation, guided implementation, and hands-on Gen AI tools. A skills and competencies matrix (Table 7.2) was subsequently developed to provide a framework for institutions to articulate different progression levels (Novice, Competent, Proficient, and Expert), as these levels influence the extent to which educators can enable a hidden curriculum for transferring GenAI skills that are industry-ready and applicable. Extensive recommendations were proposed for how each progression level can facilitate the transfer of GenAI skills within a business-specific context. The underlying ideology was to conceptualise how students learn GenAI skills without being told. For example, students unconsciously acquire various skills through GenAI-mediated teaching and learning practices and by observing educators, which is inherently enhanced as educators upskill across progression levels. Furthermore, research-oriented activities implicitly teach what constitutes "rigorous" AI use, as students absorb good practices from peer and educator feedback. Students develop their professional identities by balancing AI efficiency with authentic business intelligence. Interaction with AI instils ethical decision-making standards, ultimately preparing them for the industry by distinguishing uniquely human skills from those enhanced by AI.

6.1. Challenges and Limitations

The affordances proposed are not without challenges and limitations. Building on the research limitations of Section 3.3, these guidelines assume suitable technical infrastructure, which is not a given in all institutions. While institutional support is arguably the linchpin for realising GenAI adoption and application, future research should explore the current landscape of technical infrastructure, given the inherently diverse global

realities across regions and institutions. While this research acknowledges variations between commerce education and other disciplines, there are inherent differences within commerce education, where MBA and undergraduate programmes (e.g., financial management, economics, entrepreneurship, and corporate governance) may require different approaches. These various implementations should be explored to provide an expanded, more robust hidden curriculum without adopting an overly generalised approach. Resource constraints are a perennial problem that has been intensified by continued geopolitical tensions. Higher education institutions are no exception; they must critically reflect on constraints such as time, cost, and training needs. Educators are inundated with workload responsibilities, making time a significant factor in their ability to meet training expectations. Such initiatives have considerable cost implications that may exclude some institutions, thereby widening the divide between them. Future research should explore these implications to provide a pathway or framework that enables institutions from different contexts and realities. From the student perspective, institutions cannot ignore the digital divide that exists in developed and developing nations. To embed this hidden curriculum, future research should explore how educators and institutions can understand and reflect on students' needs to implement adequate structures and mechanisms conducive to industry relevance within their contexts.

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Chapter 8

Cybersecurity Education for Accounting Students: Perspectives from Accounting Academics

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Abstract

This study explores cybersecurity education for accounting students within the accounting curriculum from the perspective of academics, given the growing threat of cyberattacks. As cybersecurity becomes increasingly important in the accounting profession, it is essential to ensure that accounting students are equipped with the knowledge and skills to address cybersecurity challenges. The study addresses the limited understanding of cybersecurity amongst accounting academics and their need for guidance in integrating cybersecurity education into their teaching practices.

A mixed-methods approach was employed, combining quantitative data from a questionnaire and qualitative insights through thematic analysis, which identified six key themes. The findings reveal that while accounting academics acknowledge the significance of cybersecurity, their understanding of the subject is limited, and they require structured guidance to effectively incorporate cybersecurity into the curriculum.

The study highlights the need to integrate cybersecurity education across core modules, including Accounting, Auditing, Financial Management, Taxation, and Ethics. Recommended

teaching methods include lectures, discussions, group work, guest speakers (cybersecurity experts), case studies, role-playing, and e-learning. Utilising real-life case studies is emphasised as a valuable approach for enhancing students' practical understanding of cybersecurity issues.

The findings emphasise the embedding of cybersecurity education within the accounting curriculum. This contribution aims to enhance curriculum theory and prepare future accounting professionals to navigate the evolving landscape of cybersecurity risks.

Keywords: Accounting academics; Accounting education; Accounting students; Curriculum theory; Cybersecurity education

1. Introduction

Cyberattacks have become widespread and will continue to escalate as technology rapidly advances, creating an ever-evolving landscape of threats that challenge the security measures of organisations and individuals alike (Chizanga *et al*., 2022). The cyberattack landscape has intensified over the years, with the 2007 attack on Estonia (a country in Northeastern Europe) amongst the first mass-scale cyberattacks. This attack lasted 22 days and temporarily caused degradation or loss of service on many commercial and government servers (Kumar *et al*., 2016). The upsurge in cyberattacks has created both challenges and opportunities. One such area of opportunity is cybersecurity, which offers several employment opportunities and roles required in combating cyberattacks (Mijwil *et al*., 2023). The prediction is that millions of cybersecurity specialists will be required in the foreseeable future, with accounting firms globally offering cybersecurity services to meet the demand (Mendlowitz, 2022). There is a huge demand for cybersecurity skills, and this trend is expected to grow in the foreseeable future and has been listed as one of the top 10 competency areas of the future (ACCA Global, 2022; KPMG, 2022). Cybersecurity education and knowledge need to be developed to combat the escalating threat of cyberattacks, emphasising the need to prioritise cybersecurity education in addressing ongoing cybersecurity concerns.

Accounting professionals should be educated on cybersecurity, allowing it to become an integrated area of expertise so that they can contribute more effectively to the development and implementation of robust security protocols, ultimately helping to safeguard their organisations against the ever-growing threats posed by cyberattacks (Tauchman, 2021). In a study that investigated whether aspiring and professional accountants understand the benefits and security challenges brought by emerging technologies, Rîndașu (2017) found that accounting professionals face multiple knowledge gaps regarding cybersecurity and computer systems. To fill this critical knowledge gap, it is essential to provide accounting students with a comprehensive education in cybersecurity, enabling them to thoroughly understand this increasingly important concept (Meyer, 2021). This can be achieved by integrating cybersecurity into the university-level accounting curriculum. By doing so, students will have the opportunity to engage with essential cybersecurity topics throughout their studies, thereby building a strong understanding of how these principles intersect with accounting practices. Integrating cybersecurity into the accounting curriculum will provide accounting students with the necessary knowledge to address cybersecurity challenges, helping to close the existing knowledge gap in this critical area (Low *et al*., 2016).

Accounting students must have the required skills, knowledge, and education to meet employer expectations and the competencies required by accounting professional bodies. In addition to integrating cybersecurity education into an accounting curriculum, it is important to develop students' ethical reasoning to increase their awareness of threats. Moreover, for accounting students to stay relevant and fit for purpose, cybersecurity is one area that can increase the relevance of accounting students (Albuquerque & Dos Santos, 2023; Bartley, 2023). Meyer (2021:n.p.) states that:

> *"Another hurdle is the fact that there's no real consensus on how universities should teach cybersecurity…But all too often, cybersecurity is not included in accounting programs at all".*

While research on cybersecurity education has been conducted, there remains a gap from an academic perspective, in the literature specifically addressing cybersecurity education for accounting students (Roohani & Zheng, 2019; Boss *et al.*, 2022). This raises concerns regarding the extent to which cybersecurity has been integrated into the accounting curriculum by accounting academics. Thus, this study aims to investigate accounting academics' perspectives on the inclusion of cybersecurity education within the accounting curriculum, assess the extent to which it has been integrated, and explore their preferred teaching methods for effectively delivering cybersecurity content.

This chapter positions cybersecurity education as an integral component of the hidden curriculum in commerce programmes, highlighting how the development of cybersecurity awareness and ethical decision-making, often learned informally rather than through formal assessment, contributes to shaping accounting students' professional ethics and readiness for the digital economy.

2. Literature Review

2.1. Theoretical Framework

Curriculum theory focuses on developing curricula that reproduce learning opportunities and broaden them through effective design (Kelly, 2009; Grant, 2018). This theory is applied to all educational institutions, including higher education, and thus would apply to this study (Gurin *et al.*, 2002). Curriculum development refers to how curriculum theory contributes to the development of curriculum texts and syllabuses and produces research of relevance to such developmental processes, which entails the scrutiny and evaluation of the educational curriculum to comprehend its arrangement, substance, conveyance, and results (Syomwene, 2020). It encompasses various approaches and philosophies evaluated for designing, implementing, and evaluating curricula, encapsulating education's core focus.

Saadeh (2019:9) refers to curricula as the "heart" of education. The curriculum is the necessary guide for thinking, laying the groundwork for purpose and practice. Curriculum theory

plays a crucial role in incorporating cybersecurity education into the accounting curriculum, focusing on building and evaluating a curriculum that effectively integrates cybersecurity principles pertinent to the accounting sector. Curriculum theory provides a framework for designing, implementing, and evaluating educational programmes (Khan & Law, 2015). It emphasises the principles and practices of curriculum development, offering a cybersecurity education framework for this context. Academic perspectives are a pertinent factor in the curriculum.

2.2. Cybersecurity Education

When a curriculum includes cybersecurity, educating accounting students on cybersecurity threats and risks equips them with the knowledge needed to manage the cybersecurity challenges that organisations face and to meet employer expectations (Fakoya-Michael & Fakoya, 2020). Zhang *et al.* (2020) argue that not addressing areas such as cybersecurity in the accounting curriculum reduces the employability and work-readiness of accounting graduates. Gulin *et al.* (2019) conducted a study focusing on the challenges that digitalisation brings to the accounting profession, and found that digitalisation will require universities to change and modify their education programmes to prepare accounting students for work in the modern environment, including automation and digitisation. Furthermore, as digitalisation continues to transform the accounting profession, universities must update their programmes to prepare students for the evolving demands of a modern, automated, and digitised work environment (Berniak-Wozny *et al.*, 2023).

An effective curriculum design will equip students with the necessary technical skills, knowledge, and competency to meet the demands of the industry (Hadgraft & Kolmos, 2020). A study that focused on the coronavirus disease 2019 (COVID-19) pandemic, which required curricula to adjust to a new way of delivering content, Ali (2020) indicated that a curriculum must be able to adjust to a constantly evolving technology environment to remain pertinent. In its reports on future skills for accounting students, the AICPA (American Institute of Certified Public Accountants) (2021) asserts that universities

have a critical responsibility to equip students with relevant and up-to-date technology, including specialised courses in cybersecurity, to align with the evolving expectations of employers and to ensure that graduates are well-prepared for the demands of the modern workplace.

The accounting curriculum is already fully packed; however, cybersecurity is a topic that can easily be incorporated across all aspects of the accounting curriculum (Pasewark, 2021). Researchers argue that cybersecurity should not be seen as an add-on or another topic, but as part of an accounting curriculum. It should not be an entirely new course; rather, it should be introduced, emphasised, and followed up on throughout the curriculum (Corriss, 2010; Montgomery, 2022; Paulsson & Brady, 2022). A typical accounting curriculum comprises four core technical modules; namely, accounting, financial management, taxation, and auditing, also considered majors in specialist areas (Barac & Du Plessis, 2014). The first step is to understand if the current curriculum includes technically relevant subject matter, and once a curriculum is understood, it is important to identify areas where there is an opportunity to include the relevant subject matter (Crean & Carroll, 2022; Leidig & Salmela, 2022). Gaining an in-depth understanding of the curriculum is integral to successfully integrating the new subject matter. Meyer (2021) and Mujiono (2021) both suggest that cybersecurity education should be embedded throughout the curriculum within core modules, because of the unique nature of each module and the outcomes linked to each module (Mujiono, 2021). These modules are technical, and the relevant digital skills associated with each specific module can be strategically introduced and embedded throughout the curriculum to ensure that students develop a deep and practical understanding of the digital competencies required (Kee, 2024). Often the curriculum includes other supporting modules that include business information systems, ethics, commercial law, business management and statistics (Mphahlele, 2023).

Boss *et al.* (2022) investigated the integration of cybersecurity education for accounting students in the USA, particularly emphasising the specific criteria mandated in the

country. The proposed inclusion does not address the importance of cybersecurity awareness in the context of attacks targeting students and instead focuses on technical cybersecurity competency. The study concludes that accounting curricula worldwide should integrate cybersecurity as a fundamental component of accounting education, reflecting the growing importance of increasingly sophisticated cyber threats.

Universities are responsible for preparing students for the workplace, and, accordingly, the inclusion of cybersecurity education is important in ensuring that accounting graduates are adequately prepared for the cyber challenges which organisations face (Baker, 2016; Cameron & Marcum, 2019). Graduate unemployment has been a serious concern, and one of the contributing factors is that graduates are not able to meet industry needs in terms of skills required, thus requiring universities to understand what is needed for an individual to be skilled enough once they enter the workplace (Alam, 2021; Mgaiwa, 2021). A study by Ebaid (2022) focusing on exploring accounting students' attitudes towards integrating forensic accounting into accounting education indicates that students strongly desire to study cybersecurity as part of an accounting curriculum. Adding cybersecurity to an accounting curriculum increases employability and ensures that graduates succeed in the long term (Ghani & Muhammad, 2019).

Employers seek to hire graduates with expertise in cybersecurity, and given the growing need for cybersecurity professionals, the accounting curriculum can play a role in developing this skillset (Matthysen & Harris, 2018; Burrell, 2022; Kisaalita *et al.*, 2022). Universities play a vittal role in preparing students to be employable and providing relevant education and knowledge. Accounting students must be prepared for a digital environment, and accounting curricula must adequately prepare them for this transition, with employers preferring work-ready candidates (Jackson & Meek, 2021). Technical knowledge on cybersecurity should be taught throughout the curriculum, for example, providing theory knowledge through lectures and practical aspects through an assignment (Jeffryes & Lafferty, 2012).

There is currently a shortage of cybersecurity programmes and even fewer programmes directed towards accounting students, given the importance and emphasis of cybersecurity (Douglas & Gammie, 2019; Sutherland, 2020; Van Oorschot, 2020; Rajgopal, 2021). Grech (2022) found a strong need to include cybersecurity in an accounting curriculum, given its impact on business decisions that accounting students must understand. This study focused on understanding student perspectives on cybersecurity. Accounting students would benefit from cybersecurity as part of the curriculum, as this allows them to understand data better, thereby assessing risks adequately (Srinivasan, 2013). Cybersecurity is an area of expertise being sought after by many organisations; however, the accounting curriculum has yet to respond to this (Aldawood & Skinner, 2019).

Rebele and St. Pierre (2019) observed that accounting academics are generally resistant to change and lack expertise in cybersecurity, which could further contribute to the non-inclusion of cybersecurity in an accounting curriculum. Technological resistance is another factor that hinders curriculum development, and educators are required to stay up-to-date with these changes (Kee, 2024).

The accounting curriculum must be reassessed, reducing content in more traditional areas, e.g., Financial Management, and adding more content on Accounting Information Systems (AIS), including cybersecurity, which can aid in an already loaded curriculum (Churyk *et al.*, 2024). Accounting Information Systems is a module that can offer deep coverage of digital skills (Kee, 2024). The IESBA (International Ethics Standards Board for Accountants) has increased focus on data and the governance of how this data is managed, thus emphasising the importance of cybersecurity ethics, and has been included as such in accounting competency frameworks for accounting students (IESBA, 2022). This is to ensure that accountants are not faced with legal and ethical challenges; therefore, the IESBA have added ethics in technology, specifically in cybersecurity (Loots *et al.*, 2024). The rise of digitalisation introduces new ethical dilemmas, such as the misuse of data analytics, privacy breaches, and algorithmic bias. Cyber ethics expands traditional ethical frameworks to encompass responsibilities related to online behaviour, data security, and

professional accountability in digital environments (Lucas, 2016). Studies demonstrate that ethical reasoning can enhance cybersecurity compliance by reinforcing the moral obligation to protect organisational assets (David, 2022). In African contexts, ethical education is particularly critical given persistent governance challenges and corruption risks (Adeleye, *et al.*, 2020). Embedding cyber ethics into accounting curricula, thus, provides a dual benefit: strengthening both technical resilience and ethical integrity.

This has called for increased cybersecurity awareness amongst accounting professionals, and it should be incorporated into the curriculum accordingly. Technical content in core modules, as suggested by Boss *et.al* (2022), is included in Table 8.1:

Table 8.1: Technical Cybersecurity Content

Subject matter area	Explanation	Subject Area
Cybersecurity Disclosures in Financial Reporting	Specific accounting disclosures are required regarding cybersecurity, and stakeholders expect them to be appropriately disclosed for transparency.	Accounting
Cybersecurity Breach in Financial Audit	Because of the financial impact of cybersecurity, audit teams are expected to understand the impact on the audit and design procedures accordingly.	Auditing
Tax Preparers Protecting Personally Identifiable Information	Tax preparers must protect client information because of the risk of a breach.	Taxation
Calculate Cybersecurity Breach Costs	Accounting professionals are required to have knowledge of accurate cost calculation for a breach.	Financial Management / Cost Accounting

(*Continued*)

Table 8.1: Technical Cybersecurity Content (*Continued*)

Subject matter area	Explanation	Subject Area
Classifying and Measuring Cybersecurity Breach Costs	Cost classification is important for reporting. -Direct costs incurred when dealing with the breach after detection, including engaging forensic experts, hiring law firms, and offering identity protection services to breach victims. - Indirect costs are those expenses connected with internal resources, including employees' time, effort, and other resources necessary to cover the losses from the data breach.	Financial Management/ Cost Accounting

Source: Boss *et al.*, (2022)

Preparing accounting students adequately for market demands is crucial, and universities play a critical role in developing education to adapt to such market demands. This includes areas such as cybersecurity (Jackson *et al.*, 2023). Universities must adapt their curricula to an ever-changing technological landscape, which will better prepare accounting students for what the employment market requires and improve their knowledge of technology, such as cybersecurity.

When a curriculum includes cybersecurity, educating accounting students on cybersecurity threats and risks equips them with the knowledge needed to manage the challenges that organisations face and meet employer expectations (Fakoya-Michael & Fakoya, 2020). Not addressing areas such as cybersecurity in the accounting curriculum reduces the employability and work-readiness of accounting graduates, as it hinders their ability to meet the growing expectations of employers (Zhang-Kennedy & Chiasson, 2022). Gulin *et al.* (2019) found that digitalisation will require universities to change and modify their education programmes to prepare

accounting students for work in the modern environment, along with automation and digitisation. Including cybersecurity in the accounting curriculum ensures that students gain the knowledge to manage cybersecurity challenges and meet employer expectations (Gyekye & Amo, 2024). Furthermore, as digitalisation continues to transform the accounting profession, universities must update their programmes to prepare students for the evolving demands of a modern, automated, and digitised work environment (Berniak-Wozny *et al.*, 2023).

According to Meyer (2021), it is essential to integrate cybersecurity concepts into the accounting curriculum to ensure that accounting students are well-versed in these concepts. Tharapos (2022) found that engaging with experts in the field of cybersecurity will help accounting students by showing them how it works in real life, which is seen as a way that this area can be added to the curriculum in a study focusing on the usefulness and long-term nature of accounting education in the digital age.

2.3. Methods of Teaching Cybersecurity

A key consideration of cybersecurity education is the method of delivery, which must be included within the accounting curriculum (Chowdhury & Gkioulos, 2023). In the 21st century, teaching an accounting curriculum at the undergraduate level aims to train students with a solid theoretical basis, strong practical ability and high comprehensive quality (Panja, 2018). In an accounting degree, an educator must teach the subject matter and provide instruction on topics integral to the economy. An accounting educator's responsibility is to provide not only accounting knowledge but also to teach how to stand in the globalised age of business; thus, the method of delivery is an important factor in educating accounting students.

According to Strauss-Keevy (2014), the most effective delivery methods for accounting education are lectures, discussion, small groups and collaborative learning, case studies and examples, role-playing, and guest speakers. The conventional lecture method is a long-standing approach to instruction that emphasises the transfer of knowledge rather than the process of

learning (Giang, 2024). The lecture method may be suitable for introducing and describing basic cybersecurity concepts.

Students and professional accountants are more likely to develop judgement and behaviour through exposure to and discussion of cybersecurity issues with others, especially those holding alternative viewpoints (Wolk & Nikolai, 1997; Ismail & Rasheed, 2019; Rama *et al.*, 2025). This helps individuals to become familiar with important concepts, gain practice in using the language of cybersecurity, and develop judgment (Bressler & Pence, 2019).

Small-group learning, which develops skills in leadership, decision-making, trust-building, communication, and conflict management, is an effective method for exposing students to examples of cybersecurity issues (Jerman Blažic & Jerman Blažic, 2022). Interaction with other students and/or professional accountants in peer-led cybersecurity discussions promotes more significant learning than can be achieved individually.

The case study method effectively develops analytical skills (Ballantine & McCourt Larres, 2004; Terblanche *et al.*, 2022). Advantages of case studies include fostering critical thinking and reflective learning, as well as integrating technical skills and knowledge. They engage students and professional accountants with real-life scenarios, offering practical insight into the experience of addressing such challenges (Bérubé & Gendron, 2022).

3. Methodology

This study used a mixed-methods design to collect data. A questionnaire with both closed- and open-ended questions, informed by the literature, was used to collect the data. The closed-ended questions were posed to academics using a Likert scale *(1. To no extent, 2. Small extent, 3. Moderate extent, 4. Large extent, 5. Very large extent).* The open-ended questions obtained further comments from academics. These comments were converted into themes using content analysis in Atlas.ti. 41 accounting academics partook in the survey. The spread of the academics comprised first year to postgraduate studies; thus, views were solicited from a diverse group of academics.

The sample of academics only focused on academics who lecture on degree programmes, where a total of 100 academics were working (at the time of the study). This would result in a 41% response rate. This response rate is considered sufficient, as evidenced by various literature sources (Malan & van Dyk, 2021). The inclusion criteria included academics who lecture in degree programmes, including bachelor's, postgraduate, and honours programmes. Certificate, diplomas, master's and PhD programmes were specifically excluded from this study. Responses were received from academics teaching across all years of study, suggesting that the sample is broadly representative and reducing concern about non-response bias.

Quantitative data were analysed using IBM® SPSS®, and qualitative data were analysed using Atlas.ti. The findings are presented to the academics and to those included in the questionnaire. The findings table (table 8.2) uses the mean and standard deviation method. Statisticians have concluded that measures within plus or minus two standard deviations are more accurate than those beyond this range (Reimann *et al.*, 2005). Statisticians commonly assume that 68% of all data points will be within +/-1 standard deviation from the mean and 95% of all data points will be within +/-2 standard deviations from the mean (Sheats & Shane Pankratz, 2002). In other words, when the standard deviation is larger than 2, it indicates that respondents' responses are too spread out, and the results may be undesirable. Where it is lower than 2, the outcomes will be acceptable. The standard deviation was accepted in all cases. The questionnaire was developed to explore accounting academics' perspectives on the accounting curriculum in the context of cybersecurity, guided by curriculum theory.

A total of 127 comments were analysed and systematically coded, yielding six general themes. Initially, each comment was reviewed independently, with key phrases and concepts highlighted. Codes were then refined, with similar codes grouped to form higher-level categories. The resulting categories were examined for patterns and relationships, developing six distinct themes that encapsulated the core ideas across the dataset (Woods *et al.*, 2016). Throughout this process, efforts were

made to cross-check codes, assess them on an ongoing basis, and engage co-researchers in feedback sessions to validate the identified themes.

4. Findings and Discussion

Table 8.2: Importance of Cybersecurity

Statement	Mean	Standard Deviation
Cybersecurity is important for accounting students	2,61	1,481
As a lecturer, I have sufficient knowledge of cybersecurity education	2,98	0,961
I know how to incorporate cybersecurity in the accounting curriculum	2,46	1,098
It is important for students to understand cybersecurity	4,29	0,814
I am aware of case studies that can be used around cybersecurity	1,95	1,094

Source: IBM® SPSS® Output

Lower scores were obtained for awareness of cybersecurity case studies that can be used in the curriculum (1.95) and for incorporating cybersecurity into the curriculum (2.46) (refer to Table 8.2). This aligns with the literature, which shows that academics are unaware of cybersecurity case studies and how to incorporate them into the curriculum (Boss *et al.* 2022). Within this finding, the statement about academics having sufficient knowledge of cybersecurity (2.98), with academics neither agreeing nor disagreeing, suggests that academics have limited knowledge of incorporating cybersecurity education.

While academics' responses were split on whether cybersecurity is important for accounting students (2.61), many believe that accounting students do not necessarily need to be

experts but should have a basic understanding of the field, as evidenced by the following comments.

- *"Cybersecurity, I've perceived it to be what corporates have to deal with and somehow specialised. Specialised in the sense that it's IT specific and therefore it has nothing to do with the accounting treatment of business transactions."*
- *"Awareness over wanting to make them experts at it will be good."*
- *"I think students should have a basic awareness of these issues, but they will only be understood once students enter the workplace."*

Whilst a lower score was obtained for this section of the questionnaire, academics still believe that cybersecurity is important for accounting students and should be part of the curriculum. The highest score was in the academics category, indicating the importance of accounting students' understanding of cybersecurity (4.29), with the majority agreeing with this statement. Academics believe that cybersecurity issues are a major concern within organisations and that it is important for accounting students to obtain skills within these areas evidenced by the comments:

- *"Cybersecurity in the accounting curriculum is an essential element for students, as most operations in the finance industry make use of technology to conduct operations. The incorporation of case studies or examples of cyber incidents in the accounting industry can help students understand real-world problems and motivate them to prioritise cybersecurity in their future roles."*
- *"Cybersecurity and cyberattacks affect all organisations and individuals. It needs to be addressed to a large extent in every organisation to protect its assets and stakeholders. In the fourth industrial revolution, cyber attackers are becoming more and more innovative in the way they carry out their attacks, and organisations need to ensure that their employees, customers and stakeholders are adequately equipped with the necessary cybersecurity skills to protect themselves from falling victim to cyberattacks."*
- *"I believe that Cybersecurity is very important and should be taught to our students throughout their university studies. Even lecturers need to be well informed and equipped when it comes to cybersecurity."*

The limited understanding of cybersecurity education amongst academics highlights a significant gap in accounting curriculums, where cybersecurity risks are increasingly relevant. Academics play a crucial role in shaping students' knowledge and competencies, especially as accounting graduates are expected to manage sensitive financial data and protect it from cyber threats (Zhang *et al.*, 2020). This limited understanding may hinder the development of curricula that adequately address current and emerging cybersecurity risks, ultimately impacting students' readiness for the digital economy. With the increase in cyberattacks, particularly in sectors that handle confidential information, accounting curricula must prioritise cybersecurity as a core component (Meyer, 2021). Integrating cybersecurity education through well-defined guidelines can ensure that students are equipped with the knowledge and confidence to navigate and mitigate risks effectively.

Table 8.3: Methods of Teaching

Statement	Mean	Standard Deviation
Lectures	3,93	0,877
Discussion	4,17	0,629
Working in small groups with other students	3,85	0,963
Guest speakers who are experts in cybersecurity	4,71	0,461
Case studies	4,34	0,728
Role-playing	3,80	1,054
E-learning (an online course)	4,00	0,975

Source: IBM® SPSS® Output

Most academics believed that inviting guest speakers to address students is an effective teaching method. This aligns with the literature, indicating that experts bring a real-world perspective, allowing students to experience cybersecurity's true impact within organisations (Tharapos, 2022). Other areas, such as case studies

(4.34) (See table 8.3), discussion (4.17), and an online course (4), all agree with the teaching methods with scores above 4.

Lower scores (under 4) were obtained in lectures (3.93), working in small groups (3.85) and role-playing (3.80). Academics believe that because of the lack of knowledge of cybersecurity subject matter, lectures were not preferred compared to bringing in an expert (Zhang *et al.*, 2020). Some academics commented on learning methods:

- *"Liaising with stakeholders or industry experts enhances understanding of specific concepts and a practical application of work being covered in the course".*
- *"Effective cybersecurity education requires a versatile and inclusive approach that incorporates practical experiences, diverse perspectives from various fields, continuous learning opportunities, ethical considerations, and collaborative learning. By utilising such teaching methods, educators can equip students with the knowledge and skills to become proficient cybersecurity professionals who are capable of dealing with the complex and ever-evolving cyber threats of the digital age."*
- *"Cyber security is important for professional and personal reasons and needs to be practically understood in order to be implemented. Less theoretical and more practical teaching is necessary."*

Case studies develop students' critical thinking skills, especially in cybersecurity. Moreover, students' reflective ability is developed (Ballantine & McCourt Larres, 2004). On the other hand, discussions foster behaviour and familiarity with cybersecurity concepts (Ismail & Rasheed, 2019). Whilst online courses ranked highly, with an already full curriculum, it becomes difficult to develop a specially designed course. However, this method makes sense in an online-based curriculum (Strauss-Keevy, 2014). Working in small groups and role-playing can be added to projects, but not in class settings, mainly because of time constraints on the content that needs to be covered; hence, these items ranked lower (Rebele & St. Pierre, 2019).

The remaining findings were analysed using Atlas.ti, yielding six themes. These findings are presented in Table 8.4, which shows the codes and selected comments from academics.

Table 8.4: Themes

Theme	Codes	Supporting Quotes
Theme 1: Limited Inclusion of Cybersecurity Within Modules	• Limited coverage, focus on cybersecurity • lack of content in cybersecurity	*"To a limited extent, yes, when doing practical calculations with example data (pretending that it is client data which is confidential)" "Yes, to a very small extent in our General Computer Control module, we simply list the risks and their definitions."* *"I have spoken about it…BUT will make an informed effort now to make them even more aware of it. It is NB" "Not directly, however, some application controls do cover to a small extent cybersecurity risks."*
Theme 2: An Already Full Accounting Curriculum	• Overloaded curriculum • Student workload • Curriculum constraints	*"There is a vast amount of technical knowledge to cover, and adding more aspects such as cybersecurity will increase the technical load on lecturers and students".* *"The curriculum is fairly rigid. Not always an easy process to implement changes. Especially challenging in an ever-changing environment." "A lot of technical content that we need to cover, and students are struggling with the workload. Adding more might be a problem."* *"The volume and complexity of the curriculum. Students grapple with it"*

Theme	Codes	Supporting Quotes
Theme 3: Cybersecurity Should Be Included Throughout the Curriculum	• Embedded approach • Integration into existing modules	*"Part of a curriculum to allow practical application to real-life cases in each module"* *"I think it needs to be integrated into an existing module and integrated through other modules" "Should be incorporated in the existing modules"* *"I think it is better to incorporate it into real-life examples as and when it fits a certain topic being lectured on."*
Theme 4: Cybersecurity Should Also Be Included in an Ethics Module	• Cybersecurity ethics • Professional responsibility • Data protection Cybersecurity • Awareness of threats	*"I think it needs to be integrated into an existing module and integrated through other modules - like ethics."* *"Cybersecurity education has to be looked at holistically in how it fits into the overall graduate program we are creating. I would think it being seen as ethical behaviour to be cybersecurity aware could contribute to pervasive competencies of our graduates"* *"Cybersecurity education for accounting students should be practical, industry-relevant, and ethically grounded, with a focus on continuous learning, adaptability, and interdisciplinary collaboration. By equipping accounting students with strong cybersecurity knowledge and skills, educators can prepare them to navigate the complexities of cybersecurity in their future careers and contribute to the ongoing protection of financial data and systems."* *"It is crucial to include cybersecurity awareness in an accounting curriculum to prepare accounting professionals with the necessary knowledge, skills, and mindset to safeguard financial data, ensure regulatory compliance, sustain client trust, and succeed in an ever-evolving digital and interconnected world."*

(*Continued*)

Table 8.4: Themes (*Continued*)

Theme	Codes	Supporting Quotes
Theme 5: The Use of Case Studies with Real-Life Examples	• Experiential learning • Real-world application • Case study teaching	*"Part of a curriculum to allow practical application to real-life cases in each module"* *"Cybersecurity in the accounting curriculum is essential for students, as most financial industry operations rely on technology. The incorporation of case studies or examples of cyber incidents in the accounting industry can assist students in understanding real-world problems and motivate them to prioritise cybersecurity in their future roles"* *"Bringing in real-life concepts such as cybersecurity, especially those that are topical and in line with global trends." "I think it is better to incorporate it into real-life examples as and when it fits a certain topic being lectured."*
Theme 6: Cybersecurity Offers an Employment Advantage	• Job market demand, competitive advantage • Employer expectations	*"I think it is important for all areas of employment"* *"This will be a great advantage as the market seeks talent that understands the cyber space and anticipates that they will be able to have that additional skill that will add value to the organisation."* *"Now with the 4IR and all the professional bodies adapting their competency frameworks with cybersecurity as a core competency."* *"The inclusion of cybersecurity within an accounting curriculum not only provides students with a competitive advantage in the employment market but also equips them with the skills and knowledge needed to address the complex challenges of cybersecurity in the modern business environment."* *"Cybersecurity is an essential concept to be aware of in everyday life and for students to be exposed to the theory, and also, importantly, practically, will make the students more attractive to employers"*

Source: Own Deduction

4.1. Discussion of Themes

4.1.1. Theme 1: Limited inclusion of cybersecurity within modules

Cybersecurity within the accounting curriculum is included to a limited extent, which concurs with the literature (Dore & Murphy, 2022; Dawson & Thomson, 2018). Cybersecurity, however, is an opportunity for accounting education and practice, which should be included accordingly (Botes *et al.*, 2014). These comments are a clear indication that accounting academics require guidance for the integration of cybersecurity into the accounting curriculum, so that academics have a clearer understanding of how to include cybersecurity in the accounting curriculum (Kee, 2024).

4.1.2. Theme 2: An already full accounting curriculum

One thing that accounting students have in common is a heavy workload. Whilst curriculum constraint is a factor to be considered, adding cybersecurity will give accounting students an added advantage (Meyer, 2021). Given this constraint, it is suggested that cybersecurity be spread throughout the curriculum to make it manageable and can be embedded into core modules (Rebele & St. Pierre, 2019)

4.1.3. Theme 3: Cybersecurity should be included throughout the curriculum within core modules

Meyer (2021) suggests that cybersecurity should be included in the curriculum, and where capacity constraints are not a factor, an entire course can be developed for accounting students. A spread throughout the curriculum reduces the stress of adding an entirely new course and provides accounting students with ongoing cybersecurity education. Core modules include Accounting, Auditing, Financial Management and Taxation (Boss *et al.*, 2022).

4.1.4. Theme 4: Cybersecurity should also be included in an ethics module, emphasising the importance of awareness of threats

The IESBA has emphasised the importance of ethics around data and having the necessary cybersecurity awareness of threats (IESBA, 2022). Given that accounting students are

required to be prepared for their careers, data security is an ethical obligation that requires action to prevent cyberattacks. Accounting education in cybersecurity equips future accountants with the knowledge to protect client information, comply with legal regulations, and prevent financial fraud. Academics see cybersecurity awareness as an important component, and this should be seen as part of ethics (Roohani & Zheng, 2019). Cybersecurity awareness is often regarded as a skill that students are required to obtain (Birt *et al.*, 2018).

4.1.5. Theme 5: The use of case studies with real-life examples

Many academics believe that integrating case studies and using experts will enhance the cybersecurity education that is offered to students. Case studies allow students to relate to the case study and enhance critical thinking skills. Students are also better prepared for the workplace with exposure to real-life case studies. Whilst case studies are the preferred method, academics require guidance on developing them. Self-developed case studies have yielded better results (Keevy, 2022).

4.1.6. Theme 6: Cybersecurity offers an employment advantage

With the increased use of technology and advances in the Fourth Industrial Revolution (4IR) era, opportunities in areas like cybersecurity have grown. The World Economic Forum (WEF) has listed cybersecurity as a future priority (WEF, 2023). This area can be utilised, and accounting students can contribute, especially in cybersecurity, risk management, and governance.

4.1.7. Deduction from themes

The themes suggest that cybersecurity wasn't incorporated into current accounting modules. This was mostly because the courses were already very full. However, academics emphasise that cybersecurity should be included throughout the curriculum, given its importance in today's digital economy. Furthermore, academics argue that cybersecurity should be included in an ethics module, given its ethical implications. Experts and case studies were also seen as important by academics, and many believe that cybersecurity knowledge will give students an employment advantage.

5. Conclusion

This study provides valuable insights into accounting academics' perspectives on cybersecurity education for accounting students. The findings indicate that accounting academics have a limited understanding of cybersecurity and require guidance on this topic. Additionally, cybersecurity should be integrated throughout the curriculum, including core modules (Accounting, Auditing, Financial Management, and Taxation) and Ethics.

This study provides valuable insights into accounting academics' perspectives and understanding of cybersecurity in the accounting curriculum. The findings of this study indicate that accounting academics do not fully understand cybersecurity and need guidance when incorporating it. Various teaching methods, such as lectures, discussions, small-group work with other students, guest speakers who are cybersecurity experts, case studies, role-playing, and e-learning (an online course), can be used to teach cybersecurity. Real-life case studies will add additional value in providing students with the required understanding. While accounting academics recognise cybersecurity's importance in the accounting curriculum, they need further guidance on how to incorporate it.

Limitations are noted. This study focused on accounting academics at a single university, which may limit the generalisability of the findings to other institutions or broader accounting education contexts. Further studies could also investigate cybersecurity awareness amongst accounting students and academics. In addition, future research could explore how emerging technologies such as AI and blockchain are being addressed within accounting education, alongside cybersecurity, to ensure that students are well-prepared for a digital economy.

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Chapter 9

Evaluating the Critical Role of Work - Integrated Learning in Shaping Auditing Knowledge and Skills: A Systematic Review of Simulation-Based Learning

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Abstract

Auditing courses are often perceived as challenging and theoretical, leading to student disengagement (Barac *et al.*, 2016). Traditional teaching methods tend to focus on technical skills without sufficiently integrating real-world applications. As early as 2003, the Education Committee of the American Accounting Association noted that audit education would need to be transformed to incorporate information technology into the syllabus to develop prospective auditors fit for the 21st century (AAA, 2003). In class, methods of teaching outline a principle-based approach, emphasising technical knowledge rather than practical application (Samkin & Stainbank, 2016). If used effectively and purposefully, work-integrated learning (WIL) facilitates the development of a structured approach to embedding concepts and theories learned (Helyer, 2015). The purpose of this study is to analyse the role played by work-integrated and simulation-based learning in enhancing auditing knowledge and

skills. The qualitative research approach, employing a systematic literature review, aims to synthesise data on simulation-based learning in undergraduate auditing studies. A future-fit audit practitioner will be expected to exhibit proficiency in accounting technical knowledge and the related abilities to think analytically and creatively, which are vital skills for employees in various industries (WEF, 2023). Understanding how WIL and innovative teaching strategies can enhance learning outcomes will help connect academic theory and industry expectations. Improving student engagement and employability in auditing is crucial to preparing graduates for the dynamic demands of the profession, especially in the rapidly changing business environments.

Keywords: Auditing; Knowledge; Simulation-based learning; Skills; Work-integrated learning

1. Introduction

The traditional classroom setting often fails to fully prepare students for the complexities and nuances of real-world auditing, a field that relies heavily on practical skills and professional judgement (Albrecht & Sack, 2000). While theoretical knowledge in audit provides students with the foundational principles, frameworks, and standards that support the field, practical knowledge involves applying these principles in complex, often unpredictable scenarios (Blair *et al.*, 2004). Since the early 1990s, the American Accounting Association has identified a foundational gap in its "White Paper." The report highlighted that graduates with accounting degrees frequently enter the workforce without the necessary skills to meet the demands of the professional environment (American Accounting Association, 1986). Since then, Albrecht and Sack (2000) state that this is because education providers focus on teaching theoretical concepts, while insight into these concepts is developed only through exposure to the business world. Gault *et al.* (2010) further emphasise "that students continue to experience difficulties in bridging the gap between theoretical knowledge and its practical application in business settings". This situation has not changed over the last several decades, as Lew *et al.* (2025) state that "the traditional accounting curriculum frequently prioritises theoretical knowledge and

technical skills, which may not adequately equip students for the intricate, data-driven demands of contemporary workplaces".

It is well established that the hidden curriculum in higher education is the ensemble of tacit norms, values, and power relations that students absorb through the routines, assessment designs, and supervisory practices of higher education, which is distinct from the formal syllabus but no less formative (Jackson, 1968; Bourdieu *et al*., 1977; Margolis, 2001). In simulation-based learning and WIL for auditing, the hidden curriculum is conveyed through what simulations reward (speed, procedural compliance, client appeasement) versus what they marginalise (deliberation, professional scepticism, public-interest reasoning), as well as through unwritten expectations in feedback, workload, and team roles, thereby shaping students' sense of what "good" audit practice looks like (Apple & Apple, 2004; Giroux, 1983; Sebele-Mpofu, 2024). Attending to this hidden layer is essential; it reveals how curricular intent can be undermined by taken-for-granted routines and by what courses leave unsaid, the null curriculum that withholds crucial ethical and interpersonal competencies unless made explicit (Eisner, 1994). Recent work demonstrates practical ways to surface and purposefully shape the hidden curriculum; for example, structured soft-skills interventions co-designed with student-affairs personnel, which you can adapt for auditing simulations (Ragland *et al*., 2024).

The International Federation of Accountants (IFAC) is the global organisation for the accountancy profession, dedicated to serving the public interest by strengthening the profession and contributing to strong international economies. IFAC has published several education standards that set out the scope and objectives of the technical competencies that aspiring professional accountants need to develop and demonstrate to perform their role as professional accountants (IFAC, 2025). These competencies include, but are not limited to, financial accounting and reporting, taxation, management accounting and audit (IFAC, 2025). Thus, in the context of this chapter, reference to accounting education includes auditing education as a subset.

Students are typically introduced to auditing concepts early in their academic journey, often during their undergraduate studies. However, many students lack practical experience at

this stage, making it difficult for them to conceptualise how audits operate in real business environments. As a result, their understanding is often limited to theoretical knowledge, with little exposure to the practical application of auditing processes. (Bennet *et al*., 1999). Recent work echoes this enduring gap, noting that traditional accounting curricula still prioritise theoretical and technical content, which may not adequately prepare students for contemporary, data-driven workplace demands (Lew *et al*., 2025).

Crawford *et al*. (2011) highlight that while textbooks, professional training manuals, and lecture handouts are essential for developing intellectual knowledge in auditing education, these resources alone are insufficient. Auditing concepts are inherently abstract, making them challenging for students to grasp and even more difficult to apply in practice. Therefore, an additional component beyond passive learning is necessary to complete the learning process — an element often lacking in many auditing courses (Albrecht & Sack, 2000). Albrecht and Sack (2000) further argue that a key issue in accounting degree programmes is the overemphasis on traditional lecturing, which often fails to convey practical knowledge. Similarly, Botha (2001) suggests that accounting education may be fundamentally flawed, as it tends to prioritise examination preparation and knowledge acquisition over the development of principles essential for future practical application. Classroom-based theoretical knowledge is often limited by its reliance on static examples and controlled scenarios that cannot fully capture the dynamic nature of real-world audits. This is because there is no embedding of knowledge arising from participatory insight (Frick *et al*., 2010; Rudman & Terblanche, 2011). For example, while students may understand the need for independence in theory, the complexities of maintaining independence under pressure from clients or management can only be truly understood in practice.

Chiang *et al*. (2021) note that traditional auditing education models rely heavily on theory-based pedagogies, which may not adequately prepare students for the practical challenges which they will encounter in real-world settings. Theoretical knowledge includes studying principles and standards (e.g., International Standards on Auditing, ISA) (SAICA, 2023) that guide audit work.

Students learn about concepts such as risk assessment, materiality, and evidence gathering, which form the basis for understanding what an audit entails. Auditing theory also covers the regulatory environment in which auditors operate, including compliance with laws, ethics, and codes of conduct (CPC), such as the South African Institute of Chartered Accountants' code of professional conduct and the code of professional conduct of the Independent Regulatory Board for Auditors. This knowledge prepares students to understand the "why" behind many auditing practices, but not necessarily the "how". Furthermore, auditing education has been criticised for failing to provide a balanced integration of theoretical knowledge, real-world application, and hands-on experience (Buckless *et al.*, 2014). As a result, practical insights from real-world auditing are seldom incorporated into classroom instruction (Chiang *et al.*, 2021). This presents a significant challenge for accounting educators, who must ensure that students can effectively apply theoretical knowledge in real-world business environments. Additionally, it is crucial that auditing students develop a comprehensive understanding of key concepts.

The South African Institute of Chartered Accountants (SAICA) has revised its competency framework multiple times to address the evolving demands of the accounting profession and to mitigate issues identified in the training and preparation of chartered accountants (CAs) in South Africa. These updates ensure that CAs develop skills that align with modern business environments, emphasising ethics, technology, and business acumen. Since the revisions to the *Competency Framework* in 2009 and 2016, and now with the introduction of the "CA of the Future" framework, SAICA has recognised the necessity of these changes. The 2009 revision emphasised the need for students to conceptualise the business environment within their academic studies. The CA of the Future framework further specifies the professional competencies required of an entry-level CA (SA), highlighting professional values and attitudes (PVAAs), enabling competencies, and technical competencies essential to the profession (CA2025, 2020).

Technical skills remain of the utmost importance to graduates and "get them in the door" (Low, Botes, de la Rue & Allen, 2016), but greater emphasis is placed on "being more

human" by developing professional skills such as a grasp of ethics, lifelong learning, analytical and critical thinking skills, as well as communication and networking abilities to work effectively in a collaborative manner (Barac, 2009; Crawford *et al.*, 2011; SAICA, 2023). The training model for South African Chartered Accountants must include learning opportunities to develop and practise competencies and lay the groundwork for a lifelong learner able to learn, unlearn, and relearn (CA2025, 2020).

However, despite incorporating activities to develop personal values, attributes and attitudes into university curricula, there remains a gap in exposing students to practical, real-world applications of these disciplines. Morley and Jamil (2020) expand on this, stating that these efforts often lack a link to real-world or applied contexts. Recent evidence confirms that while universities promote soft skills and values development, students rarely have opportunities to apply these competencies in authentic settings (Otermans *et al.*, 2023; Vlachopoulos & Makri, 2024). Many students struggle to connect theoretical knowledge with real-life scenarios, lacking the experiential stimulation that fosters this integration. SAICA asserts that while academic study is crucial for acquiring foundational accountancy knowledge and principles, it does not alone guarantee the achievement of the full spectrum of professional competencies needed in the training programme. Students often focus on technical theories to pass examinations without sufficient emphasis on applying these concepts practically in business contexts - a limitation highlighted by Botha (2001). One promising solution to this challenge is the integration of simulation-based learning, which can potentially create more realistic and immersive learning environments that can better prepare students for the demands of the auditing profession (Bell *et al.*, 2008; Samaras *et al.*, 2021).

This study undertakes a systematic literature review of peer-reviewed research on simulation-based learning and work-integrated learning (WIL/articles) in auditing or accounting higher education, including work on hidden-curriculum effects. This systematic review examines the critical role of

work-integrated learning,[1] specifically through simulation-based learning, in shaping auditing knowledge and skills. The review examines how simulation-based learning can foster active learning in auditing education, drawing on evidence from studies investigating the impact of experiential learning activities, such as mini-audit assessments, on student engagement and learning outcomes (Chiang *et al.*, 2021; Lightweis, 2014).

The review also explores the potential of simulations to develop students' critical thinking skills, a key attribute required for successful auditing practice. Findings from the literature suggest that simulations can promote recursive learning, enabling students to evaluate their successes and failures and make strategic adjustments, ultimately leading to higher critical thinking outcomes than more passive learning approaches such as case studies (Samaras *et al.*, 2021). Moreover, the review highlights the importance of incorporating student-oriented educational experiences, such as including reflective journals and real-life scenarios, to supplement simulation-based learning in auditing education. This multifaceted approach can help students to develop a more holistic understanding of the auditing profession, including the interpersonal skills and ethical considerations needed to navigate complex real-world scenarios.

The findings of this systematic review have significant implications for the design and implementation of auditing education programmes. By embracing simulation-based learning and work-integrated learning opportunities, educators can better prepare students for the demands of the auditing profession, fostering the development of critical thinking skills, practical knowledge, and professional competencies that are crucial for success in the field (Chiang *et al.*, 2021; Goh *et al.*, 2021; Lightweis, 2014; Samaras *et al.*, 2021).

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[1] Various terms are used to describe work-integrated learning, including, but not limited to: practical work experience, including internships, vacation work, apprenticeships, and practical training in research articles. Although these terms may differ slightly, they all refer to opportunities for students to gain hands-on experience in their chosen profession by working with potential future employers and performing tasks relevant to their prospective roles. Throughout the chapter, these terms are used interchangeably.

The systematic review draws on various sources that highlight the benefits of simulation-based learning and WIL in auditing education. The evidence suggests that these approaches can foster active learning, develop critical thinking skills, and bridge the gap between theoretical knowledge and practical application. As auditing education continues to evolve, integrating simulation-based and WIL will be crucial for shaping the knowledge and skills of future auditors, enabling them to navigate the complexities of the profession with confidence and competence.

2. Research Objective and Contribution

Auditing programmes still wrestle with a persistent theory–practice gap. While simulations and WIL are widely promoted, we know far less about *how* their design features transmit tacit norms — i.e., the hidden curriculum that shapes what students come to see as "good" audit practice.

The objective of this study is to investigate whether WIL, through classroom simulations, enhances students' understanding and ability to apply auditing concepts. By examining the relationship between theoretical knowledge and practical application, the study aims to assess whether this real-life, active learning can effectively bridge the gap that students often encounter when engaging with the practical aspects of auditing to shape auditing knowledge and skills.

The review aims to determine:

- What effects do simulations and WIL / articles have on cognitive outcomes (e.g., critical thinking, professional scepticism), practical performance, and professional values or ethics in auditing HE?
- Which design features (e.g., authenticity or fidelity, reflective journalling, debriefing, assessment alignment, team roles, technology) are linked to stronger outcomes?
- How do these pedagogies surface, transmit, or counteract tacit norms (what gets rewarded vs. what gets marginalised), and which strategies make the hidden curriculum explicit?
- Where are the evidence gaps, and what design or research agenda follows?

This review makes three interlocking contributions to auditing education. Firstly, it provides the first auditing-specific systematic review to integrate a hidden-curriculum lens into the evaluation of simulation-based learning and WIL, emphasising how designs tacitly shape what "good" audit practice looks like. Secondly, it moves beyond generic engagement claims to interrogate the implicit assessment messages and patterns of professional socialisation embedded in tasks, feedback, and debriefing. Thirdly, it translates the evidence into discipline-specific design guidance, including fidelity, reflection, debrief, and assessment alignment explicitly mapped to the SAICA competency framework, thereby offering actionable principles for curriculum and study design.

By synthesising the existing literature on this topic, this systematic review contributes to a deeper understanding of the benefits and best practices for incorporating simulation-based learning and WIL into auditing education.

3. Methodology

3.1. Research Paradigm

The paradigm guiding this systematic review is interpretivism, chosen because the study seeks to uncover the meanings and context-specific dynamics through which simulation-based learning and WIL influence the development of auditing knowledge, skills, and professional values. Rather than testing causal relationships, the interpretivist stance privileges understanding the experiences, perceptions, and interactions that shape learning and professional socialisation (Goñi, 2025; Noblit, 2019).

Interpretivism is particularly suited to exploring the hidden curriculum, which encompasses the tacit norms, values, and expectations embedded in educational practices (Sebele-Mpofu, 2024; Olanya *et al*., 2023). In auditing education, these unspoken messages — about professional scepticism, independence, or client relationships — are often transmitted implicitly through assessment design, feedback practices, and simulated workplace interactions. Adopting an interpretive lens, thus, enables this review to examine how simulation and WIL pedagogies

communicate such norms, shaping students' emerging sense of what "good" audit practice looks like.

The review was guided by the following contextual research questions:

1. How do simulation-based and WIL approaches influence cognitive outcomes (e.g., critical thinking, professional scepticism), practical performance, and ethical or professional values in auditing education?
2. Which design features of simulations (e.g., authenticity, reflection, debriefing, assessment alignment, teamwork) contribute most effectively to these outcomes?
3. How do these pedagogies surface or transmit tacit norms — the hidden curriculum — that shape students' perceptions of professional identity in auditing?
4. What conceptual or empirical gaps remain in the literature regarding simulation, WIL, and hidden-curriculum effects?

An interpretivist orientation also informs the methodological process of this systematic review. Recent scholarship confirms that systematic and interpretive approaches are compatible when the goal is to synthesise complex, context-bound phenomena (Goñi, 2025). The review applies a transparent and replicable search strategy (aligned with Lame, 2019) while adopting interpretive thematic synthesis to generate new conceptual insights rather than purely aggregative findings (Depraetere *et al.*, 2021). The interpretive paradigm shaped all stages of the process:

- Study selection emphasised qualitative and mixed-methods research capturing participant meanings and experiences within auditing education.
- Coding and synthesis employed inductive thematic analysis, akin to meta-ethnography, to derive higher-order interpretations from the primary studies.
- Interpretation examined how educational designs and classroom practices embed tacit expectations about performance, ethics, and professional judgement.

By situating simulation and WIL within an interpretivist epistemology, the review advances understanding of these

pedagogies as socially mediated learning environments that construct professional identity rather than merely as instructional tools. This paradigm, thus, guides the chapter's unique contribution: the first auditing-specific systematic review to integrate a hidden-curriculum perspective into the evaluation of simulation and WIL.

Where previous reviews have tended to treat simulations as neutral engagement mechanisms (Chernikova *et al.*, 2025; Ferns *et al.*, 2025), this study reconceptualises them as sites of tacit professional socialisation, revealing how assessment design, reflection, feedback, and team dynamics shape implicit understandings of independence, scepticism, and ethical reasoning. Such an interpretive synthesis aligns with the interpretivist view that educational meaning is co-constructed amongst students, educators, and institutional contexts, and directly supports the book's broader focus on uncovering hidden curricula in professional education.

3.2. Research Design and Sampling

A systematic literature review with an interpretive synthesis orientation, following a transparent, pre-specified protocol, was conducted. The protocol defined the research questions, eligibility criteria, information sources, search strings, screening procedures, data-extraction fields, quality appraisal tools, and synthesis plan.

Scopus, Web of Science Core Collection, and ERIC were selected as primary databases for their comprehensive coverage of accounting, business or management, education, and professional-education scholarship. To ensure field relevance, the reference lists of included studies and domain-proximal journals in auditing or accounting education were also manually investigated.

Searches covered 1 January 2000 to 17 October 2025, capturing contemporary simulation and WIL developments while allowing historical context for auditing education. Screening and data extraction were conducted manually, with automation limited to duplicate detection within the reference manager.

3.3. Research Method

Data extraction. We developed and piloted a structured form capturing: bibliographic data; country or setting; participant characteristics; pedagogical modality (simulation type, WIL format); design features (authenticity or fidelity, data or technology use, reflection or journalling, debriefing structure, team roles, assessment alignment); comparators; outcomes (knowledge or skills; critical thinking or professional scepticism; professional values or identity; performance proxies); analytic approach; key findings; and author-reported limitations. Two reviewers independently extracted data for a 20% to 25% calibration set, reconciled discrepancies, then completed the remainder with periodic reliability checks.

Consistent with the interpretivist paradigm, an interpretive thematic synthesis (meta-ethnography-informed) was used. Analysis proceeded in three layers:

1. coding of first-order data (participants or authors' constructs) and second-order interpretations (study-level themes) across included studies;
2. translation of themes across studies to identify convergences or divergences in how simulation/WIL design features relate to outcomes;
3. line-of-argument synthesis explaining how and why design choices (authenticity, debriefing, reflection, assessment pressures, team structures, technology) may transmit or counteract hidden-curriculum messages about "good" audit practice.

To enhance credibility and reliability, an audit trail was maintained, and themes were re-read to test stability, excluding lower-quality studies. Findings were organised around the meta-themes derived from the synthesis.

3.3.1. Data Extraction and Analysis

A structured data-charting template (spreadsheet) capturing: bibliographic details; country or setting; participant profile; pedagogy (simulation or WIL subtype); design features (authenticity or fidelity; technology or data use; reflective journalling; debrief structure; team roles; assessment alignment);

study design; outcomes (knowledge or skills; critical thinking or professional scepticism; values or identity; practice performance); analysis approach; findings; limitations were developed. Records were first de-duplicated in the reference manager, after which all screening and extraction were completed manually. The studies were analysed by tagging text segments with labels (qualitative coding). The data was manually tagged using a shared set of labels and recorded in a master spreadsheet with the same labels to compare and confirm the tagging.

Guided by the review questions, a codebook was developed, including codes for structural and design features. Definitions, inclusion or exclusion notes, and indicative quotations were recorded for each code. Each study was manually assessed. Studies were not solely excluded based on quality; instead, quality ratings informed the strength of the interpretation of the findings. Manual sensitivity checks were performed by re-running the thematic synthesis, temporarily removing lower-quality studies, to see whether the main themes held. All decisions were documented in an audit trail to support transparency and replicability.

3.4. Data Analysis and Ensuring the Trustworthiness of the Conclusions

Consistent with the interpretivist stance, an interpretive thematic synthesis was conducted. A data-charting spreadsheet was maintained to preserve an auditable link between studies, codes, and themes, and screening and extraction were conducted by two reviewers. Selection criteria focused on auditing-specific studies that examine how WIL, hands-on experience, and practical applications help students to bridge gaps in theoretical knowledge. Articles were meticulously reviewed through screening and keyword identification, ultimately selected for in-depth analysis and summarisation of findings.

Credibility was enhanced through dual screening and dual extraction and actively searching for studies that challenged emerging interpretations. Furthermore, researcher bias was minimised by preserving verbatim first-order evidence (participant or author quotations) linked to nodes. Selection and publication bias were reduced by combining database searches (Scopus, Web of Science, ERIC, ResearchGate, Google Scholar

and AABFJ) with backwards and forwards citation tracking and hand-searching of domain-proximal journals, with duplicates being removed and all remaining screening or manual extraction steps performed without automation.

4. Findings and Discussion

This literature review was conducted through a comprehensive, structured analysis of articles, with the aim of identifying whether experiential learning, WIL, and vacation work can bridge the gap which many students face in understanding theoretical knowledge in auditing and thereby address the research question identified. This literature review examines the role of internships and classroom simulations in developing students' practical auditing skills. It focuses on key studies, theoretical frameworks, and experiential learning models, offering insights into how WIL and auditing internships enhance students' ability to apply their knowledge effectively. These discussions emphasise the importance of experiential learning strategies in equipping students with the competencies required for real-world auditing practice.

Over the past few decades, auditing academics have acknowledged the challenges associated with traditional teaching approaches and have proposed several solutions. The use of case studies, real-life examples, and simulations has been widely recommended as an effective strategy for addressing specific challenges in auditing education (Chaffey *et al.*, 2011; Clikeman, 2005). These methods aim to bridge the gap between theoretical instruction and practical application, enhancing students' understanding of complex auditing concepts. More recently, researchers have provided empirical support for audit simulations tailored to diverse learning styles, showing improvements in student engagement and performance (Elsayed & Hassan, 2024).

For instance, audit simulations can create immersive, scenario-based environments in which students apply concepts under conditions that resemble real auditing work, promoting deeper comprehension and professional judgement. Carefully designed case studies likewise continue to provide structured - but realistic - contexts for students to practice decision-making,

especially when supplemented by guided reflection and scaffolding (Muslim, 2024).

However, despite these advancements, the review also highlighted potential challenges and limitations in implementing these learning approaches. Careful planning and design of simulation-based learning activities are required to ensure that they effectively align with learning objectives and provide a meaningful learning experience for students.

The systematic review identified several key findings highlighting the benefits of incorporating simulation-based and WIL into auditing education. Simulation-based learning has been shown to foster active learning and engagement amongst auditing students, allowing them to apply their theoretical knowledge to realistic scenarios and receive feedback on their performance. The competitive and iterative nature of business simulations can promote recursive learning, thereby developing critical thinking skills essential to successful auditing practice (Samaras *et al.*, 2021).

Work-integrated learning strategies - such as internships, supervised placements, and practice-oriented case studies - continue to play a crucial role in helping students to bridge the gap between academic knowledge and the practical demands of the auditing profession. Through engagement in real-world or simulated scenarios and structured reflection, students develop deeper insights into the competencies and professional judgement required in auditing practice (Jackson, 2025; Macqueen *et al.*, 2025). These methods enable learners to contextualise theory, cultivate soft skills (e.g., communication, collaboration, critical thinking), and build confidence in applying auditing techniques (Schneider *et al.*, 2024).

Nonetheless, the literature also flags significant challenges in designing and implementing WIL and simulation interventions. Supervisors report difficulties in tailoring internship tasks to individual student abilities, balancing academic–work demands, and aligning simulation design with authentic learning outcomes (Schneider *et al.*, 2024; Gawel *et al.*, 2025). Furthermore, within accounting education, the rapid digital transformation means that curricula must evolve to incorporate technology, analytics,

and real-world complexity, or risk simulations that feel disconnected from industry practice (Andriani & Wahyudi, 2025). Careful planning and alignment of simulation-based learning with curriculum objectives and professional realities are essential to ensure that these interventions deliver meaningful learning rather than superficial engagement.

This study explored how auditing internships and simulation-based learning methods help to bridge the gap between theoretical knowledge and its application in real-world scenarios. The literature indicates that, through these methods, students develop a stronger conceptual understanding of the audit process, thereby directly enhancing their ability to apply theoretical knowledge in practice. Additional skills cultivated through these experiences include transferable and soft skills, as well as increased confidence in applying auditing techniques. Furthermore, a clear correlation was observed between participation in experiential learning and improved academic performance. The results highlight a clear need to reconsider existing educational approaches within auditing programmes. The following section, therefore, explores current teaching methodologies to evaluate how effectively they prepare students for the realities of professional auditing practice.

It must be highlighted that throughout, the terms experiential learning, WIL (including internships or vacation work), and simulation-based learning are used as umbrella terms per the opening footnote; our analysis emphasises common design mechanisms (authenticity, reflection or debrief, assessment alignment, team roles) and notes when evidence is simulation-specific.

4.1. Auditing Education Practices and Teaching Methodologies

The prevailing auditing curriculum remains heavily anchored in theoretical instruction, relying on lectures, textbooks, and structured examples that often fail to reflect the complexities of real-world auditing practice (Albrecht & Sack, 2000; Lin & Yu, 2024; Elsayed & Hassan, 2024). While foundational knowledge is essential, this approach tends to prioritise examination success

over the cultivation of critical thinking, professional scepticism, and ethical reasoning - competencies central to the SAICA CA2025 framework and the broader goals of professional formation.

Recent literature critiques this imbalance, calling for pedagogical reform that integrates experiential learning and simulation-based methods to bridge the theory–practice gap (Dierynck *et al.*, 2024; Rumasukun, 2024). Audit simulations, for instance, enable students to visualise workflows and apply discrete concepts in coherent, authentic scenarios, fostering professional judgement and contextual understanding (Elsayed & Hassan, 2024). These interventions align with the interpretivist paradigm guiding this review, which emphasises the co-construction of meaning through situated learning experiences.

Moreover, the hidden curriculum - comprising tacit norms and values embedded in educational practices - plays a critical role in shaping students' perceptions of "good" audit practice (Sebele-Mpofu, 2024). Traditional methods may inadvertently reinforce procedural compliance and rote learning, while simulations and WIL offer opportunities to surface and challenge these implicit messages. For example, simulations that reward speed and client appeasement may marginalise deliberation and scepticism unless intentionally designed to emphasise ethical reasoning and reflective practice.

To address these challenges, auditing education must evolve to incorporate integrative pedagogies that reflect the realities of professional practice. This includes embedding design features such as authenticity, feedback, and reflection into simulation and WIL activities, and aligning them with SAICA's competency framework. Doing so not only enhances technical proficiency but also cultivates the interpersonal and ethical capacities essential for future auditors.

4.2. Learning Methods

David Kolb, an American educational theorist, formalised the concept of experiential learning in 1984. This approach is not merely a modern trend but is deeply rooted in established pedagogical frameworks. Experiential learning emphasises the acquisition of knowledge, skills, and values through direct,

practical experiences rather than relying solely on passive classroom instruction. It promotes active engagement through action and reflection, allowing students to learn by doing and thinking critically about their experiences (Kolb, 1984).

In auditing education, experiential learning, such as internships and practical coursework, helps to bridge the gap between theory and practice, providing a comprehensive understanding of the audit process (Helliar *et al.*, 2009; Kolb, 1984). This hands-on approach also supports diverse learning styles and develops critical thinking skills by challenging students to explore various problem-solving approaches (Kolb, 1984; Moon, 2013). WIL programmes further facilitate the application of theoretical knowledge in real-world contexts, enhancing both technical and professional competencies. In auditing, WIL typically involves internships, short-term placements such as vacation work where students experience the workflow and responsibilities in auditing firms (Albrecht & Sack, 2000; Edward Beck & Halim, 2008). Research suggests that the absence of formal work experience in many auditing curricula limits students' ability to apply academic concepts in practice (Ballantine & McCourt Larres, 2004; Heffernan *et al.*, 2010). Integrating structured experiential learning into auditing programmes can align academic curricula with industry demands, helping students to acquire practical skills such as critical thinking, professional judgement, and communication, which are essential during their studies and for a successful career in auditing (Jackling & De Lange, 2009).

In various professional fields, such as healthcare and medical sciences, education, law, engineering, social work, and human services, completing fieldwork or practical experience is a mandatory requirement for obtaining a degree (Gault *et al.*, 2010; Sweitzer & King, 2013). In contrast, auditing in South African higher education institutions predominantly relies on theoretical instruction delivered through lectures and tutorials, with limited opportunities for students to engage in practical, real-world work during their studies. While countries such as Australia, New Zealand and those in the United Kingdom actively promote a model of concurrent study and work, enabling students to gain practical experience alongside their

academic commitments (Heffernan *et al*., 2010), this approach is less common in South African auditing education. Although some accounting programmes offer students the opportunity to work while studying, many students, especially those in their final postgraduate year, tend to focus exclusively on academic commitments before entering the workforce (SAICA, 2020).

However, embedding the WIL model into the educational process remains a serious challenge for all stakeholders, including universities, instructors, hosts, employers, supervisors or mentors, professional communities, and students, as it requires significant effort from all parties and entails additional financial costs. By engaging students, activities such as gamification and simulations may simultaneously distract students from the task of acquiring basic professional skills (Sidorova *et al*., 2023). While accounting apprenticeships and articled clerkships offer vital professional exposure, commencing only after formal degree studies risks arriving after the optimal window for embedding theoretical understanding. In the South African pathway, articles (the three-year SAICA training contract) occur after completion of academic qualifications (Terblanche & Waghid, 2020); yet first-year trainees are already expected to possess core knowledge and competencies developed by the academic programme (Ako Oben *et al*., 2022), with persistent gaps observed in key professional skills at the point of entry (Kotze & Miller, 2023), emphasising calls to embed WIL and authentic application within the degree rather than relying on post-study apprenticeship to consolidate theory (Leong & Kavanagh, 2013).

Simulations are powerful tools in accounting and audit education, helping students to understand complex auditing processes without the risks associated with real-world auditing (Apostolou *et al*., 2013). This hands-on experience reinforces students' technical knowledge and helps to develop critical thinking and decision-making skills, which are essential for effective auditing (Bonner, 1999). Simulations provide a realistic but controlled setting in which students can apply auditing principles and techniques. Common types of simulations include case-based learning, role-playing exercises, and digital audit simulations. Digital audit tools, such as ACL or IDEA software, allow students to analyse data, perform audit procedures, and

generate findings in a structured environment, preparing them for technology-driven audit practices (Pratt & Stice, 2010). This controlled environment enables students to practice skills without the high stakes associated with real-life audits. By allowing students to perform tasks such as risk assessments, sampling, and evidence evaluation, simulations provide hands-on experience that is closely aligned with the actual audit process (Munter & Reckers, 2009). Research indicates that students trained through simulations demonstrate improved analytical and interpersonal skills, including teamwork, communication, and professional scepticism (Sin *et al*., 2015). By working through simulated audit cases, students gain familiarity with ethical dilemmas and the professional judgement required in auditing, thereby preparing them for the practical challenges of audit work (McDuffie, 2017).

Based on the literature review performed, the following areas were present in the literature regarding the benefits of work-integrated and simulation-based learning:

- Technical skills and conceptualisation
- Development of transferable skills
- Soft skills
- Academic performance
- Confidence Workplace preparedness.

4.2.1. Technical Skills and Conceptualisation

One key benefit of experiential learning for students is the enhancement of conceptual understanding. Conceptualisation enables students to grasp the broader context of the audit process, recognising how each component integrates and how each step would be implemented in real-world scenarios. This process involves transforming abstract and theoretical knowledge into a coherent framework, making it easier to understand, apply, and visualise. It connects theoretical concepts directly to practical applications in real-life settings.

Each stage in the audit cycle develops specific skills, such as identifying client risks, testing internal controls, and preparing audit reports. Understanding the audit cycle helps students to see how each stage contributes to the overall audit objectives (Edward Beck &

Halim, 2008). In classroom settings, students often learn about the audit process in a segmented way, studying individual components such as planning, audit evidence, and reporting separately. However, internships allow students to observe and participate in the full audit cycle, from initial risk assessment to final reporting (Jackling & De Lange, 2009). Interns witness first-hand how auditors develop the scope of an audit, conduct risk assessments, and make strategic decisions about where to focus efforts based on the client's specific risks. Being part of this structured process helps students to gain a more holistic understanding of audit workflows, aligning academic concepts with real audit tasks, experiencing real-world auditing standards and procedures, and noting that practical exposure helps students to understand the iterative nature of the audit process and the importance of professional judgment (Knechel, 2013).

Auditing involves adherence to strict regulatory frameworks, International Standards on Auditing (ISA), and other industry-specific regulations. While academic programmes cover these standards, applying them in live audits presents unique challenges. Exposure to how professionals interpret and apply regulatory standards across industries is important, as it helps students to internalise the principles of compliance and quality, preparing them for roles where adherence to standards is critical (IFAC, 2018). They learn to follow these guidelines when performing procedures such as financial statement reviews, control assessments, and compliance checks. This experience helps them to see the importance of standards in maintaining audit quality and accountability (Knechel, 2013). This type of learning is limited in classrooms and difficult to conceptualise without the proper context of a professional setting; therefore, it is essential for students to visualise and conceptualise the entire audit process to bridge the gap between theory and practice and effectively understand it.

Risk assessment and internal control evaluation are key components of the audit process. While students may study these topics in theory, internships offer the opportunity to apply them by assessing risk areas within client operations and evaluating the effectiveness of internal controls. This exposure deepens students' understanding of how internal controls operate

within the day-to-day constraints of actual business practices, assisting students in understanding not just the "what" but also the "why" of internal control systems, and providing insight into how controls are designed to address specific business risks (Albrecht & Sack, 2000; Edward Beck & Halim, 2008). For example, they may participate in walkthroughs to understand a client's operational flow and control measures, then assist in testing these controls to verify their effectiveness. This experience reinforces the significance of risk assessment as a foundational step in protecting an organisation's financial integrity, helping them to understand the importance of controls in safeguarding organisational assets and ensuring accurate financial reporting (Jackling & De Lange, 2009).

4.2.2. Development of Transferable Skills

One of the main findings is that audit internships and simulations help students to build transferable skills such as critical thinking, problem-solving, the development of professional judgement, and professional scepticism. Professional scepticism is one of the skills ranked highest amongst participants in experiential learning methods.

Professional scepticism is a core competency in auditing that involves questioning assumptions and critically evaluating evidence to identify areas where errors, irregularities, or even fraudulent activity might occur (Hurtt *et al.*, 2013). Professional scepticism is taught in classrooms and emphasised throughout the entire audit process to maintain this skill. In the classroom, cases are often simplified for teaching purposes, lacking the complexity of real audits. Auditing in practice involves real deadlines, budgets, and client expectations, conditions that can influence judgement. Experiencing these pressures helps students to develop resilience and a consistent sceptical mindset, regardless of external pressures (Nelson, 2009). Interns observe experienced auditors as they exercise professional scepticism, critically assess evidence, and remain vigilant for signs of fraud or error. This observational experience, combined with hands-on tasks, helps interns to understand how to apply scepticism and judgement in ambiguous situations (Jackling & De Lange, 2009).

SAICA defines critical thinking as the ability to interpret, apply, and analyse gathered information. Auditors often encounter complex financial data, potential discrepancies and ambiguous situations. Critical thinking and problem-solving are essential skills to combat these situations. Real-world tasks and challenges during internships require students to think independently and make decisions, often under constraints or with limited information, which honed their problem-solving and critical thinking abilities (Blair *et al.*, 2004). Problem-solving exercises in classes typically involve structured scenarios, but the challenges of real audits are often more unpredictable. Interns are frequently exposed to unanticipated issues during audits, such as incomplete data or unexpected discrepancies. This experience pushes them to think critically, adapt to evolving situations, and find solutions that align with both company policies and professional standards (Jackling & de Lange, 2009). Without strong critical thinking, auditors may struggle to interpret findings or recognise areas requiring further investigation (Helliar *et al.*, 2009). This skill is difficult to teach in classroom settings but plays a crucial role in applying theory learnt in real-world scenarios.

Auditors face ethical challenges and are responsible for maintaining trust and integrity in their findings. Professional judgement allows them to approach ethical dilemmas with a balanced, thoughtful mindset, which is crucial for preserving public trust. Internships expose students to the accounting industry's ethical standards and regulatory frameworks. Students gain first-hand experience in adhering to compliance requirements and managing ethical dilemmas, which are fundamental to responsible practice in the field (Edward Beck & Halim, 2008). Internships present real ethical and regulatory scenarios, helping students to understand the weight of ethical standards in practice. For example, students may witness ethical dilemmas, such as managing conflicts of interest, which provide them with invaluable insights that theory alone cannot fully convey (Albrecht & Sack, 2000).

Therefore, transferable skills including critical thinking, problem-solving, professional judgement, and scepticism are fostered during practical work experience and are essential for understanding the core of auditing in industry.

4.2.3. Soft Skills

Soft skills are personal and interpersonal abilities that help people to interact effectively with others and work collaboratively. Unlike technical or "hard" skills - such as accounting knowledge or proficiency with software - soft skills are more about how individuals manage themselves and build relationships. A study by Els (2014) found that higher education curricula do not adequately develop important soft skills, instead focusing on technical competencies. Lansdell *et al.* (2020) note that the development of soft skills at the higher education level should be a key factor in ensuring the success of an entry-level CA.

Learning soft skills in a classroom setting or through theoretical study can be challenging because these skills involve personal interactions, emotional responses, and adaptability - factors best developed through direct experience rather than instruction alone. Soft skills are often context-dependent, involving specific reactions to real-life scenarios, including audit deadlines, client pressure, budget constraints, etc., and can't be fully replicated in a classroom. For instance, teamwork and communication skills are developed by navigating actual group dynamics, addressing misunderstandings, and balancing different viewpoints that theory alone cannot simulate effectively.

Our findings have indicated that soft skills are gained through simulations where students are required to work on group projects, through actual auditing internships, etc., which goes beyond mere theory.

4.2.4. Academic Performance and Confidence in Applying Auditing Techniques

One of the key advantages of experiential learning is its ability to enhance student motivation and engagement. By creating a more interactive and immersive learning environment, experiential learning can foster a sense of enjoyment, interest, and willingness to learn amongst students. This increased motivation can lead to better academic outcomes, as students are more invested in the learning process and more likely to retain the knowledge that they acquire. Specifically, experiential learning provides students with opportunities to actively participate in their own learning, apply theoretical concepts to real-world

situations, and receive immediate feedback. This hands-on approach can help students to better understand and remember the material, leading to improved academic performance (LaVan & Carley, 1984). Furthermore, the sense of accomplishment and confidence that comes with successfully navigating and solving practical challenges can further bolster students' self-belief and motivation to continue learning. As Dewey stated, education should be a "continuing reconstruction of experience" (LaVan & Carley, 1984; Wright, 2000). Kolb supports this by adding that learning should be a continuous, lifelong process (LaVan & Carley, 1984).

4.2.5. Student Confidence

Student confidence is a crucial factor in academic success and personal growth, and research has shown that students with higher self-confidence tend to be more engaged in the learning process, actively participate in class discussions, and seek opportunities to apply their knowledge (Akbari & Sahibzada, 2020). This positive feedback loop can lead to improved academic performance, better information retention, and a more fulfilling educational experience.

Numerous studies have highlighted the benefits of experiential learning, noting its ability to evoke the right amount of tension or dissonance, followed by a purposeful reflective exercise in the classroom (LaVan & Carley, 1984). This process allows students to engage actively with the subject matter, apply their knowledge to real-world scenarios, and develop a deeper understanding of the concepts. As students navigate through these experiential learning activities, they are required to analyse their existing knowledge, identify knowledge gaps, and devise strategies to address them (Dernova, 2015).

The development of such critical thinking and problem-solving skills can significantly boost student confidence as they become more self-assured in their abilities to tackle complex challenges. Moreover, the opportunity to practice and model appropriate behaviours in a supportive environment can further enhance students' sense of competence, leading to increased self-belief and a willingness to take on more challenging tasks (Villarroel *et al.*, 2020).

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One study found that implementing experiential teaching methods, such as simulations, case studies, and project-based learning, led to a significant increase in student confidence across subjects, including business, engineering, and the social sciences (Liao, 2019). Similarly, another study demonstrated that experiential learning activities designed to enhance self-esteem and self-regulatory behaviour have a positive impact on academic achievement and career-oriented tasks. (Liao, 2019). Kotze (2022) notes that work-based learning helps to increase students' confidence in making decisions in real-life scenarios, and this experience directly enhances their understanding of auditing. Through internships, students not only learn how auditing procedures are applied but also how to navigate the complexities and uncertainties that arise in practice.

The adoption of experiential teaching methods in higher education institutions has the potential to significantly enhance student confidence, a critical factor in academic success and personal development.

4.2.6. Workplace Preparedness

The American Accounting Association identified a foundational gap in its "White Paper." The report highlighted that graduates with accounting degrees frequently enter the workforce without the necessary skills to meet the demands of the professional environment (American Accounting Association, 1986). Firms employing trainee auditors noted that new hires often struggle to apply theoretical concepts in real-world scenarios. Decades later, this challenge persists, as Gault *et al.* (2010) emphasise that students continue to experience difficulties in bridging the gap between theoretical knowledge and its practical application in business settings.

One of the key findings of the review indicated that simulations, practical work experience, and internships better prepare students for entering the workforce by providing exposure to real-life situations in which theoretical knowledge is put into practice. This is because experiential learning methods allow students to develop critical skills that are often difficult to build in a purely academic setting. For example, through simulations, students can engage in problem-solving exercises that mimic actual auditing scenarios, helping them to practice applying standards, identifying risk areas, and making judgements in a controlled yet realistic environment.

Auditors must meticulously document findings and gather evidence to support their conclusions. While students may understand the theory of audit documentation, actual documentation in live audit engagements requires precision and adherence to standards such as ISA 210, which are best learned through practical experience (Knechel, 2013). By reviewing client records, obtaining confirmations, and compiling evidence, students see the importance of detailed, accurate record-keeping. They learn how to document audit findings, manage audit files, and prepare work papers in line with firm and industry standards. These practices enhance their understanding of the critical role of documentation in maintaining audit transparency and quality (Messier *et al.*, 2017; Peecher *et al.*, 2013). Without prior experience in auditing simulation, once students enter the workforce, it becomes very difficult for them to apply their theoretical knowledge to the expectations of the firm. Therefore, it is an essential part of the learning cycle to prepare students to apply theory to practice upon entering the workforce.

Finally, audit firms benefit from hiring students who have undergone such experiential learning, as they demonstrate quicker integration into audit teams, require less intensive training, and are more confident in carrying out audit tasks independently. Addressing the practical-theoretical gap through internships and simulations is thus a mutually beneficial approach, providing students with meaningful preparatory experiences and supplying firms with recruits who can add immediate value (Dombrowski *et al.*, 2013; Rudman & Terblanche, 2012).

4.3. Role of Vacation Work or Internships: (Beyond Simulations, Class Interactions, Practical Role Play)

While this discussion highlights the numerous benefits of classroom simulations and experiential learning, Libby (1995) argues that no academic exercise or simulation can fully equip students with the requisite auditing knowledge and practical skills without the real-world experience gained through conducting actual audits. Although simulations and case studies provide valuable insights, they have inherent limitations and cannot replace the experiential learning obtained in an authentic auditing environment (Libby, 1995).

A key component in bridging the gap between theoretical learning and real-world auditing is vacation work (auditing internships). According to Agevall *et al.* (2018), auditing involves both structured procedures and decision-making, both of which are critical to successful practice. Vacation work allows students to apply their theoretical knowledge in a real-world setting, enabling them to develop key competencies such as decision-making, professional scepticism, and critical thinking. In this context, vacation work provides an opportunity for *active learning* - where students learn how audits are conducted and gain experience in making judgements based on real-time information.

SAICA has identified specific competencies that students must develop before entering the workforce. These competencies are not easily acquired through lectures alone but require practical experience. Participating in vacation work allows students to acquire these competencies, especially those that require judgement and decision-making, which are vital to the audit process (Kotze, 2022). Without this hands-on experience, students struggle to apply the theoretical frameworks that they have learned in class to the practical tasks that they will encounter in real audits.

Internships provide students with opportunities to apply theoretical knowledge, such as financial analysis, auditing standards, and internal controls, in actual workplace settings. Interns could directly observe and engage with these practices, bridging the gap between textbook knowledge and practical applications (Edward Beck & Halim, 2008). This experience

enables students to build the competencies that they will need to work efficiently and accurately as professional auditors (Jackling & De Lange, 2009). Consequently, it becomes imperative for students to engage in vacation work or internships during their studies to gain a comprehensive understanding of the field. Without exposure to industry practices and real-life auditing environments, students are left with a significant theory-practice gap (Heffernan *et al.*, 2010).

The findings indicate that although auditing simulations, practical role-play, and other experiential learning methods to aid students' practical understanding, students who participated in industry-based vacation work or internships reported substantial benefits and, across all categories, scored highest, emphasising the importance of such experiences.

Chiang *et al.* (2021) argue against practical auditing internships as classroom simulations and practical role-plays offer a unique advantage by providing a risk-free environment where students can practice real-world tasks without facing the actual repercussions of errors or risks (Chiang *et al.*, 2021). Unlike practical work experience in internships, which involves real-world consequences, simulations allow students to safely develop confidence and skills through trial and error. Scholars continue to debate the comparative effectiveness of practical work experience and simulations, each offering distinct benefits and limitations. Practical work experience immerses students in real organisational settings, fostering adaptability and real-time problem-solving, whereas simulations allow for repetitive, focused practice of complex concepts. We recommend integrating both methods into the auditing curriculum, as each supports valuable and complementary learning outcomes that enrich students' professional development.

Similarly, as explored by Kotze (2022), vacation work offers students the opportunity to gain real-world experience while applying the theories and concepts learned in the classroom. Whether through formal internships or distance-learning models, both approaches emphasise the integration of academic learning with practical experience, providing students with the skills and knowledge that they need to succeed in the audit profession.

5. Conclusion

In conclusion, this systematic review demonstrates that experiential and simulation-based learning approaches play a transformative role in bridging the persistent divide between theoretical auditing instruction and authentic professional practice. Beyond enhancing technical competence, these pedagogies reveal the hidden curriculum of auditing education, the unspoken norms, professional dispositions, and ethical sensibilities cultivated through participation in realistic tasks. Through simulated audit engagements, reflective journalling, and role-based exercises, students internalise how to navigate ambiguity, exercise judgement under pressure, and collaborate within hierarchical audit teams, skills rarely articulated in formal syllabi, yet essential for professional identity formation.

While these pedagogies are invaluable within the university context, they operate as a complement rather than a substitute for South Africa's formal training contract period ("articles"), a structured, workplace-based learning phase that all aspiring Chartered Accountants must complete with accredited auditing or accounting firms. This regulated mechanism represents a cornerstone of professional development, providing authentic exposure to client environments, quality control systems, and ethical decision-making under supervision. Integrating reference to this period emphasises the complementary relationship between academic simulation and real-world apprenticeship, positioning simulation-based learning as vital preparatory scaffolding that enhances students' readiness for formal workplace training.

Nevertheless, this study is subject to certain limitations. The systematic review was constrained by specific inclusion and exclusion criteria, which may have limited the range of perspectives considered. Publication bias, the predominance of English-language sources, and the interpretive synthesis of findings may also have influenced the outcomes. Additionally, although the review incorporated international literature, variations in institutional context, resource availability, and regulatory frameworks may limit the generalisability of its conclusions across all auditing education settings.

Future research should explore how simulation-based and WIL strategies interact across diverse institutional and cultural contexts, particularly in relation to the South African professional education pipeline. Comparative studies between classroom simulations and training contract experiences could reveal how explicit and implicit learning outcomes reinforce one another. Moreover, the accelerating adoption of digital audit tools, data analytics platforms, and artificial intelligence in professional practice warrants an investigation into how such technologies can be authentically embedded into audit simulations. Longitudinal and mixed-methods studies examining students' progression from academic simulation to workplace competence would further enrich understanding of how hidden curricula operate across the continuum of professional formation.

Ultimately, preparing graduates for the dynamic and ethically complex auditing environment demands that educators make the hidden curriculum visible by designing learning experiences that cultivate not only cognitive understanding but also the social, ethical, and behavioural capacities intrinsic to auditing practice.

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Chapter 10

Developing the Professional and Business Competencies of Post-Graduate Management Accounting Students through a Group Case Study Assignment: Insights into the Hidden Curriculum

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Abstract

To prepare students for a dynamic business environment, accounting educators must foster a broad range of competencies beyond technical skills. This study explores how postgraduate students acquire implicit lessons and skills - termed the hidden curriculum - through group case study assignments. Unlike previous studies that primarily relied on students' perceptions to measure the skills acquired, this research also evaluates how the learning activity impacts students' performance. Additionally, it analyses how students' educational backgrounds influence their perceptions of the skills which they have acquired and their academic performance. Survey data were collected from seventy-nine students enrolled in a postgraduate management accounting programme at the University of Johannesburg. Students' perceptions of the skills developed were measured in relation to the Chartered Global Management Accounting (CGMA)

Competency Framework. The data were analysed using frequency analysis, correlation analysis, and regression analysis. The findings indicate that students perceive group case study activities as effective in fostering the hidden curriculum by developing professional and business skills. However, no significant correlation was found between these perceptions and the students' assignment marks, suggesting that students' beliefs about the skills which they develop during assignments do not necessarily translate into their ability to demonstrate these skills in assessments designed to evaluate them. The study also found no significant relationships between educational backgrounds and perceptions of competency development. This disconnect emphasises that while case studies are valuable for experiential learning, their implementation should include strategies that help students to better evaluate their competency growth and identify areas for improvement.

Keywords: Accounting education, Case study assignment, CGMA Competency Framework, CIMA students, Hidden curriculum, Professional competencies.

1. Introduction

Globalisation and digitisation have led to rapid and profound changes in the way that business is conducted (Keevy, 2020; Levant *et al.*, 2016). To navigate this complex landscape, managers require relevant and timely information that goes beyond operational efficiencies and cost reductions (Barth, 2018). Consequently, the role of management accountants has evolved from being mere scorekeepers to becoming business partners who collaborate with others and make use of their financial expertise to create real value for their organisations and society at large (AICPA & CIMA, 2020). In light of these developments, entry-level accountants are now expected to possess business and professional competencies in addition to financial expertise (AICPA & CIMA, 2019). In the literature, these professional competencies are often referred to as soft, behavioural, generic, pervasive, transferable or employability skills (Boland, 2012; De Villiers, 2010; Malan & van Dyk, 2021; Viviers, 2016).

Unfortunately, accounting education typically emphasises the development of technical knowledge and analytical ability through formal learning, at the expense of developing the range of

tacit skills and values (Dziak, 2025). To meet workplace demands, accounting educators have been urged to reevaluate their teaching methods and include learning activities that allow students to learn about collaboration, adaptability, professional conduct, and problem-solving (Gittings *et al.*, 2020; Herbert *et al.*, 2020; Keevy, 2016; Levant *et al.*, 2016). These implicit lessons are known as the hidden curriculum (Sebele-Mpofu, 2024).

Experiential learning activities (ELAs), such as case studies, are known to give students real-world experience by creating a simulated environment where they learn through the consequences of their actions (Gittings *et al.*, 2020; Levant *et al.*, 2016). These ELAs have also been found to provide the opportunity for hidden learning, where students internalise professional and enterprising competencies that extend beyond the formal syllabus and that are tacitly embedded in the curriculum (Barrie, 2006).

Numerous studies have explored accounting students' perceptions regarding the benefits and skills development through case studies (Boland, 2012; Bremser & White, 2000; Malan & van Dyk, 2021; Mostert *et al.*, 2025; Tan, 2019; Van der Merwe, 2013; Wynn-Williams *et al.*, 2008). While these studies have enhanced our understanding of the advantages of case studies as a teaching and assessment tool, they primarily focus on students' perceptions in isolation, without corroborating the benefits through student performance (Apostolou *et al.*, 2022). Gittings *et al.* (2020) observed that experiential learning research in the field of accounting often generalises findings without considering how student-specific factors may influence learning experiences (Apostolou *et al.*, 2022; Gittings *et al.*, 2020). Shamsoodien and Carpenter (2020) argue that investigating the impact of students' socio-economic background on educational outcomes remains relevant, especially in the South African context, where historical inequities persist.

South African research into the effectiveness of case studies in accounting education has mainly focused on students specialising in Chartered Accountancy (CA). Little is known about how to prepare South African students, often from disadvantaged socio-economic backgrounds, to write international case-study examinations, such as those of the Chartered Institute of Management Accountants (CIMA).

In response to these gaps, this study set out to achieve the following objectives:

- to investigate post-graduate management accounting students' perceptions of the professional competencies developed through a group case study project,
- to investigate whether there is a significant relationship between students' assignment marks and their perceptions of the professional competencies that they developed,
- to determine whether a student's socio-economic background (determined through the type of school attended) significantly impacts their perceptions of the professional competencies developed through a group case study assignment, and
- to determine whether a student's socio-economic background (determined through the type of school attended) significantly impacts their performance in a group case study assignment.

This study examined a group case study assignment completed by fourth-year students pursuing a post-graduate qualification in management accounting at the University of Johannesburg. This qualification's outcomes align with the management and strategic levels of the CIMA professional qualification. The assignment utilised an existing CIMA strategic-level case study and required groups of five students to conduct a strategic analysis of the company in the case. Following their analysis, the groups were tasked with generating, evaluating, and recommending three strategic options to improve the company's strategic position. Each group then presented their findings to a fictitious board comprising a panel of lecturers.

The findings highlight the effectiveness of case studies in fostering the professional and enterprising competencies required by entry-level management accountants. Beyond the formally assessed outcomes, the group case study project also facilitated unintended and tacit learning through the hidden curriculum, as students developed teamwork, communication, and self-directed learning while engaging with a complex business scenario. Additionally, the results offer valuable insights to accounting educators about how student-specific factors, such as self-efficacy and background, can influence perceptions of the benefits derived from the experience. The study also facilitates

a broader understanding of the South African accounting education landscape and the factors to be considered in educating postgraduate students or preparing them for international case study examinations.

The chapter discusses the design and implementation of the group case study project, analyses student perceptions of the competencies that they developed, and considers how both formal and hidden learning outcomes contribute to professional competency development.

The chapter is structured as follows. Section 2 provides an overview of the literature relating to the study and the hypotheses tested. Section 3 describes the research design and how the methods were applied. Section 4 presents the research results and discusses the findings, and Section 5 contains the conclusion, study limitations and recommendations for future research.

2. Literature Review

This section offers an overview of the current literature on the competencies required of entry-level management accountants and on how case studies, as ELA, are used to develop these competencies. Theoretical support for the hypotheses tested is also presented.

2.1. The Professional Competencies Required of Entry-Level Management Accountants

Previously, the duties of management accountants revolved around extracting information, preparing budgets, generating financial reports and analysing performance (AICPA & CIMA, 2020). However, with significant shifts in the business landscape because of globalisation and technological advances, their role has evolved from being mere scorekeepers to becoming strategic business partners (AICPA & CIMA, 2024). Without discarding their core accounting mandate, accountants have now become key players in the decision-making process (AICPA & CIMA, 2024). They are expected to deliver integrated insights and effectively communicate these across all business areas (IFAC, 2021). Furthermore, they must nurture relationships and manage both financial and non-financial resources to foster long-term value creation (Mistry, 2021).

In response to these changes, the AICPA and CIMA conducted an extensive investigation into the future of finance and the capabilities that proficient management accountants must possess at different stages of their professional careers (AICPA & CIMA, 2020). In 2014, the Chartered Global Management Accountant (CGMA) Competency Framework was launched and revised in 2019 (AICPA & CIMA, 2019). The revised CGMA Competency Framework outlines the following five core competency areas: technical, business, people, leadership, and digital competencies (AICPA & CIMA, 2019) (Refer to Figure 10.1).

Each competency area identifies the skills needed at four different proficiency levels, which include foundational (suitable for entry-level management accountants), intermediate (applicable to supervisor or manager level, advanced (related to senior management) and expert level (referring to the executive level) (AICPA & CIMA, 2019). At the foundational level of proficiency, the CGMA Competency Framework (2019) emphasises the following key competencies:

Technical skills involve understanding financial accounting principles, management accounting techniques, and basic financial management practices.

Business skills encompass knowledge of organisational operations and the ability to apply financial insights to support business strategies and informed decisions.

People skills encompass communication, collaboration, and interpersonal skills that enable engagement with various stakeholders and the effective presentation of information.

Leadership skills involve a basic understanding of how to influence and lead a team or project, as well as ethical considerations in decision-making.

Digital skills require a basic understanding of digital literacy, cloud computing, cybersecurity, data analytics, and digital costing. They must remain up to date with technological advances and be able to manage and guide the finance function in a digital world. In addition to being a standalone knowledge area, digital skills permeate all the other knowledge areas.

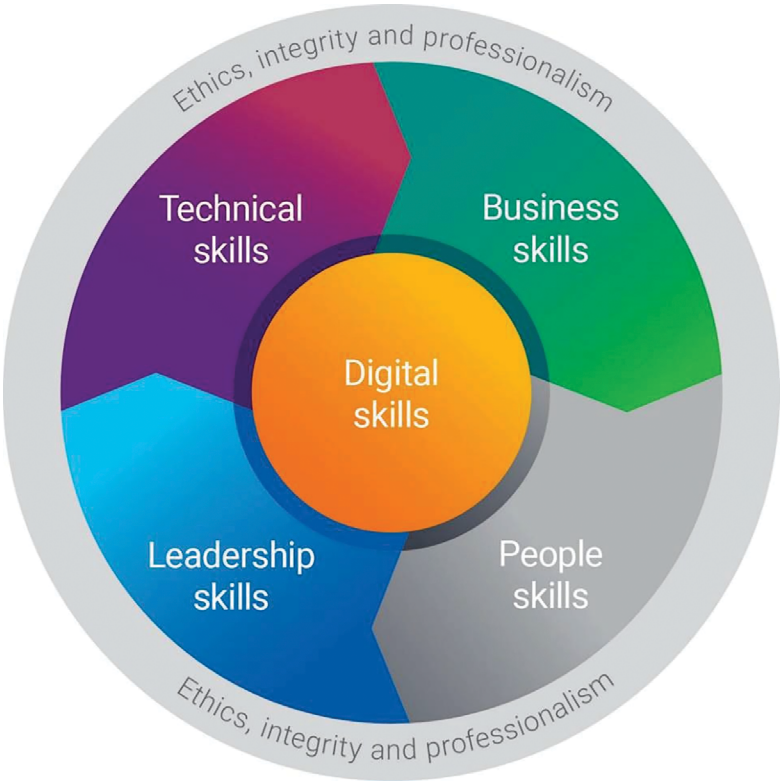


Figure 10.1: The CGMA core competencies
Source: CGMA Competency Framework (AICPA & CIMA, 2019)

The five main knowledge areas specify various thinking skills, which include problem-solving, lifelong learning, and creative and critical thinking skills (AICPA & CIMA, 2019). These competencies are situated on the higher cognitive complexity levels as classified by Bloom's Taxonomy and are referred to as "higher order thinking skills" (HOTS) (Papageorgiou *et al.*, 2020).

Studies investigating the competency development of accounting students distinguish between technical, digital and professional skills (Kavanagh & Drennan, 2008; Parsons *et al.*, 2020). According to the International Education Standard (IES) 3, professional skills are the (a) intellectual, (b) interpersonal and communication, (c) personal, and (d) organisational skills that

a professional accountant integrates with technical competence and professional values, ethics, and attitudes to demonstrate professional competence (IAESB, 2019). Literature also refers to these professional skills as pervasive skills (Barac & Du Plessis, 2014; Keevy, 2016; Malan & Van Dyk, 2020; Reyneke & Shuttleworth, 2018; Viviers, 2016), soft skills (Berry & Routon, 2020; De Villiers, 2010; Gardner, 2017; Marlina & Assumpta, 2021), generic (De La Harpe *et al.*, 2010), transferable skills (Barbosa *et al.*, 2017; Boland, 2012), or employability skills (Griffin & Coelhoso, 2019; Mistry, 2021; Sandifer, 2018).

Numerous studies have identified and assessed the professional competencies of South African accounting students (Barac & Du Plessis, 2014; Keevy, 2016; Keevy, 2020; Malan & van Dyk, 2021; Mostert *et al.*, 2025; Parsons *et al.*, 2020; Samkin & Keevy, 2019; Viviers, 2016). These studies considered professional competency development from a CA perspective, referencing the SAICA's competency framework or the CA2025 guidelines.

Both SAICA and CIMA are member bodies of the IFAC and are required to structure their education programmes per the learning outcomes prescribed in the IES3 for professional skills (IAESB, 2019). As expected, the professional competencies outlined by each body are similar; however, because these programmes prepare students for distinct roles within the accounting field, each body emphasises different skills and outcomes. This study aimed to identify and investigate the competencies outlined in the CGMA Competency Framework (AICPA & CIMA, 2019) and adopted the definition of professional skills as per IES3 (IAESB, 2019). Therefore, the business, people, and leadership competency areas of the CGMA Competency Framework (2019) were categorised as professional competencies.

In addition to being CA-focused, previous studies mainly considered the competency development of undergraduate students (Barac & Du Plessis, 2014; Keevy, 2016; Keevy, 2020; Malan & van Dyk, 2021; Parsons *et al.*, 2020; Samkin & Keevy, 2019; Viviers, 2016). However, research has shown that the learning approaches and activity preferences of post-graduate students differ significantly from those of undergraduates. According to Miller (2021), undergraduate accounting students often emphasise achieving high grades and passing examinations

at the expense of a deeper understanding of the material. In contrast, Kwan (2019) argues that post-graduate students are primarily motivated by career advancement and a desire to enhance their knowledge and skills. Consequently, they tend to adopt a deep learning approach that emphasises critical thinking, understanding underlying principles, and applying knowledge to address complex problems. Post-graduate students also prefer assignments and assessments that involve real-world applications and problem-solving tasks (Kwan, 2019). Concerning professional competencies, Boland (2012) found that students only become aware of the importance of such skills towards the latter stages of their studies.

2.2. The Role of Case Studies in Developing the Professional Competencies of Accounting Students

Graduates often enter the workplace with considerable technical knowledge but face challenges in applying this knowledge in practical settings or performing tasks that require professional competencies (Mistry, 2021). Employers have noted that accounting graduates frequently lack non-technical competencies, such as writing, verbal communication, interpersonal, and critical thinking (Gittings *et al.*, 2020; Tan & Laswad, 2018); Lubbe *et al.* (2020); Malan and Van Dyk (2020); Van Romburgh and Van der Merwe (2015) report that South African universities do not sufficiently provide entry-level accountants with the professional skills necessary for workplace success.

Viviers and de Villiers (2020:28) assert "What students learn is influenced by how they are taught", supporting that teaching and learning that is focused on content and grades will unlikely prepare students for the demands of the workplace (Butler *et al.*, 2019). To enable the development of a broader skill set, it is vital that accounting educators reassess the modes of teaching and delivering content (De Villiers, 2010; IFAC, 2021; Malan & van Dyk, 2021; Mistry, 2021; Van der Merwe, 2013).

Experiential Learning is a student-centred approach that emphasises active learning and the importance of experience in the learning process (Butler *et al.*, 2019; Gittings *et al.*, 2020). Gittings *et al.* (2020) found that student-centred ELAs, such as case studies, simulations, field trips, and role play, offer multiple

benefits. Students reported a deeper understanding of course content, higher engagement and enjoyment, and better ability to connect theory to real-world contexts. ELAs also helped to develop transferable skills - including research, technology, critical thinking, leadership, communication, and professional behaviour - provided insight into the accounting profession, and enhanced career prospects by making students more attractive to employers. Overall, the literature indicates that ELAs support the development of core competencies.

Case studies are the most commonly used experiential learning tool and are known to be effective in bridging the gap between theoretical knowledge and practical application (Butler *et al.*, 2019; Gittings *et al.*, 2020; Reyneke & Shuttleworth, 2018).

Several studies have investigated the use of case studies in developing accounting students' professional competencies. These findings are summarised in Table 10.1.

Table 10.1: Professional skills developed through case studies

Skills developed	Reference
Teamwork	(Ballantine & McCourt Larres, 2009; Butler *et al.*, 2019; Levant *et al.*, 2016; Malan & Van Dyk, 2020; Mostert *et al.*, 2025; Rudman & Kruger, 2014; Tan, 2019; Van der Merwe, 2013; Vogler *et al.*, 2017)
Communication skills (written and Verbal)	(Ballantine & McCourt Larres, 2009; Griffin & Coelhoso, 2019; Holmes & Sullivan, 2017; Levant *et al.*, 2016; Malan & Van Dyk, 2020; Mostert *et al.*, 2025; Samkin & Keevy, 2019; Tan, 2019; Van der Merwe, 2013; Vogler *et al.*, 2017)
People skills (collaboration, managing difficult personalities, working with different ethnic groups)	(Ballantine & McCourt Larres, 2009; Levant *et al.*, 2016; Milne & McConnell, 2001; Rudman & Kruger, 2014; Vogler *et al.*, 2017)

Skills developed	Reference
Leadership skills	(Holmes & Sullivan, 2017; Miller & Willows, 2023; Rudman & Kruger, 2014; Vogler *et al.*, 2017)
Research skills	(Holmes & Sullivan, 2017; Levant *et al.*, 2016; Samkin & Keevy, 2019; Van der Merwe, 2013)
Professional behaviour (personal skills, adapting to the environment, time management)	(Holmes & Sullivan, 2017; Levant *et al.*, 2016; Malan & Van Dyk, 2020; Mostert *et al.*, 2025; Rudman & Kruger, 2014; Samkin & Keevy, 2019; Van der Merwe, 2013)
Higher-order thinking skills (Critical thinking, analytical skills, problem-solving, self-directed learning)	(Holmes & Sullivan, 2017; Hulaikah *et al.*, 2020; Malan & Van Dyk, 2020; Milne & McConnell, 2001; Mostert *et al.*, 2025; Samkin & Keevy, 2019; Tan, 2019; Van der Merwe, 2013; Vogler *et al.*, 2017)
Business skills (strategic decision-making, innovation)	(Malan & Van Dyk, 2020; Mostert *et al.*, 2025; Vogler *et al.*, 2017)

Source: Own compilation

In addition to these benefits, students reported to be understanding theoretical content better after participating in experiential learning activities. Lecturers also experience high student engagement and enjoyment of such learning activities, and students are able to link previously learnt theories to real-world contexts more effectively (Gittings *et al.*, 2020; Tan, 2019; Van der Merwe, 2013; Vogler *et al.*, 2017). Marlina and Assumpta (2021) found that students were more motivated to learn after completing a group project.

The literature is clear that case studies, as experiential learning activities, play a significant role in enhancing students' professional competencies. However, Apostolou *et al.* (2022)

cautioned against the validity of only using student perceptions to evaluate the effectiveness of teaching interventions. Gittings *et al.* (2020) recommend using student performance to corroborate student perceptions.

The marking rubric for assessing student assignments included technical and professional competencies. In this context, the current study examined students' perceptions of the professional competencies fostered through an integrated group case study assignment and whether students who performed better on the assignment also had a stronger perception of the skills developed.

2.3. The Influence of Students' Socio-Economic Background on the Professional Competencies Developed and Performance

A student's participation in business case activities does not automatically lead to learning or the development of necessary skills. (Hulaikah *et al.*, 2020; Tan, 2019; Wynn-Williams *et al.*, 2008). Educators must recognise that students have diverse learning preferences and that various factors may influence their performance or perceptions of the learning activities (Viviers & de Villiers, 2020).

According to Chair *et al.* (2021), exposure changes how students engage with and benefit from simulations. Socio-economic factors include financial status, family background and education, ethnicity, and prior exposure. (Agherdien *et al.*, 2018; Viviers & de Villiers, 2020). Agherdien *et al.* (2018) assert that these factors are key determinants of academic success or failure and are considered especially relevant to students' ability to engage with international case material effectively. Empirical research has shown that the type of prior school and students' practical experience strongly influence how they experience case studies, simulations, and internships, especially where tasks demand prior procedural knowledge or workplace routines. Research also suggests that socio-economic background can affect students' confidence, communication skills, and overall professional readiness, as students from disadvantaged backgrounds may have had fewer opportunities

to develop these competencies in authentic or workplace-like settings (Reay *et al.*, 2009; Stephens *et al.*, 2019). A study by De Lange *et al.* (1997) found that students' secondary school type and prior educational preparation predicted academic persistence and performance in open-learning accounting subjects, suggesting differential readiness for complex, activity-based assignments. Stronger prior schooling was also found to correlate with higher domain knowledge and improved performance in experiential learning activities at Spanish business schools (Leal-Rodrigus & Albort-Morant, 2019).

The group assignment investigated in this chapter uses past CIMA strategic-level case studies. A panel of international examiners is responsible for developing these cases, which depict a simulated company operating within a real industry (AICPA & CIMA, 2024). While the AICPA and CIMA aim to ensure that the industries represented in the case studies identify with a global audience (AICPA & CIMA, 2024), students from disadvantaged socio-economic backgrounds may lack exposure to these industries, which hinders their understanding of the key issues outlined in the case studies. For example, the May and August 2020 strategic-level case study featured a hoverboard rental company named Runnabout. "Runnabout is a quoted company that operates 'pay-as-you-go hoverboard' vehicles for use by the public in major cities. Geeland is a large and prosperous country with a population of more than one billion people" (CIMA, 2020:2). South African students from disadvantaged backgrounds may have seen a video clip of a hoverboard but would be unfamiliar with its operations and the risks associated with renting one.

Group case studies provide a potential mechanism to address these inequalities. Working collaboratively allows students from less privileged backgrounds to observe and learn from peers with greater exposure or experience, thereby supporting the development of confidence, communication skills, and professional readiness.

It is, therefore, postulated that a student's socio-economic background influences their overall exposure to products, services, and businesses, which, in turn, affects their engagement

with the case studies. Therefore, students from more privileged backgrounds would more easily relate to international business cases, likely derive greater benefits, and be awarded a higher mark for their efforts. By facilitating peer learning and shared problem-solving, group case studies can help to mitigate some of the disadvantages associated with limited prior exposure, enabling all students to benefit more fully from the learning activity and potentially achieve better academic outcomes.

3. Research Design

3.1. Research Approach

This study addressed the research problem from a positivist perspective, employing quantitative methods to test the hypotheses presented in the literature review section. Descriptive methods were employed to explore students' socio-economic backgrounds and their perceptions of the development of professional competencies. Correlation techniques further allow the identification of differences and relationships between socio-economic characteristics and professional competencies, directly aligning with the research aim of understanding the role of socio-economic background in shaping students' engagement with case studies and their holistic preparedness for the accounting profession.

3.2. The Group Case Study Assignment

The UJ qualification is aligned with the management and strategic levels of the CIMA professional qualification. The qualification aims to prepare students to write these professional examinations and to enter the workplace as entry-level finance professionals. Therefore, as part of the qualification's assessment strategy, students must complete a group assignment based on a past CIMA strategic-level case study. According to the AICPA and CIMA (2024), their fictitious case is set in a modern business environment. It aims to simulate real-world issues that finance professionals typically encounter. They are designed to allow students to demonstrate the professional, digital and technical competencies identified by employers as critical for career success (AICPA & CIMA, 2024).

The case study assignment, which replaces students' mid-year examinations, is completed in groups of no more than five students and conducted in two phases. During the first phase, students submit a report analysing the case company's strategic and financial position, as well as the key risks that it faces. The second phase requires the groups to use the insights gained during phase one to identify and evaluate three strategies which they believe that the company should implement to improve its overall performance and competitive position. The students must then present their evaluation of these strategies and implementation plan to a panel of fictitious board members (the lecturers).

3.3. Research Method

3.3.1. Research Participants and Data Collection

The research participants include full-time students studying towards a post-graduate qualification specialising in management accounting at UJ. The survey was administered manually to the 82 students enrolled in the programme. Seventy-nine students completed the survey, constituting a 96% response rate. All responses were analysed. Data on student performance were obtained from the assessment rubrics. The ethical considerations relating to using and processing personal information are outlined in that section of the paper.

3.3.2. Measurement

The survey collected data on students' perceptions of the competencies developed through a group case study assignment. It also asked questions to assess their group dynamics.

3.3.2.1. Perceptions of the Professional Competencies Developed

The CGMA Competency Framework was used to develop a scale to assess students' perceptions of the skills developed through the assignment. Applying the definition of professional skills per IES3 (IAESB, 2019), the study included Business, People, and Leadership competency areas of the CGMA Framework as theoretical constructs for measuring professional competencies (AICPA & CIMA, 2019). The Literature Review section justifies the skills included as professional competencies. As the study investigates the skills of entry-level accountants, the Frameworks' descriptions

of activities for each competency area at the foundational proficiency level were used to develop questionnaire items. As the CGMA Competency Framework's proficiency descriptions are specific to workplace activities, the scales developed by Keevy (2016), Malan and van Dyk (2021), and Reyneke (2016) were used to refine the theoretical constructs. Furthermore, communication skills were pervasive in each competency area described in the CGMA Competency Framework (AICPA & CIMA, 2019) and in line with other studies, communication skills were included as a separate construct (Keevy, 2016; Malan & van Dyk, 2021; Reyneke, 2016; Samkin & Keevy, 2019; Van der Merwe, 2013). Figure 10.2 shows the constructs and variables included in the questionnaire.

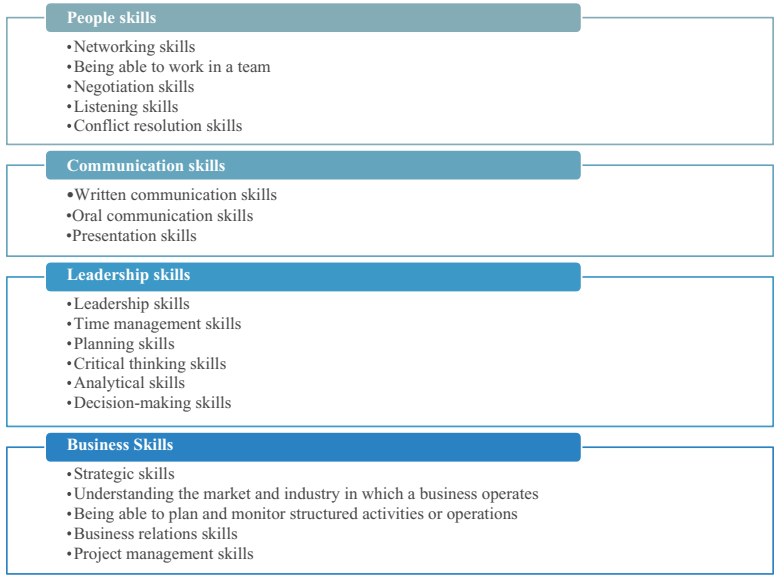


Figure 10.2: Professional competencies included in the questionnaire

Source: Own compilation derived from the CGMA Competency Framework and related literature

Participants had to rank their perception of the extent to which they believe the group case study assignment developed each competency using a five-point Likert scale (1 = to no extent and 5 = to a very large extent) (Van der Merwe, 2013; Malan & van Dyk, 2021).

3.3.2.2. Student Performance in the Case Study Assignment

Student performance is measured through their assignment marks. The assessment criteria for the assignment are based on students demonstrating the following outcomes:

- To analyse the case company's strengths, weaknesses, opportunities and threats based on the strategic position, risks and financial analysis (business acumen, understanding the market and ecosystem of the organisation, analytical skills);
- to integrate the theoretical content of the three strategic modules, Business Strategy, Risk and Performance Strategy and Financial Strategy, to generate and recommend suitable, feasible and acceptable strategic options for the case company (business acumen, critical thinking, integrated thinking, analytical skills, decision-making and research skills),
- to manage and work effectively in a team (people, leadership, and interpersonal skills),
- to communicate effectively and professionally (written, verbal and presentation skills), and
- to manage time effectively (project and time management skills).

The module lecturers assessed the assignments independently, using a rubric that represented the assessment criteria. After the presentations, marks were compared, and outliners were discussed to enhance the fairness of the assessment process. Therefore, the marks awarded for the assignment indicate the extent to which they demonstrated evidence of the required competencies during their group presentation.

3.3.2.3. Student Socio-Economic Background

This study used the type of school which a student attended as a proxy for socio-economic background. The South African schooling system comprises private or independent schools, previously classified Model-C schools, and government or public schools. A school's classification is based on its level of government funding, with public schools being entirely funded by the government, former Model-C schools receiving a combination of government and private funding, and private schools being entirely privately funded (Shamsoodien & Carpenter, 2020).

The Department of Basic Education (DBE, 2020) categorises South African schools into five quintiles to determine the level of subsidy to which a particular school is entitled. Schools in the first quintile are the poorest, while 20% of the wealthiest schools are in the fifth quintile. Private or independent schools, as well as former Model-C schools, are generally classified as higher quintiles than government or public schools (Shamsoodien & Carpenter, 2020). This classification method indicates the socio-economic status of the students attending the school. The study classified students attending public schools as likely to come from disadvantaged socio-economic backgrounds, while those attending private or Model-C schools were classified as coming from more advantaged backgrounds. It is argued that once parents can afford it, they will send their children to private or semi-private schools where the education is perceived as better (Shamsoodien & Carpenter, 2020). Despite this perception, it is essential to note that the "type of school attended" was used only as a proxy for a student's socioeconomic background. The study did not test or conclude on the quality of education received from different schools. In addition, relying solely on school type as a proxy for socio-economic background is a limitation of the study, as it cannot fully account for the diversity and complexity of students' socio-economic circumstances.

3.3.2.4. Reliability and Validity of the Construct Measurements

Before administering the survey, the questionnaire was distributed to three former students to ensure that all questions were clear, concise and easy to understand. The feedback from the pilot respondents was considered and included where appropriate.

Exploratory factor analysis (EFA) assesses scale reliability by identifying the underlying constructs from a set of observed variables (Pallant, 2020). The EFA confirmed that all the scales were valid and reliable, with a Cronbach's alpha coefficient of more than 0.7 (Pallant, 2020). The empirical factor constructs derived from the EFA were similar to the theoretical constructs (derived from literature and standardised scales). The theoretical and empirical constructs reported Cronbach's alpha coefficients of more than 0.7 (Refer to Table 10.2). As a result, the researchers

Table 10.2: Summarised results from the EFA and Cronbach's alpha of the theoretical constructs

Scale	Empirical constructs derived through EFA		Standardised Cronbach's Alpha of the theoretical constructs Where F = Factor
	Number of factors identified at an Eigenvalue > 1	Standardised Cronbach's alpha of the empirical factors identified. Where F = Factor	
Skills developed	Four factors were identified, explaining 65.4% of the variance.	F1 (Business) = 0.865 F2 (People = 0.913 F3 (Communication) = 0.902 F4 (Leadership) = 0.836	F1 (Business) = 0.921 F2 (People) = 0.792 F3 (Communication) = 0.816 F4 (Leadership) = 0.889

Source: Compiled from IBM® SPPS® output

decided to use the theoretical constructs rather than the EFA-identified factors for further testing.

3.3.3. Data Analysis

Data were analysed, and hypotheses were tested using IBM® SPSS® Statistics (SPSS®) version 15. Frequency analysis was used to understand perceptions of skills developed through the assignment and students' background factors. The relationships between categorical (background factors) and scale (assignment marks) or ordinal variables (perceptions of skills developed and general perceptions) are investigated using Pearson's correlation coefficient. In determining the relationship between the variables, this study used the unstandardised beta coefficient to explain the degree of change in the outcome variable for every unit of change in the predictor variable (Pallant, 2020).

3.3.4. Research Hypotheses

Based on the literature review and the theoretical framework, the study formulates the following hypotheses to be tested:

$H1_{(a)}$ – No statistically significant relationship exists between students' performance in the group case study assignment and their perceptions of the professional skills developed.

$H2_{(a)}$ – No statistically significant relationship exists between students' socio-economic backgrounds and their perception of skills developed through the group case study assignment.

$H3_{(a)}$ – No statistically significant relationship exists between students' socio-economic backgrounds and their perception of skills developed through the group case study assignment.

3.3.5. Ethical Considerations

Ethical clearance for this study was obtained from the University of Johannesburg's Faculty of Business and Economics Research Ethics Committee and the Director of Research Innovation, ensuring that all procedures complied with institutional research ethics guidelines. Participation in the study was entirely voluntary, and informed consent was obtained from all participants before data collection. Students were provided with an information sheet outlining the study's purpose, procedures and their right to withdraw at any stage without penalty. To protect participants' confidentiality, no identifying information was collected, and all responses were anonymised before analysis. Data were securely stored on a password-protected institutional drive accessible only to the researcher, in accordance with the University's data protection policy and the Protection of Personal Information Act (POPIA).

Given the study's focus on socio-economic background, particular care was taken to handle potentially sensitive demographic information with respect and discretion. School type was used solely as a proxy indicator and was not linked to individual identities or performance records. The potential risks to participants were minimal and primarily related to the disclosure of personal information; these were mitigated through anonymity and secure data management. Overall, the study ensured that participants were treated ethically.

No processing other than that authorised by the College of Business and Economics Research Ethics Committee and the Director of Research Innovation was conducted. The ethical clearance code issued for the study is SAREC20220524/05.

4. Results

This section outlines the findings from the data analysis and hypothesis testing. It begins by examining students' perceptions of the professional skills which they have developed. The subsequent section presents the distribution of the analysed socio-economic factors, followed by the results and discussion of the relationship between these factors and students' perceptions of skills development and performance.

4.1. The Development of Professional Competencies and Performance

The study aimed to examine the perceptions of post-graduate management accounting students regarding the professional competencies gained from a group case study project, as well as the degree to which these perceptions align with the assignment marks that were awarded. Figure 10.3 presents the findings from the frequency analysis of students' views on the development of various professional competencies, and Table 10.3 contains the mean and standard deviation of the skills development scale.

The results indicate that postgraduate management accounting students perceive the group case study project as highly effective in developing a range of professional competencies. With an overall mean score of 4.28 out of 5, students generally believe that professional competencies were developed to a "large" or "very large" extent through the case study assignment (Refer to Figure 10.3).

Critical thinking skills emerged as the most highly rated competency (mean score of 4.57), with 66% of respondents indicating development to a "very large" extent. This finding aligns with the literature suggesting that case studies promote higher-order thinking skills (Holmes & Sullivan, 2017; Hulaikah *et al.*, 2020; Malan & Van Dyk, 2020). This score was followed closely by teamwork (mean score of 4.53) and presentation

skills (mean score of 4.49), where 61% and 63%, respectively, responded that the skills were developed to a "very large" extent. (AICPA & CIMA, 2019).

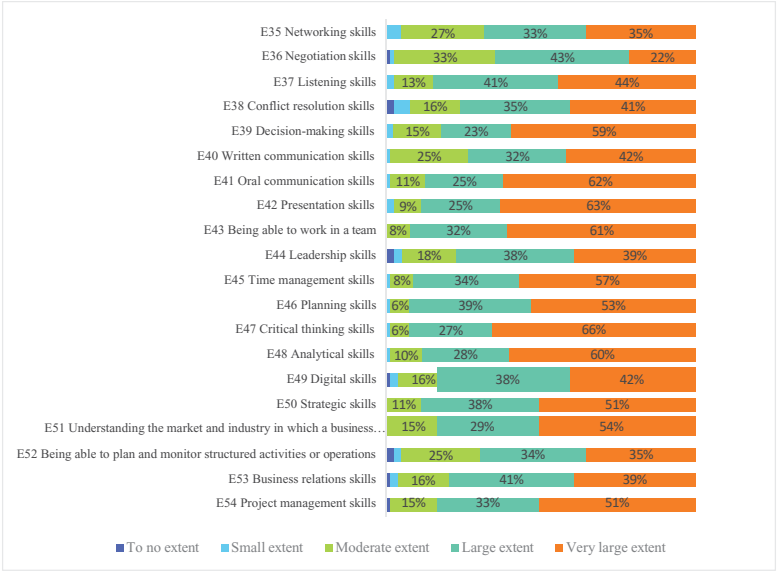


Figure 10.3: Students' perceptions of the professional competencies developed
Source: SPSS® output

Table 10.3: Descriptive statistics for the skills development scale

Description	Mean	Std. Deviation
Development of People Skills	4.11	0.64
Development of Communication Skills	4.37	0.67
Development of Leadership	4.39	0.58
Development of Business Skills	4.24	0.72
Perception of Skills Developed	**4.28**	**0.57**

Source: SPSS® Output

When categorised according to the CGMA Competency Framework, leadership skills (including critical thinking and analytical skills) received the highest mean score (4.39), followed closely by communication skills (4.37). However, negotiation skills received the lowest mean score (3.82), with only 22% of students perceiving development to a "very large" extent. While indicating moderate to large competency development, this finding highlights a potential area for enhancement in future case study assignments.

These findings support the existing literature, which identifies case studies as an effective experiential learning tool for developing professional competencies (Butler *et al.*, 2019; Gittings *et al.*, 2020; Reyneke & Shuttleworth, 2018). The results reinforce previous research identifying case studies as beneficial for developing teamwork, communication, leadership, and higher-order thinking skills (Refer to Table 10.1 of the literature review). Students' overall positive perception aligns with Kwan's (2019) assertion that postgraduate students prefer assignments that involve real-world applications and problem-solving tasks. The group case study appears to satisfy these preferences while simultaneously developing the professional competencies outlined in the CGMA Competency Framework.

Table 10.4 presents the results of the correlation analysis for the first research objective and the null hypothesis that no statistically significant relationship exists between students' performance on the group case study assignment and their perceptions of the professional skills developed.

The results show an insignificant positive correlation (r = 0.059, p = 0.302) between students' performance on the assignment and their perceptions of the skills developed. With a p-value well above the conventional significance threshold of 0.05, the study fails to reject the null hypothesis that there is no statistically significant relationship between students' performance in the group case study assignment and their perceptions of the professional skills developed.

Table 10.4: The relationship between students' perceptions of professional competencies developed and performance

		Perception of Skills Developed
Performance (Assignment marks)	Pearson Correlation	.059
	Sig. (2-tailed)	.302
	N	79
**. Correlation is significant at the 0.01 level (2-tailed).		
*. Correlation is significant at the 0.05 level (2-tailed).		

Source: SPSS® Output

Students reported high levels of professional competency development (an overall mean of 4.28 out of 5) regardless of their performance on the assignment, suggesting that students across all performance levels perceived the case study assignment as beneficial for developing professional competencies.

However, the finding also reveals a critical disconnect between students' perceived development of professional competencies and their ability to demonstrate these abilities as measured by their assignment marks. The lack of correlation supports the cautions raised by Apostolou *et al.* (2022) and Gittings *et al.* (2020) regarding the limitations of relying solely on student perceptions when evaluating the effectiveness of teaching interventions. Students may truly believe that they are developing professional skills through the case study project, but this perceived development may not translate to the level of competence expected in academic assessments or workplace settings.

4.2. The Impact of Students' Socio-Economic Background on their Perceptions of Skills Developed and Assignment Performance

This section of the research examined whether the socio-economic backgrounds of post-graduate management accounting students, as proxied by the type of school that they attended, influenced

their perceptions of professional competencies developed and their performance in a group case study assignment.

The research sample represented students from diverse socio-economic backgrounds, as reflected by the types of schools that they attended. The distribution shows that 34.2% of students attended public schools in urban areas, representing the largest group in the sample. This was followed by 31.6% enrolled in Model-C schools (government-subsidised schools). Additionally, 17.7% of students came from public schools in rural regions, while 16.5% attended private institutions. The relatively balanced representation between public school students and those from semi-private or private backgrounds provides a solid foundation for examining whether socio-economic factors influence students' experiences with case study assignments.

For statistical analysis purposes, students were categorised into two groups: those who attended public schools (urban and rural) were assigned a value of 1 (51.9% of the sample), and those who attended semi-private or private schools were assigned a value of 2 (48.1% of the sample).

The findings, as revealed in Table 10.5, show a weak negative correlation (-0.093) between school type and the perception of professional skills developed through the group case study assignment. This correlation is not statistically significant ($p = 0.414 > 0.05$). The negative direction suggests that students from public schools (coded as 1) had slightly more positive perceptions of the professional competencies developed than students from private or semi-private institutions (coded as 2). However, this difference was not statistically significant. Therefore, the study fails to reject the initial null hypotheses (H2) that there is no statistically significant correlation between students' socio-economic background and their perceptions of professional skills developed or performance in the group case study project.

Similarly, the research investigated whether students' socio-economic backgrounds influenced their performance in the group case study assignment. The results in Table 10.5 indicate a very weak positive correlation ($r = 0.021$) between school type and

Table 10.5: Correlation between the type of school attended, perception of professional competency developed and performance in the group case study assignment

		Public or private school
Perception of professional skills developed	Pearson's Correlation	-.093
	Sig. (2-tailed)	.414
Performance in the assignment	Pearson's Correlation	.021
	Sig. (2-tailed)	.851
**. Correlation is significant at the 0.01 level (2-tailed).		
*. Correlation is significant at the 0.05 level (2-tailed).		

Source: SPSS® output

assignment performance, which is not statistically significant (p = 0.851). This correlation is essentially zero, indicating that the type of school that a student attended had virtually no impact on their performance in the group case study assignment. Once again, the null hypothesis (H3) that there is no statistically significant correlation between students' socio-economic background and the marks awarded for the group case study assignment is not rejected.

The findings of this study contradict the idea that students from more privileged backgrounds would more easily relate to international business cases and perceive greater benefits. The literature suggested that socio-economic factors and access to educational resources may influence academic performance and engagement with complex international case material (Agherdien *et al.*, 2018; Shamsoodien & Carpenter, 2020; Viviers & de Villiers, 2020). However, the results indicate that students from different school backgrounds reported similarly positive perceptions of professional competency development through the case study assignment. This aligns with the earlier finding that students generally viewed the case study assignment as highly beneficial

for developing professional competencies (overall mean of 4.28 out of 5). While socio-economic background was measured only through school type, the findings suggest that students across diverse educational contexts can derive comparable perceived benefits from such experiential learning activities. The findings suggest that the pedagogical design of the case study assignment may have fostered an equitable learning environment, enabling students from diverse backgrounds to engage meaningfully with the material. Furthermore, the results of this study highlight the need for a more nuanced understanding of how students' diverse educational experiences influence their engagement with international case studies, rather than assuming direct links between background, school type, and perceived learning benefits.

The findings further challenge the assumption that students from more privileged backgrounds would more easily relate to international business cases and achieve higher marks. Despite concerns that students from disadvantaged backgrounds might be unfamiliar with the operations and risks associated with businesses featured in international case studies, this finding is particularly noteworthy given the context of such case studies, as in CIMA examinations. The literature raised concerns that students from disadvantaged backgrounds might struggle to relate to international business scenarios because of limited exposure to certain industries or business models (CIMA, 2020). However, the results suggest that such unfamiliarity did not translate to performance differences.

Several factors might explain this lack of correlation. First, the collaborative nature of group assignments may have allowed students to pool their diverse knowledge and experiences, potentially mitigating individual socio-economic differences (Christensen *et al.*, 2018). Second, as noted in the literature review, post-graduate students tend to be motivated by career advancement and adopt deeper learning approaches, which may transcend socio-economic differences. Third, the advantage that students may have gained from a more privileged background may have been eroded by the time that they complete an undergraduate qualification (Shamsoodien & Carpenter, 2020).

5. Conclusion

The new world of work requires entry-level management accountants to possess skills that go beyond technical expertise. However, accounting education has been criticised for ill-equipping graduates for professional employment, with calls for accounting students to acquire a broader range of skills (Gittings *et al.*, 2020; Herbert *et al.*, 2020; Keevy, 2016; Levant *et al.*, 2016). Previous studies indicate that using case studies in accounting education allows for real-life applications of theory, which enhances students' technical knowledge, understanding, and professional skills(Boland, 2012; Bremser & White, 2000; Malan & van Dyk, 2021; Mostert *et al.*, 2025; Tan, 2019; Van der Merwe, 2013; Wynn-Williams *et al.*, 2008).

In response, this study aimed to assess the extent to which students enrolled in a CIMA-aligned post-graduate qualification at the University of Johannesburg perceive that professional skills are developed during a group case study assignment. The results from factor and frequency analysis support previous research (Butler *et al.*, 2019; Gittings *et al.*, 2020; Reyneke & Shuttleworth, 2018) that case studies are effective in developing teamwork, communication, leadership, and higher-order thinking. The overall positive perception of the professional skills developed aligns with Kwan's (2019) assertion that post-graduate students prefer assignments that involve real-world applications and problem-solving tasks.

The results confirm that while postgraduate management accounting students view group case study projects as highly beneficial for developing professional competencies, these perceptions do not correlate significantly with their actual performance. This finding highlights the limitation of relying solely on self-reported perceptions to assess learning effectiveness and emphasises the need for more comprehensive evaluation strategies that substantiate perceptions with evidence of demonstrated performance.

The literature suggests that students do not necessarily benefit equally from learning interventions and that student-specific factors should be considered when using case studies as an experiential learning activity (Hulaikah *et al.*,

2020; Tan, 2019; Viviers & de Villiers, 2020; Wynn-Williams *et al.*, 2008). Socioeconomic factors are known to impact student performance (Agherdien *et al.*, 2018; Viviers & de Villiers, 2020), particularly in South Africa, where students often do not have equal opportunities (Shamsoodien & Carpenter, 2020). Consequently, this study investigated whether a student's socio-economic background (measured by the type of school attended) may negatively impact their perceptions of the skills which they have developed or their performance in the group case study assignment. The initial argument was that students from more privileged backgrounds might find it easier to relate to international business cases and perceive greater benefits. However, the results of the correlation analysis showed that neither perceptions nor performance is significantly influenced by school type as a proxy for socio-economic background. These findings are based on subjective perceptions and a narrow measure of student background, both of which are limitations of this study. Nevertheless, the findings suggest that students from varied educational contexts can derive similarly positive learning experiences, although future research using more robust socio-economic indicators is needed to confirm this.

The lack of correlation also suggests that other factors beyond those tested may be more influential in determining students' performance in group case study assignments. These might include individual factors such as academic preparation, group dynamics, or the effectiveness of teaching and learning strategies. However, these findings are encouraging in the context of using international case studies in diverse educational settings, such as South Africa. It suggests that well-designed case study assignments can be effective learning tools across diverse student populations, regardless of prior exposure to specific business contexts.

These findings contribute to the limited research on professional competency development amongst post-graduate management accounting students, particularly those pursuing CIMA qualifications. The group case study appears to satisfy these preferences while simultaneously developing the professional competencies outlined in the CGMA Competency Framework.

The disconnect between perception and performance reinforces the need for accounting educators to implement comprehensive assessment strategies that develop students' awareness of professional competencies and ensure that these competencies are effectively demonstrated at levels that will lead to academic and workplace success. While case studies remain valuable experiential learning tools, their implementation should include mechanisms to help students to accurately gauge their competency development and identify areas for improvement.

The findings also illustrate how ELAs, such as group case studies, can facilitate aspects of the hidden curriculum, through which students internalise implicit professional behaviours and values that extend beyond formally assessed learning outcomes. Recognising and intentionally utilising the hidden curriculum in such assignments may enable accounting educators to better cultivate both the formal and tacit competencies required for success in contemporary professional environments.

The findings and conclusions of this study should be considered in light of its limitations. The responses were limited to the cohort of students within one academic year of the programme, which numbered only 82, and this is considered a very small sample. The responses were limited to closed-ended questions, which could mean that students were forced to convey their perceptions within predetermined boundaries, thereby limiting in-depth insights into their perceptions. Further research could include interviewing participants to provide in-depth insight into students' experiences with ELA. Future research could also corroborate perception data with additional performance measures to provide a more robust understanding of how professional competencies are developed.

This study only considered the type of school attended as a proxy for socio-economic background. Future research could explore other factors that might influence both perceptions and performance in case study assignments, such as prior work experience, language proficiency, or specific aspects of case study design. Additionally, qualitative research could provide deeper insights into how students from different backgrounds experience the hidden curriculum, engage with case study material and navigate potentially unfamiliar business contexts.

In conclusion, this research suggests that well-designed group case study assignments can support the development of professional and enterprising competencies across diverse student populations while illustrating the role of the hidden curriculum in shaping students' holistic preparedness for the evolving and globalised accounting profession.

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Chapter 11

Empowering Master's Students through Leadership Coaching and Adequate Supervision

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Abstract

Leadership coaching and adequate supervision are critical in fostering self-mastery, identity development, and enterprise-readiness (e.g., adaptability, resilience, and ethical leadership) amongst master's students. Traditional postgraduate curricula often prioritise technical proficiency and research output while overlooking the implicit or hidden curriculum of emotional intelligence, values-based development, and enterprise skills (Boyatzis & Goleman, 2019; Passmore, 2021). Leadership coaching offers a developmental pathway that supports students in aligning personal values with academic and professional goals, enhancing their resilience, and strengthening their leadership identity. This chapter demonstrates the potential of coaching to create psychologically safe learning environments, clarify identity, and reinforce research alignment, drawing on reflective coaching notes, values assessments, and group artefacts collected from two cohorts of master's students in 2024 and 2025. Observations from the coaching process also reveal supervision challenges from the student perspective, particularly concerning emotional containment, workload distribution, and communication gaps. A conceptual framework outlines how values-based team coaching

can support ethical leadership, academic coherence, and the integration of self-mastery within postgraduate education while bridging hidden curriculum dynamics with enterprise-readiness outcomes (Hawkins, 2022; Peters, 2023).

Keywords: Constructivist paradigm; emotional intelligence; enterprise readiness; hidden curriculum; identity development; leadership coaching; postgraduate supervision; self-mastery; values-based leadership

1. Introduction

Postgraduate education, particularly at the master's level, represents a transformative stage in which students must develop both academic expertise and a professional identity. This process extends beyond mastering disciplinary knowledge in Industrial Psychology (IP) programmes. Students must integrate professional values, navigate ambiguity, and position themselves within academic and workplace contexts where identity, ethics, and evidence-based practice are central. To succeed, they must align personal values with scholarly enquiry, adapt to research demands, and prepare for complex organisational roles (Cekiso *et al.*, 2019; Mouton, 2022).

Most master's programmes, however, emphasise technical competence and research productivity, often prioritising dissertation completion and output metrics over developmental needs. This narrow focus neglects the deeper processes of identity formation, resilience, and professional growth that are increasingly recognised as essential for postgraduate success (Cekiso *et al.*, 2019; Mouton, 2022; Wisker, 2023). It also risks overlooking the hidden curriculum: the implicit norms, expectations, and emotional demands that profoundly shape how postgraduate students engage with supervisors, research, and academic identity (Alvesson & Spicer, 2019; Lee, 2008).

Against this backdrop, leadership coaching offers a values-based, humanistic response to these challenges. Rather than treating students as passive recipients of supervision, coaching positions them as reflective agents who actively cultivate identity, manage uncertainty, and build the emotional intelligence necessary for engaged supervision and high-quality research. Emerging evidence indicates that coaching-informed

interventions strengthen students' self-mastery and contribute to institutional competitiveness by fostering learning environments that support retention and attract motivated candidates (Eadens & Ceballos, 2023; Nacif *et al.*, 2023).

This study examines two cohorts of Industrial Psychology master's students (2024 and 2025) at a South African public university. Over two years, an adaptive team-coaching model was embedded into the programme as a structured, values-driven, and developmental process designed to help students to clarify their identity, integrate values, and align academic work with leadership growth. While the focus here is on IP students, the findings are relevant to other postgraduate contexts where identity, resilience, and value alignment play a central role. Nevertheless, disciplinary differences, particularly between professional programmes such as IP and more technically focused fields, may shape how coaching processes are experienced, and this study does not claim universal applicability.

The research addressed two guiding questions:

1. How does leadership team coaching support self-awareness, identity formation, and research alignment in master's students of Industrial Psychology?
2. What institutional implications emerge when leadership coaching becomes a central rather than peripheral feature of postgraduate supervision, and to what extent can lessons from Industrial Psychology be extrapolated to other disciplines?

By situating leadership coaching at the intersection of supervision and postgraduate identity development, this chapter contributes to the literature on postgraduate supervision, values-based leadership, and the hidden curriculum in higher education. It positions coaching as a developmental bridge that enables IP students to form ethical, epistemically grounded academic identities while cultivating adaptability, resilience, and enterprise-readiness. In doing so, it addresses a critical gap in empirical research on postgraduate coaching and raises **new** questions about the transferability of coaching-informed supervision beyond Industrial Psychology.

2. Literature Review

Postgraduate education, defined here as master's and doctoral-level study, increasingly demands a holistic approach that recognises students as both researchers-in-training and emerging professionals navigating complex emotional, ethical, and epistemological terrains. While technical skills such as research design, data analysis, and academic writing remain essential, they are insufficient. To succeed in academia and adapt to diverse professional environments, postgraduate students must also cultivate self-awareness, resilience, and values-driven leadership (Passmore, 2021; Eadens & Ceballos, 2023). Formal and hidden curricula shape these capacities: the implicit expectations, institutional norms, and emotional demands that profoundly influence postgraduate identity and engagement (Alvesson & Spicer, 2019). Leadership coaching offers a distinct and developmental approach compared to other forms of coaching because it intentionally integrates identity formation, values alignment, and ethical leadership into postgraduate study. When intentionally embedded in postgraduate programmes, leadership coaching addresses skill gaps and the hidden relational and developmental challenges students face (Stober & Grant, 2020; Whitmore, 2020).

2.1. Leadership Coaching in Higher Education

Leadership coaching is increasingly valued in higher education, especially in postgraduate contexts marked by complexity and shifting identity (Whitmore, 2020; Stober & Grant, 2020; Nacif *et al.*, 2023; Peters, 2023). However, most studies emphasise positive outcomes, often underplaying tensions such as unequal access, variable supervisory buy-in, or the risk of coaching being framed as remedial rather than developmental. Seminal work highlights its grounding in humanistic and constructivist traditions, which prioritise reflective dialogue, relational awareness, and meaning-making over directive instruction (Connor & Pokora, 2017; Stober & Grant, 2020). More recent studies affirm that postgraduate students benefit from enhanced psychological safety and peer accountability in team-based coaching contexts, dynamics that foster collective meaning-making and reinforce leadership identity (Hawkins, 2022; Mann *et al.*, 2022).

Research also demonstrates that specific coaching tools (values clarification exercises, leadership typology assessments, structured goal-setting frameworks) develop motivation, emotional intelligence, and coherence (Whitmore, 2020; Boyatzis & Goleman, 2019). Rather than viewing leadership as a performative role, coaching frameworks conceptualise it as a developmental process characterised by ethical reflection, ego maturity (the capacity to hold multiple perspectives and regulate the self in complex situations), and identity integration (Peters, 2023). For postgraduate students, especially at the master's and doctoral levels, such approaches provide ways to navigate institutional pressures while grounding their practice in personal values and academic integrity.

2.2. Supervision Challenges in Postgraduate Study

Traditional supervision models in postgraduate education remain hierarchical, emphasising research deliverables and technical compliance. These models often neglect students' relational and developmental needs, leading to frustration, disengagement, and emotional strain (Cekiso *et al.*, 2019; Mouton, 2022). Whereas traditional supervision often reinforces hierarchy and compliance, coaching reframes supervision as co-learning (Iordanou *et al.*, 2017). This distinction matters because postgraduate success depends as much on relational trust and agency as on technical competence (Bordogna, 2023; Ely *et al.*, 2019). By positioning students as reflective agents rather than passive recipients of supervision, coaching support's identity cultivation, resilience, and values-driven leadership. Empirical research identifies common challenges: limited access to feedback, inconsistent supervisory engagement, and unacknowledged power dynamics, all of which undermine academic motivation and well-being (Lee, 2008; Manathunga, 2007; Wisker, 2023).

Coaching-informed supervision offers a promising alternative by reframing supervision as a co-learning process. Rather than reinforcing top-down authority, coaching introduces reflective dialogue, shared goal-setting, and mutual accountability (Iordanou *et al.*, 2017). Studies grounded in relational ethics and social exchange theory show that such approaches enhance student agency, clarify expectations, and strengthen academic

relationships (Bordogna, 2023; Ely *et al.*, 2019). Coaching also aligns with a broader shift towards student-centred and inclusive practices in higher education, where well-being, mindfulness, and emotional resilience are understood as integral to postgraduate success (Wang *et al.*, 2023). In this way, coaching creates safe, reflective spaces where students can build confidence, manage uncertainty, and connect research to personal purpose.

2.3. The Hidden Curriculum and Self-Mastery

Much of what shapes the postgraduate experience lies beyond the formally accredited curriculum. The hidden curriculum (implicit expectations, institutional norms, and emotional demands) profoundly shapes student engagement (Alvesson & Spicer, 2019). While supervision research recognises these dynamics, it rarely offers strategies for addressing them. Coaching makes these dynamics explicit and creates a structured space for clarifying values and containing emotions, enabling students to resist normalising harmful norms. Through intentional listening, values clarification, and emotional containment, coaching equips students to examine assumptions, challenge limiting beliefs, and adopt more empowering perspectives (Passmore, 2021; Boyatzis & Goleman, 2019). In doing so, coaching supports the development of self-leadership, ethical reflexivity, and informed decision-making (Mezirow, 2000).

In addition, reflective tools such as the Heightening Awareness of Research Philosophy (HARP) survey (Saunders *et al.*, 2023) encourage students to explore how their ontological, epistemological, and axiological assumptions shape their research practice. While HARP was not directly applied in this study, its conceptual logic informed the development of the Leadership and Coaching Alignment Questionnaire (LCAQ), introduced here as an emerging reflective tool. Coaching complements such frameworks by enabling students to integrate these epistemological insights into their leadership identity (Peters, 2023). Together, values-based coaching and reflective diagnostics deepen student engagement with the postgraduate journey, reframing it not merely as a project to be completed but as a transformative process of enterprise-readiness, ethical growth, and professional identity formation (Nacif *et al.*, 2023).

2.4. Conclusion

The literature emphasises the evolving role of leadership coaching in postgraduate education, highlighting its potential to counter supervision's structural limitations and to illuminate the hidden curriculum. However, gaps remain; empirical studies often lack longitudinal depth, under-theorise power dynamics, and rarely integrate coaching into mainstream postgraduate structures. This chapter addresses these gaps by analysing two cohorts in Industrial Psychology where leadership coaching was intentionally embedded. Focusing here on master's-level students in Industrial Psychology, coaching emerges as a developmentally rich practice that enhances emotional intelligence, ethical reflection, identity integration, and enterprise-readiness—qualities essential for navigating the complexity of postgraduate study. Tools such as values clarification exercises and the HARP framework demonstrate how coaching can identify epistemological assumptions and align personal values with academic purpose. The following section outlines the methodology used to explore how team-based leadership coaching shaped students' experiences and identity development across two cohorts.

3. Methodology

This chapter is grounded in a qualitative, interpretivist paradigm aimed at understanding the subjective experiences of master's students participating in leadership coaching interventions. The methodology supports an exploratory, developmental enquiry into how coaching can foster identity development, emotional self-regulation, and alignment with research within postgraduate study.

3.1. Research Paradigm

This study adopts an interpretivist paradigm, assuming that reality is socially constructed and individuals actively assign meaning to their experiences within specific contexts (Creswell & Poth, 2018). This paradigm is exceptionally well-suited to coaching research, where participant meaning-making and subjective change are of primary concern (Grant, 2017).

As applied in this study, leadership coaching aligns closely with constructivist and humanistic educational philosophies.

It positions the student as an active agent in their development rather than a passive recipient of instruction (Passmore, 2021). Building on Schön's (1983) seminal insights into reflective practice, contemporary scholarship highlights how reflective dialogue and enquiry foster identity formation and developmental transformation in postgraduate education (Gordon & MacLeod, 2009; Finlay, 2008).

3.2. Research Design and Sampling

The study followed a multi-case design, analysing two distinct cohorts of master's students in Industrial Psychology from 2024 and 2025. Each cohort participated in a structured series of leadership team coaching interventions. The design allowed for within-group and between-group comparisons, capturing recurring themes and developmental variations.

Thirty-two students (2024: n = 19; 2025: n = 13) participated in the coaching interventions, which were structured in small coaching teams of four to six members each to support trust, peer learning, and meaningful dialogue. At specific points, the coach also facilitated whole-cohort sessions (per year group) to address cross-team dynamics, share collective insights, and strengthen co-learning across the cohort. Participants represented diverse gender, racial, and cultural backgrounds, with most students identifying as female and a majority from historically underrepresented groups. The sample's diversity enriched the exploration of coaching values, relational dynamics, and leadership identities.

All coaching sessions were facilitated by the researcher, a registered Leadership Coach with the Coaching and Mentoring South Africa (COMENSA) professional body, holding an MPhil in Leadership Coaching, and bringing over 30 years of senior and executive leadership experience, including 12 years as an Executive Dean in Economics and Business. This professional background added rigour and credibility to the intervention. The Department offered coaching as a voluntary, non-credited value-add initiative to strengthen the academic programme and provide developmental support beyond formal supervision. Students did not choose their coach, but all were briefed on the coaching process before participation.

Participants were selected through natural cohort membership, and consent was obtained prior to data collection.

Ethical clearance from the institutional Research Ethics Committee (IPPM-2024-865) was obtained to use the coach's notes and individual values data gathered during team coaching sessions with master's students. Students were invited to voluntarily participate in the study and were assured that they could withdraw without repercussions. They signed consent forms and received an information sheet detailing the research process. Confidentiality and anonymity were protected under the Protection of Personal Information Act (Act 4 of 2013). This study disclosed no names or other identifying information in its reporting of the findings. The author ensured that participants were not subjected to harm and made counselling services available to address any negative consequences.

3.3. Research Method

The research employed a combination of artefact-based and reflective methods (e.g., analysing student-created values charts, behavioural agreements, and visioning exercises). Data were collected at multiple points throughout the team-coaching process, yielding immediate and developmental insights. As summarised in Figure 11.1, four interlinked data sources informed the thematic analysis:

(a) The Team Coach's Notes consisted of in-session and post-session reflections recorded by the researcher-coach, capturing developmental themes, narrative summaries, and observational insights.
(b) The Learning Artefacts comprised team-created materials such as values-based charters, behavioural agreements, and structured coaching tools, including visioning templates and metaphor-based exercises.
(c) Students produced written reflections individually or collaboratively, responding to guided prompts, offering insight into their identity development experiences, values alignment, leadership orientation, and uncertainty.
(d) The author collected the feedback and observations following each session and included participants' reflections on emotional tone, perceived learning, and evolving developmental priorities.

In addition to these qualitative sources, participants engaged with a diagnostic methodology adapted from established approaches to research philosophy and methodology (Saunders *et al.*, 2023). This methodology, currently under development as the Leadership and Coaching Alignment Questionnaire (LCAQ), generated indicative scores across three domains: (1) Philosophical orientation (Positivism, Pragmatism, Interpretivism, Critical Realism, Postmodernism), (2) Methodological preferences (Quantitative, Mixed-Methods, Qualitative–Interpretivist/Constructivist), and (3) Leadership orientations (Transformational, Servant, Authentic, Adaptive, Transactional). The framework drew conceptually on the "research onion" of Saunders *et al.* (2019), but was customised to explore intersections between leadership identity, research alignment, and values. These scores were used illustratively to triangulate and enrich the qualitative findings.

This combined approach enabled qualitative depth and illustrative cohort-level comparisons, ensuring that student voices were central while highlighting broader developmental patterns.



Figure 11.1: Reflective data sources from the leadership coaching process
Source: Own compilation

Figure 11.1 illustrates the primary data sources used to analyse the leadership coaching interventions with postgraduate students. The central coaching process generated multiple reflective outputs:

(a) **The Team Coach's Notes** consisted of in-session and post-session reflections recorded by the researcher-coach, capturing developmental themes, narrative summaries, and observational insights.
(b) **The Student Artefacts** comprised team-created materials such as values-based charters, behavioural agreements, and structured coaching tools, including visioning templates and metaphor-based exercises.
(c) **Students produced written reflections** individually or collaboratively in response to guided prompts, yielding insights into their identity development, values alignment, leadership orientation, and experiences of uncertainty.
(d) After each session, the coach collected feedback and observations, capturing participants' reflections on emotional tone, perceived learning, and evolving developmental priorities.

These data sources, embedded across the coaching cycle, captured individual and group-level transformation. Together, they informed a cyclical developmental analysis of identity formation, emotional regulation, and research alignment.

3.4. Data Analysis and Ensuring Trustworthiness

Data were analysed inductively using Braun and Clarke's (2006) six-phase process of thematic analysis: (1) familiarisation with data through repeated reading of coach notes, reflections, and artefacts; (2) initial coding to capture significant features; (3) searching for patterns across codes; (4) reviewing and refining emerging themes; (5) defining and naming themes to reflect developmental dimensions; and (6) producing a narrative account with illustrative extracts. Manual coding was supplemented with matrix mapping to compare patterns within and across the two cohorts. Themes were iteratively developed and refined through collaborative discussion amongst the research team, enhancing rigour and credibility.

Trustworthiness was ensured through multiple strategies:

(a) Triangulation of data sources (coach notes, artefacts, reflections, feedback) across cohorts.
(b) Audit trail documentation of coaching cycles, coding decisions, and thematic development.
(c) Reflexive journalling by the researcher-coach to identify and bracket potential biases.
(d) Prolonged engagement with participants across their first academic term to build depth and authenticity of data.
(e) Member checks were conducted informally with students during feedback sessions to confirm commonality of themes.

The researcher verified the findings through saturation review and confirmed that no new codes emerged after repeated analysis of participant narratives and artefacts (Nowell *et al.*, 2017). The chapter draws on selected direct quotations from learning artefacts and reflections to strengthen credibility and illustrate analytic claims.

The researcher monitored saturation across iterative coding cycles. The first cycle (n = 32; 2024 and 2025 cohorts combined) produced 41 initial codes. The second cycle refined these to 27 by consolidating overlaps (e.g., trust-building and psychological safety). The third cycle added only two minor variations (peer encouragement and identity–research alignment), which remained consistent with existing themes. The fourth cycle produced no new codes.

Across both cohorts, the recurrence of three dominant themes evidenced saturation:

- **Integration of Values** (e.g., charters, personal reflections on authenticity).
- **Identity and Research Alignment** (e.g., reflective prompts linking philosophy, leadership, and methodology).
- **Cohort Dynamics** (e.g., differences in developmental readiness between 2024 and 2025).

Data replication rather than novelty occurred by this stage, confirming that the thematic framework adequately captured participants' developmental experiences.

4. Findings and discussion

This section presents findings from two cycles of team coaching interventions, framed around three key themes:

(1) integration of coaching priorities and values; (2) alignment of leadership identity and research; and (3) comparisons at the cohort level and insights into development. The study drew on the coach's notes, student artefacts, written reflections, and post-session feedback. In 2025, the team also introduced a diagnostic pilot tool (LCAQ) to provide additional illustrative patterns. These sources highlighted how leadership coaching shaped postgraduate students' identity formation, values articulation, and emotional resilience.

4.1. Coaching Priorities and Values Integration (2024 Cohort)

Students in the 2024 cohort entered the programme with high expectations, significant uncertainty, and a need for emotional containment. Early coaching priorities centred on building trust, establishing psychological safety, and clarifying personal values. Each coaching team co-created a charter that captured its behavioural norms and shared ethical commitments. These artefacts became foundational for shaping group engagement and accountability. Emerging team themes included:

(a) Team 1: *The Foundation of Trust*, which prioritised confidentiality, kindness, and respect.
(b) Team 2: *Empowering Voices, Fostering Participation* emphasising inclusion and shared voice.
(c) Team 3: *Transparency, Trust, and Relationship Building* focusing on vulnerability and openness.
(d) Team 4: *Supporting Well-being and Equality*, which highlighted emotional support and fairness.

> Values clarification exercises revealed leadership orientations shaped by personal histories, cultural context, and career aspirations, and commonly expressed values included love, independence, responsibility, and growth. For many, the coaching process provided the first opportunity to name and claim these values in an academic setting.

> *"I realised I had always seen myself as a follower, but through the values exercise I could identify where I*
>
> *already take leadership."* (Student reflection, 2024 cohort)
>
> *"At first, I thought leadership had nothing to do with my thesis, but the Code of Conduct exercise showed me how much my personal values influence how I study and work."* (Student reflection, 2024)
>
> *"Sharing my values with the team felt risky, but it was the first time I felt really seen in an academic space."* (Student reflection, 2024)
>
> Sessions served as reflective spaces and emotional holding environments, supporting students in regulating anxiety, reframing experiences, and articulating leadership identities.

4.2. Leadership Identity and Research Alignment (2025 Cohort)

By 2025, the coaching process had evolved to incorporate more structured reflection tools and developmental scaffolds. The coach introduced students to reflective prompts that encouraged integrating personal values, leadership styles, and academic direction. In 2025, because of reducing the new intake, the cohort was organised into two coaching teams, each of which co-created and adopted a shared coaching code of ethics. This code drew on principles of trust, diversity, full engagement, and professional coaching standards (Coaches and Mentors of South Africa [COMENSA], 2022). Compared to the 2024 cohort, students in 2025 demonstrated greater initial self-awareness and higher comfort levels with vulnerability.

Coaching sessions explored questions such as:

(a) *How does your leadership style shape your research approach?*
(b) *What values drive my engagement with uncertainty?*
(c) *Where does academic work meet personal purpose?*

Written reflections and values-based coaching tools supported identity integration and epistemological clarity. Students reported increased coherence between research topics, methodology choices, and personal purpose, hallmarks of authentic leadership and self-authored academic identity. Post-session feedback indicated that the structured nature of the 2025 coaching cycle

supported deeper reflection, emotional clarity, and team cohesion. Peer-to-peer encouragement emerged as a significant catalyst for insight and motivation.

The quantitative cohort-level pilot LCAQ results further illustrated these developmental trends. The LCAQ, adapted conceptually from existing tools such as the HARP (Saunders *et al.*, 2023), generated profiles that linked leadership styles, research philosophies, methodological preferences, and personal values. The 2025 students scored highest on Servant leadership (mean = 12.7 ± 2.1) and Transformational leadership (mean = 10.5 ± 1.8), emphasising collaboration, vulnerability, and ethical accountability. By contrast, their scores for Authentic (mean = 9.8 ± 2.0), Adaptive (mean = 9.2 ± 1.9), and Transactional leadership (mean = 8.4 ± 1.7) were comparatively lower, suggesting that students placed less emphasis on self-centred or compliance-oriented leadership orientations.

Philosophically, they demonstrated preferences for Pragmatism (13.9) and Interpretivism (12.7), while their methodological orientations highlighted Mixed-Methods (11.4) and Qualitative approaches (11.2–10.8). These scores provided a quantitative profile that reinforced the qualitative findings, confirming the cohort's readiness to align its leadership identity with the research philosophy and practice.

Illustrative examples show how students' research topics aligned with these profiles. One student investigating *Telepressure and Gig Worker Well-being* discovered that an interpretivist, qualitative stance reflected both personal values of family and a servant-leadership orientation. Another, exploring *Technology Use and Flow at Work*, aligned a pragmatic mixed-methods approach with values of balance and care. A third, examining *Mental Health Help-Seeking in Academia*, found that Servant leadership and interpretivism supported an ethically responsible, participant-centred design. These examples illustrate how coaching and the LCAQ helped to identify values-based coherence between identity, leadership style, and research design.

> *"When I linked my research question to my values, it stopped feeling like just an assignment and became part of who I am."* (Student reflection, 2025)

> *"The code of ethics made me realise we were not only accountable to each other but also to ourselves as developing professionals."* (Student reflection, 2025)
>
> *"Through the coaching prompts, I realised my research on workplace stigma was not just about collecting data — it was about honouring the dignity and stories of the people involved."* (Student reflection, 2025)

4.3. Comparative Analysis of the 2024 and 2025 Cohorts

This section presents a comparative analysis of the 2024 and 2025 cohorts to illustrate the importance of adaptive coaching design. Rather than applying a fixed recipe, the coach adapted to each team's developmental needs at the stage where they were at. The discussion proceeds in three parts: first, the developmental priorities of the 2024 cohort; second, the contrasting needs and responses of the 2025 cohort; and finally, a synthesis of student voices and leadership orientations across both groups.

4.3.1. The 2024 Cohort: Seeking Containment and Safety

In 2024, students sought clarification of emotional containment, relational safety, and individual values. The coach responded by prioritising open reflection, trust-building rituals, and co-creating team charters. Established in the first session, these charters acted as codes of conduct that articulated shared values, expectations, and working norms. In practice, they functioned as social contracts, often emphasising order, accountability, and clarity of roles. This process established a foundation for relational safety and collective identity.

Students' reflections emphasised this need for structure and clarity. One participant explained: *"I need structure to feel safe — facts, numbers, and clear guidelines help me know I am on the right track."* Another added: *"The more predictable the process, the less anxious I feel about making mistakes."* Such comments show how epistemological preferences for Positivism and Critical Realism were intertwined with emotional needs, particularly the desire for clarity and containment.

Trust and psychological safety were also central themes. One student observed: *"Trust with my supervisor makes me feel*

like I can ask questions without being judged." Others described the coaching space as offering openness, with one remarking: *"It was the first time I realised how much the hidden curriculum shapes us — the stress, the silence, the expectations no one says out loud."* These voices highlight emotional undercurrents of postgraduate study that conventional programme designs often overlook.

4.3.2. The 2025 Cohort: Moving Towards Identity and Research Alignment

By contrast, the 2025 cohort entered the programme with greater readiness to engage identity, values, and research alignment. Here, the coach introduced more structured tools, explicit developmental milestones, and earlier conversations about how personal identity connected with research choices.

Quantitative findings from the 2025 LCAQ pilot reflected this orientation. Students scored higher on Pragmatism (mean = 13.9 ± 2.1) and Interpretivism (mean = 12.7 ± 1.9), alongside greater interest in Mixed-Methods (mean = 11.4 ± 2.0) and Qualitative approaches (mean = 11.2–10.8 ± 1.8). Their leadership orientations highlighted Servant leadership (mean = 12.7 ± 2.3) and Transformational leadership (mean = 10.5 ± 1.7), emphasising collaboration, vulnerability, and ethical accountability.

Students' reflections reinforced these quantitative patterns. One noted, *"I realised I was waiting for direction instead of stepping into leadership. The coaching made me think about who I want to be in the team."* Another added: *"It was the first time I thought about how my personal values connect with my research — not just the topic, but how I do the work."* These reflections suggest that the 2025 cohort moved beyond anxiety management towards proactive identity formation.

Leadership narratives emphasised this orientation, with students highlighting *"being real," "staying true to my values,"* and *"adjusting to what the group needed."* As one team commented, *"Trust and adaptability will hold us together when the pressure rises."* Such statements indicate that structured tools and values-based conversations enabled earlier integration of ethics, identity, and leadership.

4.3.3. Synthesis: Adaptive Coaching and Developmental Responsiveness

These findings show that while the 2024 cohort entered with a need for containment and safety, the 2025 cohort was positioned to engage identity and research integration from the outset. Both groups engaged deeply with leadership, ethics, and personal transformation, but their contrasting starting points demonstrate that coaching must be tailored to cohort readiness, maturity, and context.

The shift from emotional containment in 2024 to proactive identity integration in 2025 reflects the evolving design of the coaching process. As one 2024 student said, *"I first needed the space to feel safe before I could even think about linking my values to my research."* By contrast, a 2025 student reflected: *"The reflective part of coaching helped me to connect my leadership style directly to my methodology — it gave me confidence that my research choices were truly mine."*

These contrasts emphasise the value of values-based and systemic coaching frameworks (Hawkins, 2022; Passmore, 2021), particularly in postgraduate education, where supervision is often fragmented or impersonal. Unlike traditional supervision, which frequently centres on compliance and deliverables, adaptive leadership coaching nurtures epistemic agency, identity coherence, and resilience.

4.4. Summary

The findings from both cohorts emphasise the transformative potential of leadership coaching in postgraduate education. In the 2024 cohort, students prioritised psychological safety, emotional containment, and values clarification, while the 2025 cohort engaged more deeply and earlier with research–identity integration through structured reflection and developmental scaffolds. These contrasts reveal a trajectory from containment towards identity coherence, with coaching content and design adapting responsively to each cohort's readiness.

Integrating qualitative reflections (artefacts, written responses, and quotations) with cohort-level averages from

the 2025 LCAQ pilot strengthens these conclusions. Qualitative evidence from 2024 suggested stronger leanings towards positivist and quantitative orientations, emphasising authentic and adaptive leadership in trust-building and resilience. By contrast, the 2025 cohort demonstrated, both qualitatively and through LCAQ scores, stronger interpretivist and pragmatic orientations, alongside tendencies towards servant and transformational leadership. These patterns triangulate with students' lived reflections, confirming that coaching fostered epistemic and emotional growth.

The coaching process supported greater emotional self-regulation, clarified academic purpose, and cultivated more coherent leadership identities. It also addressed the hidden curriculum, enhancing student–supervisor dynamics through deeper self-awareness and ethical engagement. These insights lay the groundwork for the conceptual framework in the next section, illustrating how values-based coaching can be embedded into postgraduate programmes to support sustainable student development and identity formation.

5. Conclusion

This final section consolidates insights from the two coaching cycles and presents a conceptual response to the developmental patterns observed. Drawing on identity integration, values alignment, and epistemological growth, it introduces the Adaptive Leadership Coaching Model as a framework for understanding how leadership coaching can support postgraduate transformation. The section concludes with key implications for institutional practice and proposes directions for future research, including the development of coaching-informed tools.

5.1. Conceptual Framework: Adaptive Leadership Coaching Model

Insights from the 2024 and 2025 cohorts informed the development of the Adaptive Leadership Coaching Model, introduced in this chapter to support values-based identity development in postgraduate education. The model illustrates

how team coaching evolves in response to students' developmental readiness, emerging needs, and cohort-specific dynamics. It integrates empirical observations from coaching practice with theoretical foundations drawn from developmental, systemic, and values-based coaching literature (Hawkins, 2022; Passmore, 2021; Bachkirova, 2022).

In addition to supporting personal and academic growth, the model enhances the postgraduate supervision process. Coaching equips students to confidently and constructively engage with their supervisors by fostering clarity of values, emotional regulation, and epistemological coherence. Rather than replacing supervision, the coaching process complements it—addressing relational and developmental needs often overlooked in traditional academic models. In this way, coaching bridges student agency and supervisory effectiveness, contributing to more meaningful, resilient academic partnerships (Lee & McAlpine, 2021; Wisker, 2023).

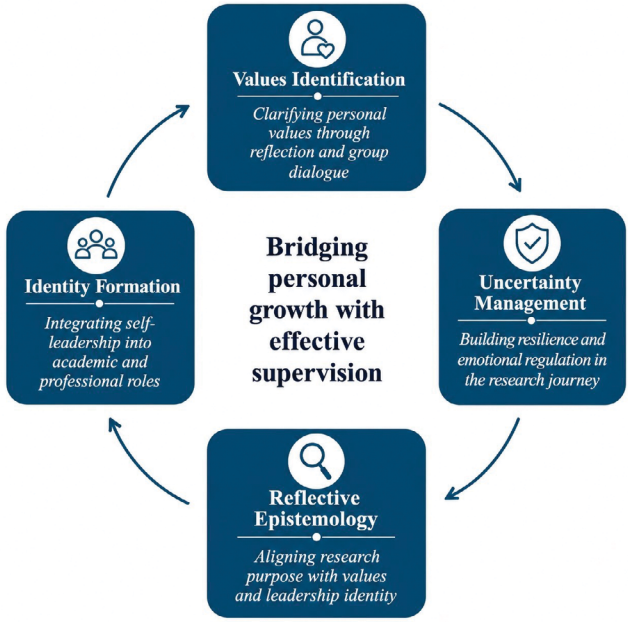


Figure 11.2: Adaptive leadership coaching model
Source: Own compilation

Figure 11.2 presents a cyclical model of adaptive leadership coaching in postgraduate education, reflecting the dynamic, recursive nature of student development. Each component represents a critical phase in a student's growth as a researcher and emerging leader. The model aligns with existing theories of values-based and systemic coaching (Hawkins, 2022; Passmore, 2021) and extends them within a postgraduate academic context.

(a) **Values Identification** – This foundational phase encourages students to explore personal and professional values, often for the first time in an academic setting. Activities such as values clarification exercises and collaborative team charters foster self-awareness and ethical reflection—hallmarks of emotionally intelligent leadership (Boyatzis & Goleman, 2019). This phase confirms the literature's emphasis on values as a gateway to authenticity and ethical conduct in leadership (Stober & Grant, 2020) and affirms the central role of personal meaning-making in postgraduate identity development (Saunders *et al.*, 2023; Mantai, 2021).

(b) **Uncertainty Management** – Postgraduate students frequently face ambiguity, emotional turbulence, and self-doubt, particularly early in their research journey. Coaching addresses these challenges by creating psychologically safe environments, prioritising emotional containment, peer support, and reflective listening. This finding aligns with research on the role of coaching in managing affective load and building resilience (Grant, 2017; Clutterbuck *et al.*, 2021) while extending it into the academic context where emotional containment is often absent. This phase was especially salient for the 2024 cohort, whose early needs were reassurance, emotional regulation, and peer belonging.

(c) **Reflective Epistemology** – As students gain clarity and confidence, the coaching process facilitates deeper alignment between their values, leadership orientation, and research philosophy. Reflective tools and group dialogue help students to interrogate their assumptions about knowledge, methodology, and academic purpose. This phase aligns with interpretivist and constructivist foundations (Connor & Pokora, 2017) and aligns with the HARP tool (Saunders

et al., 2023), which supports students in identifying their ontological and epistemological positioning. Students begin to articulate what they know — and why it matters — embedding values into academic enquiry.

(d) **Identity Formation** – Students synthesise their values, research direction, and leadership stance into a coherent academic identity in this integrative phase. Leadership becomes more than a skill set; it emerges as a way of being that shapes supervision relationships, academic integrity, and future career pathways. This finding supports theories of self-authorship (Baxter Magolda, 2008) and illustrates how identity development intersects with epistemological agency. For the 2025 cohort, this phase represented a mature convergence of earlier work on trust, values, and reflective alignment.

The cyclical nature of the model affirms that leadership development in postgraduate education is not linear. Students may revisit earlier phases as they encounter new challenges, deepen their self-awareness, or revise their research trajectory. The model reinforces the literature's emphasis on developmental coaching (Stober & Grant, 2020; Hawkins, 2022; Bachkirova, 2022) while offering an empirically grounded approach to cohort-responsive coaching practice in higher education.

5.2. Implications for Postgraduate Practice and Future Research

This chapter demonstrated how integrating leadership coaching into postgraduate education cultivates self-mastery, ethical leadership, and research coherence. The 2024 cohort emphasised the importance of emotional containment, team values, and psychological trust, while the 2025 cohort built on these foundations through more advanced work on identity, epistemology, and research alignment.

The Adaptive Leadership Coaching Model provides a framework for enhancing student agency and enriching the supervisory process through iterative design, adaptive facilitation, and professional coaching ethics. Its evolution across cohorts demonstrates coaching's potential as a reflective practice and a structural innovation in curriculum development.

To realise this potential, institutions should recognise coaching as an integral component of postgraduate education rather than a peripheral add-on. Key actions include:

(a) investing in internal coaching capacity through faculty development;
(b) engaging qualified external coaches where appropriate;
(c) embedding coaching into curriculum and supervision design; and
(d) aligning coaching practices with institutional and national policy frameworks for transformation, inclusion, and student success.

Sustaining coaching interventions requires leadership buy-in, funding, and change management strategies. Institutions might begin with small pilots, gather student feedback, and link outcomes to academic performance. Where coaching enhances confidence, clarity, and resilience, it becomes a vital mechanism for preparing students for the complex demands of leadership in academia and beyond.

From a policy perspective, higher education leaders and curriculum designers should formalise coaching in programme design, align practice with professional standards, invest in coach training, and ensure quality assurance.

Future research should assess the long-term developmental impact of coaching. Promising directions include testing whether values-based coaching — focused on identity formation, ethical reflexivity, and research alignment — improves postgraduate retention, well-being, and completion rates. Additional studies might:

(a) compare team-based and individual coaching models across disciplines;
(b) explore coaching's influence on epistemological development and supervisory relationships;
(c) investigate institutional conditions that support or hinder integration; and
(d) examine faculty perceptions of coaching-informed supervision.

The author's ongoing research is refining the Leadership and Coaching Alignment Questionnaire (LCAQ), a tool designed to support epistemological clarity and leadership integration in postgraduate students. The LCAQ combines four dimensions — research philosophy, research methodology, leadership style, and personal values — to help students to align academic preferences with emerging identities. Future studies will pilot and validate the LCAQ across postgraduate programmes, exploring its potential to enhance alignment with values-based research, identity coherence, and transformational learning.

Together, these implications highlight coaching not as an add-on but as a transformative force in postgraduate education, capable of cultivating resilience, ethical leadership, and values-based academic identities.

5.3. Addressing the Research Questions

This study answered its two guiding research questions. First, it found that leadership team coaching supported self-awareness, identity formation, and research alignment in master's students of Industrial Psychology. Through values clarification, emotional containment, and reflective epistemology, students developed the confidence and coherence needed to integrate academic and professional identities.

Second, the analysis examined the institutional implications of embedding coaching as a central rather than peripheral feature of postgraduate supervision. The findings showed that coaching enhanced student agency, strengthened supervisory relationships, and enriched learning environments, positively affecting retention, resilience, and motivation. While grounded in Industrial Psychology, these insights are transferable to other disciplines, provided that disciplinary contexts are acknowledged, and coaching approaches are adapted.

The results demonstrate that values-based leadership coaching can play a transformative role in postgraduate education, bridging personal development and academic practice while enriching institutional capacity.

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Chapter 12

The Role of Self-Reflection in the Development of Aspiring Chartered Accountants

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Abstract

Future chartered accountants are expected to have skills that enable them to be responsible leaders in a disruptive environment. The chartered accountancy profession is undergoing a transformative shift driven by ever-changing business needs and rapid technological advancements. Therefore, this means that chartered accountants need to be responsive to a dynamic environment and equipped with the necessary skills to think critically while integrating all relevant competencies to deliver high-quality, increasingly demanding deliverables. The literature highlights self-reflection as a method for developing the aforementioned skills. Self-reflection involves the ability to learn, unlearn, and re-learn; thus, allowing an individual to evaluate their cognitive, emotional, and behavioural thinking. This chapter explores, through a structured literature review, how self-reflection impacts learning and how it can be used as a teaching and learning tool to develop the aforementioned skills in aspiring chartered accountants. The self-reflection process and the tools needed to self-reflect are discussed. This chapter highlights the evolving role of self-reflection in the development

of skills for aspiring chartered accountants. Thus, the chapter aims to contribute to a human-centred approach that empowers students to be enterprising, dynamic problem-solvers and, in this way, transform the environments in which they collaborate.

Keywords: Accounting education; Chartered accountants; Self-reflection, Teaching and learning

1. Introduction

In an era of rapidly advancing technology, readily available information, and many industries seeking new and innovative ways to appeal to consumers, business environments have become increasingly complex. The role of chartered accountants has moved beyond traditional accounting (Dwaase *et al.*, 2020), and chartered accountants are expected to be more responsive and to think critically in an increasingly volatile, uncertain, complex, and ambiguous professional arena (Goosen & Steenkamp, 2023; SAICA, 2025a). The future chartered accountant is expected to possess skills that enable them to be leaders in this disruptive environment. Therefore, chartered accountants need to be responsive to these changes and equipped with the necessary skills to think critically while integrating all relevant competencies to deliver high-quality, increasingly demanding deliverables.

Professional bodies for the chartered accountancy designation have responded to these changing needs by updating their competency frameworks to reflect the new skills expected of chartered accountants. The South African Institute of Chartered Accountants (SAICA) introduced its CA of the Future project to ensure that its entry-level and prospective members remain relevant. The CA of the Future Competency Framework includes lifelong learning values and attitudes, as well as decision-making and relational acumen competencies, encompassing critical thinking, problem-solving, and self-reflection, amongst others. Future chartered accountants are expected to apply self-reflection skills and techniques, including reflections on their own performance, for ongoing learning and growth development (SAICA, 2025b).

Based on the above, the question arises as to whether the skills needed for the future, and more specifically critical thinking skills, can be developed through purposeful teaching and the

cultivation of a mindset of self-reflection amongst graduates studying towards the chartered accountant profession. Hence, this chapter examines the role of self-reflection in developing skills for future chartered accountants.

2. Self-Reflection Overview

Goosen and Steenkamp (2023) reiterate the importance of chartered accountants developing self-reflection skills as part of their tertiary education. However, these skills do not come naturally to students; they need to be purposefully developed with educators' guidance. This creates challenges for teaching self-reflection to accountants, as an already extensive syllabus must be taught to learners during their tertiary education. Furthermore, professional bodies such as SAICA highlight specific skills that graduates are expected to have developed during their tertiary education and when entering the profession (Goosen & Steenkamp, 2023; SAICA, 2025b). An essential component of the pervasive skills set required for professionals entering the field is that of critical thinking enhanced by self-reflection.

Self-reflection is the act or process of analysing and evaluating oneself or one's actions, and examining one's thoughts (Merriam-Webster, 2025). In the academic space, this act is seen as a formative learning opportunity that students can utilise to assess their performance. It serves as an early warning tool that helps learners to actively identify their learning gaps (Hill, 2016; UNSW Sydney, 2025). Self-reflection shifts the responsibility and accountability of learning to the student; thus, promoting self-learning. It also affords students the opportunity to develop continuous learning skills and presents a further opportunity to re-learn rather than focusing on the grade achieved (Hill, 2016). Self-reflection taps into the student's ability to initially learn, then unlearn, and eventually relearn through a purposeful contemplation of their actions, after which they can turn it into a meaningful experience. This leads students to further deconstruct and reconstruct their lived experiences, reinforcing the understanding that culminates in a learning experience that changes future behaviour at a heightened level of self-awareness (Menya-Olendo & Mawang, 2024; Sohail & Akram, 2025).

Dating as far back as 1983, many researchers have documented the importance of self-reflection in the education space (Barton & Ryan, 2020; Brookfield, 1989; Brown & McCartney, 1998; Daff *et al.*, 2024; Goosen & Steenkamp, 2023; Heymann *et al.*, 2022; Hill, 2016; Martincová *et al.*, 2021; Palmer, 1998; Schön 1983, 1987; Weerakoon, 2023; Yulhendri *et al.*, 2023). These researchers strongly advocate self-reflection to improve students' performance and develop skills that create a prospect for lifelong learning. A lifelong learner enters the work arena with career-specific technical knowledge and critical thinking competencies, culminating in employability competencies that many professions require (Heymann *et al.*, 2022). The accounting profession echoes this sentiment: chartered accountants require critical thinking skills, and self-reflection is a tool for developing them (Goosen & Steenkamp, 2023).

3. Methodology

Systematic literature reviews (SLRs) have gained traction in accounting research (Lombardi *et al.*, 2021; Garanina *et al.*, 2021; Jansen, 2018; Knudsen, 2020; Wolf *et al.*, 2020, Hoque, 2014; Lento *et al.*, 2021; Massaro *et al.*, 2016; Wick, 2021). This is mainly because of the advantages of an SLR in examining a wide range of evidence on the research question and in enabling the presentation of results in a concise, insightful, and reflective manner (Hardies *et al.*, 2024; Massaro *et al.*, 2016). The structure of this SLR is based mainly on the 10 steps described by Massaro *et al.* (2016:771-772), which is a commonly used approach in the accounting field. The 10 steps include the following "(1) writing a protocol, (2) posing questions to answer, (3) a literature search, (4) measuring article impact, (5) defining analytical framework, (6) checking reliability and (7) validity, (8) data codification, (9) getting insights from data and (10) developing future paths". The researchers of this paper designed the research protocol in accordance with the guidance by Massaro *et al.* (2016) and have outlined this in Table 12.1.

A literature search was conducted in the Elsevier Scopus database because of its reliability and high impact (Baas *et al.*,

2020). Scopus is a comprehensive abstract and citation database spanning diverse disciplines and encompassing a wide range of peer-reviewed literature. The database would ensure the validity of the literature selected (Mol *et al.*, 2025). To identify relevant literature on self-reflection and the development of critical thinking skills in accounting, the search began with a keyword search in the Scopus database. The search string combined multiple terms related to the accountancy profession and self-reflection as follows:

> ("self-reflection" OR "self-assessment" OR "reflective practice") AND ("professional development" OR "skill acquisition" OR "competency development") AND ("aspiring chartered accountants" OR "accounting students" OR "accountancy trainees" OR "future accountants")

The results of the search, totalling 504 papers, were stored as a Microsoft Excel™ database for manual coding by the authors. They removed 258 articles from various fields, including medicine, the arts, humanities, psychology, computer science, and engineering, because they were not aligned with the research question. They also removed an additional 5 articles from the search because they were not in English. English is the commonly referred language in the accounting and financial reporting field and will, therefore, ensure that only crucial results are retained in the review.

To ensure the reliability of the analyses, all authors were involved in data collection and analysis. The authors manually coded the articles through a detailed read-through of the abstracts to identify links to the literature review questions. The search timeframe was limited to periods beginning in 2017, as evidenced by the number of citations in the Scopus search (Figure 12.1). The reliability of the research was supported by selective cross-checking, validity through the use of high-ranked Scopus journals, and strong theoretical support for our expected results.

Table 12.1: Literature Review Protocol

Question	"What is the role of self-reflection in the development of skills for future chartered accountants?"
Search	Scopus Search • Social Science and Humanities • Key words in search "("self-reflection" OR "self-assessment" OR "reflective practice") AND ("professional development" OR "skill acquisition" OR "competency development") AND ("aspiring chartered accountants" OR "accounting students" OR "accountancy trainees" OR "future accountants")" 2017–2025
Article Impact	Average citation per article • Figure 12.1 demonstrates the average citation per article
Analytical Framework	Content analysis based on keywords that depict the role of self-reflection in the development of skills. Captured and analysed in Microsoft Excel™.
Reliability	Codification was undertaken by all four authors with selective cross-check; work was saved in Microsoft Excel™.
Validity	Internal Validity • Time series and chronological sequencing were expected to coincide with the prediction based on the Guthrie and Murthy (2009) concept. External Validity • Connects with comprehensive sources used, where 241 articles were analysed. Construct Validity • Articles were from Scopus with a high citation.

Code	Manual coding • Authors • Title • Abstract reading for the use of "self-reflection" or "self-assessment" or "reflective practices" and the development of skills in the accounting field.
Expected Insight	• Key insights into skills development through the prominent use of self-reflection in a professional environment.
Future Research	Summarised in the conclusion.

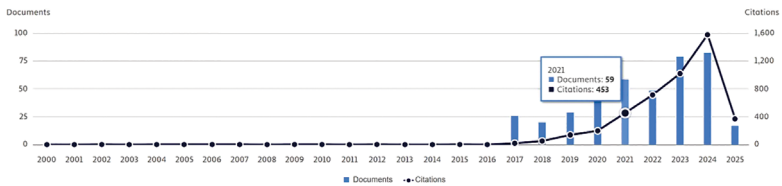


Figure 12.1: Average citation of articles selected from Scopus
Source: Authors' own (2025).

4. Findings and Discussion

4.1. How Self-Reflection Impacts Learning

This section summarises the findings and discusses the theme of how self-reflection impacts learning (refer to Table 12.2). The review of literature on this particular theme, as outlined in Section 3 above, facilitated the identification of the following sub-themes: (1) the role of higher education institutions in developing competencies such as reflection, (2) the impact of reflection in learning and knowledge construction, and (3) components of reflection and their impact on learning and development of competencies. The paragraphs that follow discuss each of these sub-themes.

Table 12.2: Themes and a summary of insights on the Role of Self-Reflection in Accounting Education

Theme	Summary	References
How self-reflection impacts learning	Learning is not just about acquiring knowledge; it is about constructing knowledge, with reflective learning playing a critical role. This reflection is a dialogue between thinking and doing. The iterative cognitive process of reflection allows students to make sense of problems, reconstruct their understanding, and transfer knowledge to different contexts. Reflection encourages students to critically assess their performance and boosts self-awareness and self-efficacy.	Daff *et al.*, 2024; Díaz-Iso *et al.*, 2019; Heymann *et al.*, 2022.
Skills developed by self-reflection	There are three key interrelated skills developed through self-reflection. The first is self-awareness, which leads to better performance; the second is critical thinking and problem-solving skills; and the last skill is the art of deep understanding that fosters competency development.	Daff *et al.*, 2024; Díaz-Iso *et al.*, 2019; Dellaportas *et al.*, 2023; Heymann *et al.*, 2022; Kaemper *et al.*, 2024; Martincová *et al.*, 2021; Thamizhiniyan *et al.*, 2024; Weerakoon, 2023.

Theme	Summary	References
How self-reflection can be used as a teaching tool	There are considerations around how self-reflection can be used as a teaching tool. The first is the limited amount of research on reflective learning in accounting education, secondly, self-reflection is a challenging method of teaching and learning for both students and educators, thirdly the importance of self-learning in the teaching and learning process, fourthly the benefits to educators who reflect on their own teaching practices and lastly the need for structured guidance to students in the teaching and learning process for effective self-reflection.	Kaemper *et al.*, 2024, Daff *et al.*, 2024; Dellaportas *et al.*, 2023; Makina, 2018; Weerakoon, 2023; Zafeer *et al.*, 2023.
The self-reflection process and the tools needed to self-reflect	Self-reflection taps into the "What" and "Why" to evaluate information critically; therefore, despite the challenges in teaching and learning, the process can add value and develop necessary skills for future chartered accountants. Self-reflection takes place in phases that do not have rigid boundaries defining them. It should not be seen as a once-off process but instead as a culture created to foster learning. Various tools can be used when navigating the phases of self-reflection and to gain the necessary skills and benefit from the self-reflection process.	Bognar & Krumes, 2017; Bouiri *et al.*, Cai *et al.*, 2024; 2023; Dellaportas *et al.*, 2022; Heymann *et al.*, 2022; Martincová *et al.*, 2021; Murphy & O'Mahony, 2023; Weerakoon, 2023; Zafeer *et al.*, 2023.

Source: Authors' own (2025)

4.1.1. The Role of Higher Education Institutions

The role of higher education institutions is evolving, driven by rapid advancements in information technology, high-performance work environments, specific industry requirements, globalisation, and economic changes (Heymann *et al.*, 2022). Furthermore, the fast-paced and dynamic labour market requires degree-holders to develop competencies and attributes that make them attractive to employers. One of the key competencies identified is that of reflection. The ability to reflect on one's own learning experiences within the higher education curriculum enhances graduate attributes and is instrumental in developing competencies (Heymann *et al.*, 2022).

Although the evidence is limited, some studies highlight connections between reflection, learning, and the development of competencies (Heymann *et al.*, 2022). Reflection occurs when individuals can learn meaningfully from their own experiences. From this viewpoint, learning is not just about acquiring knowledge, but rather about constructing knowledge, with reflective learning playing a central role. This reflective practice is a dialogue between thinking and doing. Students who integrate theory with practice develop skills that help them to better understand situations and create their own independent meaning. In this form of reflective learning, communication, collaboration, and feedback between instructors and peers are essential. When students engage with others, they foster reflective processes that aid in a deeper understanding of themselves, their needs and challenges, as well as their personal strengths and limitations (Díaz-Iso *et al.*, 2019).

4.1.2. The Impact of Reflection in Learning and Knowledge Construction and Components of Reflection and their Impact on Learning and Development of Competencies

Reflective thinking is a crucial aspect of learning and knowledge construction. The iterative cognitive process of reflection allows students to make sense of problems, reconstruct their understanding, and transfer knowledge to different contexts. Reflective practice encourages students to critically assess their performance, boosts self-awareness and self-efficacy

(Daff *et al.*, 2024). Reflection can be viewed as a form of active, experience-driven learning. This practice includes five main categories of reflective activities: becoming aware, analysing the current state, developing and planning a solution, taking action, and reflecting on the action. While each category is associated with specific learning activities, the stages of reflective practice can overlap and transition into one another without clear, predefined boundaries (Heymann *et al.*, 2022).

Become aware: A feeling of inner challenge, often sparked by a prior experience of surprise or strong positive or negative emotions regarding a learning situation. This helps students to recognise a gap between their current and desired level of employability competencies (Heymann *et al.*, 2022).

Analysis of the current state: Awareness of feelings leads to the need for a critical, constructive analysis of the issue, which involves identifying existing knowledge, gathering additional information, and challenging both internal and external assumptions. Examples of learning activities that support this form of self-reflection include self-assessment. Self-assessment encourages reflection on one's learning process and outcomes, allowing students to evaluate their progress (Heymann *et al.*, 2022).

Develop and plan a solution: Students create and outline a plan to improve their employability skills. Goal-setting and personal development planning (PDP) are common activities that facilitate this stage of reflective practice. PDP is a teaching method that encourages students to set personal goals and assess their progress towards achieving them (Heymann *et al.*, 2022).

Implement the plan or act: Experimentation is crucial for testing the hypotheses developed during the goal-setting phase. This experimentation involves engaging in activities that provide experiences, enabling the reassessment of the original employability-related problem. Students may engage in activities that not only address academic knowledge and skills requirements but also reflect on and discuss the alignment between graduate attributes and industry-specific employability standards and accreditation criteria (Heymann *et al.*, 2022).

Reflect on the action: The concept of reflection in action means that students analyse their experiences and reactions as they occur. Reflection in action typically occurs when a student addresses an immediate issue and experiments with new approaches to determine whether a different solution resolves the challenge at hand. In contrast, reflection on action involves reviewing, describing, analysing, and evaluating past actions, leading to new insights that improve future practices. Reflection and examination are essential for gaining new perspectives. Through re-evaluation, students can develop a fresh outlook on their initial discomfort regarding employability (Heymann *et al.*, 2022).

4.2. Skills Developed by Self-Reflection

This section summarises the key skills developed through self-reflection. The identified intertwined sub-themes are linked to three essential skills developed through self-reflection. The review of literature on this particular theme, as outlined in Section 3 above, facilitated the identification of the following sub-themes (1) self-reflection enables students to become more self-aware, leading to academic growth (2) the development of critical thinking skills is linked with the development of analytical and decision-making skills and, (3) self-reflection allows for the professional growth of learners as they harness the skill of deeper learning. The paragraphs that follow discuss each of these sub-themes.

4.2.1. Self-Reflection Enables Students to Become more Self-Aware, Leading to Academic Growth

One of the key skills developed by students who undergo rigorous self-reflection is self-awareness, as outlined in the theme in Section 4.1.2 above through the five components of reflection. Self-awareness reveals a student's strengths and weaknesses, thereby enabling students to identify areas for improvement (Díaz-Iso *et al.*, 2019). This ability to identify areas for improvement is important for accounting students, as professional bodies have expressed a need for greater self-awareness that leads to self-improvement. Accounting

professional bodies have noted that self-management through self-awareness includes reflecting on feedback received from peers and superiors to identify areas of weakness and pursue learning for self-improvement (Daff *et al.*, 2024).

4.2.2. The Development of Critical Thinking Skills is Linked with the Development of Analytical and Decision-Making Skills

Numerous researchers attest to the importance of self-reflection as a powerful tool for self-knowledge, thereby enabling students to bridge the theoretical content delivered in lecture rooms with the practical application required in professional environments (Dellaportas *et al.*, 2023). This high-level awareness of self allows for the cultivation of self-regulated learning strategies by exploring one's strengths and weaknesses and enables higher-order thinking required of professionals (Dellaportas *et al.*, 2023). Self-regulated learners are consequently more motivated to pursue regular reflective practices in the future as they are convinced of the tangible benefits of self-reflection (Heymann *et al.*, 2022). These learners are more employable, as they are better able to adapt and find new roles (Daff *et al.*, 2024). Thus, self-reflection facilitates self-awareness, which, in turn, enables self-regulation and leads to high performance.

An important skill developed through self-reflection is enhanced critical thinking (Daff *et al.*, 2024). Critical thinking is defined as "the intelligent use of all available evidence for the solution of some problem" (Calma & Davies, 2020:2280). There is, therefore, a direct link between critical thinking and problem-solving. The habit of reflection helps students to critically evaluate their performance on a task, thereby enhancing their self-awareness and ensuring that they are effective in performing tasks (Daff *et al.*, 2024). This happens because students who engage in self-reflection can better challenge their own thought processes and develop the skill of self-correction, thereby becoming better problem-solvers (Daff *et al.*, 2024). In a high-performing environment for accounting professionals, critical thinking is important for executing tasks and promoting growth (Daff *et al.*, 2024).

Research confirms that the practice of reflective thinking and engaging in reflection processes holds the potential to bolster analytical and decision-making skills (Díaz-Iso *et al.*, 2019; Errabo *et al.*, 2024). Analytical and decision-making skills are closely related to critical thinking (Kaemper *et al.*, 2024; Weerakoon, 2023). Researchers argue that repeatedly thinking about and reflecting on a problem helps a student to better understand it. This helps them to figure out solutions, learn from the experience, and apply what they've learned to different situations (Daff *et al.*, 2024).

4.2.3. Self-Reflection Allows for the Professional Growth of Learners as they Harness the Skill of Deeper Learning

Daff *et al.* (2024) consider self-reflection to be an important condition for "deep and meaningful learning". This is the third key skill developed from self-reflection. As part of the learning process, it is important to ensure that learners are not merely surface learners who are likely to forget the learning outcomes, but rather that learning is deep and promotes lifelong learners (Thamizhiniyan *et al.*, 2024). Deep and meaningful learning is a cognitive process that involves the examination of meaning (Martincová *et al.*, 2021). When students think about their own learning, it helps them to connect what they have learned in theory with how to apply it in real life (Martincová *et al.*, 2021).

Reflection fosters this deeper understanding of learning outcomes, as students connect theory to practice, which contributes to continuous professional growth and the development of competencies (Heymann *et al.*, 2022; Lenong & Palmer, 2024). The commitment to ongoing reflection for future professional competence is, therefore, critical for accountants (Daff *et al.*, 2024). Studies show that students who learn self-reflection in higher education are more likely to continue improving this skill in the workplace, leading to greater competence and better career growth (Martincová *et al.*, 2021). The literature, therefore, confirms the expectation that self-reflection is a key skill for developing critical-thinking learners who have a deep understanding and can adapt and grow professionally.

4.3. How Self-Reflection can be Used as a Teaching Tool

This section summarises the findings and discusses how self-reflection can be used as a teaching tool. The review of literature on this particular theme, as outlined in Section 3 above, facilitated the identification of the following sub-themes (1) the limited amount of research on reflective learning in accounting education, (2) self-reflection is a challenging method of teaching and learning for both students and educators, (3) the importance of self-learning in the teaching and learning process, (4) the benefits to educators who reflect on their own teaching practices and (5) the need for structured guidance to students in the teaching and learning process for effective self-reflection. The paragraphs that follow discuss each of these sub-themes.

4.3.1. The Limited Amount of Research on Reflective Learning in Accounting Education

Research on reflective learning in accounting is limited, suggesting limited knowledge or understanding of how self-reflection is used in accounting teaching (Dellaportas *et al.*, 2023). Most research is conducted in teacher education and healthcare contexts, with few articles in business and accounting contexts. Therefore, in accounting education, particularly, the most effective methods for achieving positive outcomes with self-reflection in teaching are unclear. Further, empirical evidence on the effectiveness of targeted teaching initiatives focused on self-reflection is scarce (Weerakoon, 2023).

4.3.2. Self-Reflection is a Challenging Method of Teaching and Learning for both Students and Educators

In the literature, self-reflection is often identified as a challenging approach to teaching and learning for both students and educators. The challenges cited are students' inherent lack of self-reflective skills, insufficient time, and the time required for effective self-reflection. The repetitious nature of the process also hinders students' interest in self-reflection. For educators, it is challenging to encourage students to deepen their superficial reflections and to overcome the tendency to complete tasks and assessments merely for the sake of

completing them. Further, educators encourage self-reflection in the teaching and learning process while also meeting the demands of outcome-led, time-limited programmes (Daff *et al.*, 2024; Zafeer *et al.*, 2023). These findings are not uncommon in accounting programmes. Despite limited research on accounting education, accounting programmes face challenges such as syllabus overload, competency-based outcomes, large student enrolments, low educator-to-student ratios, and low student motivation. Accounting professional body competency frameworks and syllabus outcomes have evolved over time to include broader skills, such as self-reflection, in their syllabi. Finally, self-reflection as a learning tool is also seen as a means to address challenges encountered in teaching accounting students.

4.3.3. The Importance of Self-Learning in the Teaching and Learning Process

Self-reflection fosters a deep understanding and critical evaluation of information (Weerakoon, 2023). These skills are useful in accounting courses that involve interpreting legislation and professional standards, and ultimately problem-solving and value creation. Further, self-reflection is a form of self-learning, curiosity and self-discovery (Daff *et al.*, 2024). The research shows that encouraging students to reflect on what they have learned helps them to develop the ability to reflect in the moment and formalise and synthesise their knowledge. The use of guided reflection in the teaching model enables students to resolve their own dilemmas, thereby taking control of their learning (Dellaportas *et al.*, 2023). Self-learning is a useful teaching tool in accounting programmes, where it is challenging to cover all the content because of syllabus overload.

4.3.4. The Benefits to Educators who Reflect on their own Teaching Practices

The research also shows that educators who reflect on their own teaching practices benefit. Unfortunately, educators often do not evaluate their courses for evidence of reflective practice (Daff *et al.*, 2024). The benefits of self-reflection of an educator's own teaching practice are that educators consequently make more informed decisions about their teaching practices and models

and, thereby, refine their methods of instruction. Other benefits for educators cited include self-directed growth and greater ownership of work (Kaemper *et al.*, 2024; Makina, 2018).

4.3.5. The Need for Structured Guidance to Students in the Teaching and Learning Process for Effective Self-Reflection

For self-reflection to be successful in the teaching model, there is a need for structured guidance for students during the teaching and learning process to support effective self-reflection. Such reflection can include visual, auditory and other learning types and, in this way, also caters to a wide range of learning styles. Critiques of self-reflection in the teaching model raise concerns that it lacks academic rigour, is informal, and summarises casual thoughts. Therefore, a carefully and intentionally designed teaching model and strategy that incorporates self-reflection is key to achieving success (Weerakoon, 2023). Until self-reflection is introduced with structured guidance, unfortunately, the understanding thereof by students and the implementation of a process of reflection are difficult for students (Dellaportas *et al.*, 2023). Thus, students do need the necessary planning, guidance and support from educators. Such planning, guidance, and support include initial support from educators, who provide scaffolding and facilitate reflections, followed by a choice of structured or unstructured reflective materials. Reflective questions should be provided, and questions should be varied to avoid boredom. Lastly, regular reflections throughout the course should culminate in final reflections at the end. Such detailed guidance is needed to help students to gain confidence in their self-reflection and overcome initial feelings of awkwardness and uncertainty during the process (Daff *et al.*, 2024; W eerakoon, 2023).

4.4. The Self-Reflection Process and the Tools Needed to Self-Reflect

This section summarises the findings and discusses self-reflection and the tools needed to do so. The review of literature on this particular theme, as outlined in Section 3 above, facilitated the identification of the following sub-themes (1) the

impact of challenges associated with self-reflection, (2) the value of self-reflection, (3) different methods to self-reflect, and (4) tools available to facilitate and enable the self-reflection process. The paragraphs that follow discuss each of these sub-themes.

4.4.1. The Impact of Challenges Associated with Self-Reflection

Self-reflection goes beyond mere understanding of a concept. It taps into the ability to critically evaluate information, thus fostering a deeper connection with and the ability to process and comprehend it (Weerakoon, 2023). It delves into answering the questions "What?" and "Why?" to achieve this objective (Bouiri *et al.*, 2023). As highlighted in the theme covered in Section 4.3 above, self-reflection poses challenges for learners and educators. These challenges culminate in self-reflection being primarily overlooked or under-applied at tertiary institutions, especially in the accounting and business faculties (Martincová *et al.*, 2021; Weerakoon, 2023). Where applied, it is usually conducted casually, thus curtailing the potential advantages that could be achieved therefrom. Furthermore, methodologies for achieving self-reflection are often unclear and ambiguous (Weerakoon, 2023).

4.4.2. The Value of Self-Reflection

Despite the challenges, self-reflection as a process is highly valued, and most professions, including the accounting profession, require this skill (Weerakoon, 2023). It is seen as a necessary skill for unlocking a student's potential, having a constructive influence on studies and fostering the development of a lifelong learner (Martincová *et al.*, 2021; Zafeer *et al.*, 2023). The skills acquired through self-reflection are discussed in the theme in Section 4.2 above. To effectively develop proficiency in self-reflection, students should be guided and equipped with tools to facilitate the process, especially when they are faced with difficult and complex circumstances (Murphy & O'Mahony, 2023; Weerakoon, 2023; Zafeer *et al.*, 2023).

4.4.3. Different Methods to Self-Reflect

Reflecting on a situation can encompass understanding how it affects the student's feelings, thought process, and the action

that needs to be taken. Hence, a comprehensive strategy to engage with these dimensions must be explored (Weerakoon, 2023). The method of self-reflection begins with students having either a positive or negative experience, situation, or event that prompts deeper reflection and a search for resolution (Dellaportas *et al.*, 2023).

The theme covered in Section 4.1 elaborated on the research conducted by Heymann *et al.* (2023). The researchers examined the different phases that self-reflection could incorporate. The phases were identified as liquids because they lack distinct, rigid boundaries. The phases start with a student becoming aware, thus identifying a trigger to an experience, event, or emotion, either positive or negative. Thereafter, the student is guided to analyse their current state. In the academic space, this would include the student performing a self-assessment to reflect on their performance and progression in the course. This phase is followed by drafting and planning a solution, which includes establishing attainable goals that, in turn, can encourage self-awareness. The final phases include taking action and reflecting in and on action. In these phases, the student is constantly aware of their progress and discovers valuable lessons and key learning opportunities (Heymann *et al.*, 2022).

Martincová *et al.* (2021) echo the phases above less formally and explore the definition of self-reflection to include an "internal dialogue" where the student becomes aware of a particular experience, situation, or event. This then translates into a student effectively describing the experience, followed by an analysis of it, and finally an action to achieve a goal. However, these researchers also identify students' difficulty engaging in meaningful self-reflection, often caused by external factors that influence their studies.

4.4.4. Tools Available to Facilitate and Enable the Self-Reflection Process

Various tools and techniques, both written and verbal, can be offered to students to perform a self-reflection. These have been researched in different disciplines (Weerakoon, 2023), particularly in healthcare, over the years (Zafeer *et al.*, 2023).

These reflection tools can be used to encourage and cultivate advanced cognitive skills, leading to self-reflection practices that culminate in self-awareness and personal growth. Some of the tools identified include journalling, logs, diaries, portfolios, reflective conversations, narratives, visual aids, reflective journal writing, and digital tools (Bognar & Krumes, 2017; Cai *et al.*, 2024; Feridouni Solimani *et al.*, 2024; Weerakoon, 2023; Yulhendri *et al.*, 2023; Zafeer *et al.*, 2023). Detailed assessment rubrics with sufficient guidance can also facilitate the reflection process (Murphy & O'Mahony, 2023).

In the current era, digital tools that foster self-reflection should not be overlooked. These may range from digital portfolios, using visual aids such as photographs to re-immerse the student into a particular situation, or even less complex methods such as the use of Google Forms, Google Docs, Google Sheets, and video recordings stored in Google Drive about the experience, a motivation to foster self-belief and what skills could students attain from the reflection or self-assessment (Cai *et al.*, 2024; Yulhendri *et al.*, 2023; Weerakoon, 2023). However, digital competence may negatively affect a student's ability to engage in meaningful self-reflection. This should be borne in mind when using digital tools to aid the self-reflection process (Weerakoon, 2023).

Developing self-reflection skills and using these methods and tools cannot be seen as a mere once-off process. However, it should be integrated early into the curriculum and continuously emphasised throughout the student's studies (Murphy & O'Mahony, 2023). Zafeer *et al.* (2023) highlight the importance of creating a conducive learning environment for self-reflection, suggesting that higher education institutions should invest in high-calibre educational resources and provide structured guidance to students to support and augment self-reflection. Hence, using tools to aid self-reflection should not be the main focus; instead, creating a culture of self-reflection that helps students to develop these necessary skills (Bognar & Krumes, 2017; Zafeer *et al.*, 2023). The outcome of this could boost students' motivation and self-reliance and develop conscientious learners.

5. Conclusion

The objective of this chapter was to examine the role of self-reflection in the development of skills for future chartered accountants. The objective is achieved by providing a context for self-reflection in accounting education, followed by the major themes identified from the SLR. The methodology adopted was the SLR, which involved a search of the Elsevier Scopus database using a search string combining multiple, specific terms related to the accountancy profession and self-reflection.

The analysis highlights the positive contribution of self-reflection to learning. The iterative cognitive process of reflection improves students' problem-solving skills and their ability to transfer knowledge to different contexts. It encourages students to think critically, boosts self-awareness, and promotes deep learning rather than surface learning. However, self-reflection is a challenging method of teaching and learning for both students and educators. Some of the challenges can be overcome by providing structured guidance to students on how to self-reflect to achieve effectiveness in the teaching and learning process. For educators, ongoing self-reflection on their teaching practice leads to a better understanding of their practice and the refinement of their instructional methods. Various tools and techniques, including digitisation, facilitate self-reflection. The analysis also highlights that self-reflection is not a one-off process and should be integrated into the curriculum at an early stage, with ongoing emphasis throughout a student's studies. Higher education institutions should invest in high-calibre educational resources and provide structured guidance to students to support and augment self-reflection.

Research on reflective learning in accounting education is limited. This chapter contributes to the discourse on self-reflection in the development of chartered accountants and shows that further empirical research on the specific skills developed can be conducted. It also highlights that further research is needed to assess whether educational programmes that employ self-reflective practices lead to improved employability or demand for graduates.

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ISBN 978-1-997499-53-4

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