Developing a simulations-based work-integrated learning framework to bridge theory and practice in management accounting education at Universities of Technology

by

SIFISO FUMANI NGONYAMA

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SUPERVISOR: PROF CC SHUTTLEWORTH

CO-SUPERVISOR: DR NJ BOOYSE

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DECLARATION

Name: Sifiso Fumani Ngonyama

Student number: 36047740

Degree: Doctor of Philosophy in the subject of Accounting Sciences

Developing a simulations-based work-integrated learning framework to bridge theory and practice in management accounting education at Universities of Technology

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ABSTRACT

The lack of practical learning among management accounting (MA) students at universities of technology (UoTs), exacerbated by poor alignment between MA curricula and industry requirements, significantly undermines MA graduates' workplace readiness. As their primary mandate is to produce career-oriented and innovative graduates through vocational and practical-application qualifications, UoTs focus on applied knowledge by developing graduate skill-sets and competencies demanded by industry. Moreover, the national review of the Higher Education Qualifications Framework (HEQF 2007) resulted in the implementation of the Higher Education Qualifications Sub-Framework (HEQSF 2013) across South Africa's newly developed programmes within UoTs. In addressing the lack of practical exposure among MA students, some HEQSF (2013)-aligned qualifications offered at UoTs have incorporated work-integrated learning (WIL), delivered as simulations-based experiential learning for MA students. Given the ongoing evolution of management accounting practice, the limited availability of authentic workplace exposure, and increasing professional competency requirements, the need for a guiding simulations-based WIL framework for MA students has become a necessity. This framework, classified as WIL (Simulations) for MA, aims to guide UoTs on the design, delivery, implementation, assessment and monitoring of simulations-based experiential learning activities in alignment with the WIL guidelines of the CHE (2011), the HEQSF (2013) and MA industry standards. Grounded in designed-based research (DBR) and adopting an interpretivist-pragmatic stance, this qualitative study combined document analysis, semi-structured interviews with academic stakeholders at two UoTs, and methodological triangulation to construct and iteratively refine a WIL (Simulations) for MA framework. Conducting this study with UoT academics currently involved in programmes with a WIL (Simulations) curriculum offered valuable insights into the practical roles that UoTs can play in aligning the theory-practice gap between graduates and the MA industry. This study makes an original contribution to accounting education research by positioning Kolb's (1984) experiential learning theory (ELT) within simulations-based WIL in MA programmes through an empirically validated framework for UoTs. The study therefore advances both theoretical application and pedagogical practice in MA education by offering fresh perspectives and pragmatic insights pertaining to fostering structured industry partnerships, economic digital

resources and infrastructure resources for theory-practice interventions, clear assessment standards, moderation and monitoring procedures that legitimise the use of simulations to strengthen work-readiness among MA graduates.

Key terms: Accounting Education research; Experiential Learning Theory; Industry readiness; Higher Education; HEQSF; Management Accounting; Management Accounting skills-set; Simulations-Based Education; Theory-Practice gap; Universities of Technology (UoTs); Work-Integrated Learning (WIL)

NKOMISO

Mpfumaleko wa ku dyondza ko endla exikarhi ka swichudeni swa ntivotinkota wa malawulelo (MA) eka tiyunivhesiti ta thekinoloji (tiUoT), wu nyanyisiwa hi mfambelaniso wa le xiyimo xa le hansi exikarhi tikharikhulamu ta MA na swilaveko swa indasitiri, wu tsanisa hi ndlela yo tivikana vulunghekeli bya le ntirhweni bya mathwasana ya MA. Tanihileswi xilerisoximfumo xa tona xa masungulo ku nga ku humesa mathwasana lama kongomisiweke eka ntirhovutomi na le ka vutumbuluxi hi ku tirhisa mithwaso ya mitirho ya mavoko na ya matirhiselo yo endla, tiUoT ti kongomisa eka vutivi byo tirhisa hi ku hluvukisa swikatsa swa swikili swa mathwasana na vuswikoti lebyi laviwaka hi indasitiri. Ku engetela ehenhla ka sweswo, nkambisiso wa rixaka wa Rimba ra Mithwaso ya Dyondzo ya le Henhla (HEQF 2007) wu vange nsimeko wa Rimbatsongo ra Mithwaso ya Dyondzo ya le Henhla (HEQSF 2013) eka minongoloko leyi hluvukisiweke yintshwa ya Afrika-Dzonga hinkwayo leyi nga endzeni ka tiUoT. Eka ku tirhana na mpfumaleko wa vutivi byo endla exikarhi ka swichudeni swa MA, mithwaso leyi fambelanisiweke na HEQSF (2013) yin'wana leyi dyondzisiwaka eka tiUoT yi katsiwile eka ku dyondza loku pfanganisiweke na ntirho (WIL), leyi phakeriwaka tanihi ku dyondza ko tokota loku simekiweke eka miencenyeto ka swichudeni swa MA. Loko ku tekeriwa enhlokweni ku cinca loku yaka emahlweni eka maendlelo ya ntivotinkota wa malawulelo, vukona lebyo tsongahala bya vutivi bya le ntirhweni bya xiviri, na swilaveko swa vuswikoti bya xiphurofexinali leswi engetelaka, xidingo xa rimba ra WIL leyi simekiweke eka miencenyeto leri letelaka ra swichudeni swa MA xi vile xilaveko xa nkoka. Rimba leri, ri ii karhi ri ntlawahatiwile tanihi WIL (Miencenyeto) ya MA, ri letela tiUoT hi mayelana na dizayini, mphakelo, nsimeko, makambelelo na vuvekatihlo bya migingiriko ya ku dyondza ko tokota loku simekiweke eka miencenyeto hi ku fambelanisiwa na swiletelo swa WIL swa CHE (2011), HEQSF (2013) na mipimo ya indasitiri ya MA. Wu ri karhi wu simiwile eka ndzavisiso lowu simekiweke eka dizayini (DBR) na ku tekelela xiyimo xo humesa nhlamuselo-maendlelo, ndzavisiso lowu wa mpimarisima wu katsanisiwile na nxopaxopo wa matsalwa, mihlokohliso leyi nga na xivumbekohafu na vakhomaxiave va swa tidyondzo eka tiUoT timbirhi, na ntiyisiso eka swihlovo swo hambanahambana swa ntivomaendlelo ku vumba na ku basisa hi vuyelela WIL (Miencenyeto) ya rimba ra MA. Ku endla ndzavisiso lowu na swidyondzeki swa le ka tiUoT leswi khumbekaka

eka nkarhi wa sweswi eka minongoloko leyi nga na kharikhulamu ya WIL (Miencenyeto) swi nyikile mitwisiso ya nkoka eka swiave swo endla leswi tiUoT ti nga swi tlangaka eka ku fambelanisa vangwa ra thiyori-maendlelo leri nga exikarhi ka mathwasana na indasitiri ya MA. Ndzavisiso lowu wu endla vuhoxaxandla bya masungulo eka ndzavisiso wa dyondza ya ntivotinkota hi ku veka eka xiyimo thiyori ya ku dyondza ko tokota (ELT) ya Kolb (1984) lexi nga endzeni ka WIL leyi simekiweke eka miencenyeto eka minongoloko ya MA hi ku tirhisa rimba leri tiyisisiweke hi ku endla ra tiUoT. Hikokwalaho, ndzavisiso lowu antswisa havumbirhi bya matirhelo ya thiyori na maendlelo ya ntivomadyondziselo eka dyondzo ya MA hi ku nyika mavonelo mantshwa na mitwisiso yo endla hi mayelana na ku kondletela swinakulobye swa indasitiri leswi nga na xivumbeko, swipfuno swa xidijitali swa ikhonomi na swipfuno swa switirhisiwakulu swa miphalalo ya thiyori-maendlelo, mipimo ya makambelelo leyi nga erivaleni, mfambelaniso na maendlelo ya vuvekatihlo lama ma amukelaka ntirhiso wa miencenyeto ku tiyisa vulunghekeli bya ntirho exikarhi ka mathwasana ya MA.

Marito ya nkoka: Vulavisisi bya Dyondzo ya Vuhlayiseki bya Timali; Thiyori ya Dyondzo hi Ntokoto; Ku Lunghekela Bindzu; Dyondzo ya le Henhla; HEQSF; Ntivotinkota wa Malawulelo; Vuswikoti bya Vuhlayiseki bya Timali bya Vulawuri; Dyondzo leyi Sekeriweke eka Swifaniso swo Endliwa; Ku Hambana ka Thiyori na Matirhelo; Tiyunivhesiti ta Thekinoloji (tiUoTs); Dyondzo leyi Hlanganisiweke na Ntirho (WIL)

TSHOBOKANYO

Go tlhoka go ithuta ka tsela ya tiragatso magareng ga baithuti ba botsamaisi jwa bobalatlotlo (MA) kwa diyunibesithing tsa thekenoloji (UoTs), go go eteegediwang ke go sa tsamaisane sentle ga dikharikhulamo tsa MA le ditlhokego tsa indaseteri, go koafatsa thata go siamela tiro ga dialogane tsa MA. Ka gonne thomo ya bone ya ntlha ke go tlhagisa dialogane tse di nang le borutegi jo bo ikaegileng ka tiro le boitshimololedi ka dithutego tsa tiro le tsa tiragatso ya tiro, di-UoT di totile kitso e e dirisiwang ka go tlhama ditlhopha tsa bokgoni jwa dialogane le bokgoni jo bo batliwang ke indaseteri. Mo godimo ga moo, tshekatsheko ya bosetšhaba ya Letlhomeso la Borutegi jwa Thuto e Kgolwane (HEQF 2007) e ne ya felela ka gore go tsenngwe tirisong Letlhomesopotlana la Borutegi jwa Thuto e Kgolwane (HEQSF 2013) go ralala mananeo a a sa tswang go tlhamiwa a Aforikaborwa mo teng ga di-UoT. Mo go samaganeng le go tlhoka go bona katiso ya tiragatso mo baithuting ba MA, borutegi bongwe jo bo tsamaelanang le HEQSF (2013) jo bo neelwang kwa di-UoT bo akareditse go ithuta go go kopantsweng le tiro (WIL), go go neelwang jaaka go ithuta ga maitemogelo a a theilweng mo go etsiseng ga baithuti ba MA. Ka ntlha ya go fetoga go go tswelelang ga tiragatso ya botsamaisi jwa palotlotlo, go lekanyediwa ga go rutelwa kwa tirong ka mmatota, le ditlhokego tse di oketsegang tsa bokgoni jwa seporofešenale, letlhomeso la WIL le le theilweng mo go etsiseng le le kaelang la baithuti ba MA ke tlhokego jaanong. Letlhomeso leno, le le tlhaotsweng jaaka WIL (Ketsiso) ya MA, le ikaeletse go kaela di-UoT mo go tlhameng, go neela, go tsenya tirisong, go sekaseka le go ela tlhoko ditiro tsa go ithuta tsa maitemogelo tse di theilweng mo ketsisong go tsamaisana le dikaelo tsa WIL tsa CHE (2011), maemo a indaseteri a HEQSF (2013) le MA. Thutopatlisiso eno ya khwalithatifi e e theilweng mo patlisisong e e tlhamilweng (DBR) mme e dirisa kemo ya thanolo, e kopantse tshekatsheko ya dikwalo, dipotsolotso tsa seka-thulaganyo le baamegi ba batlhatlheledi kwa di-UoT tse pedi, le go dirisa melebo e e farologaneng go aga le go tokafatsa WIL (Ketsiso) ya letlhomeso la MA. Go dira thutopatlisiso eno le batlhatlheledi ba UoT ba ba leng mo mananeong a a nang le kharikhulamo ya WIL (Ketsiso) ga jaana go ne ga tlhagisa tshedimosetso ya botlhokwa ka ga dikarolo tsa tiragatso tse UoT e ka di diragatsang mo go lepalepanyeng phatlha ya tiori le tiragatso magareng ga dialogane le indaseteri ya MA. Thutopatlisiso eno e dira kakgelo ya

ntlhantlha mo patlisisong ya thuto ya bobalatlotlo ka go baya tiori ya go ithuta ka maitemogelo (ELT) ya ga Kolb (1984) mo teng ga WIL e e theilweng mo go etsiseng mo mananeong a MA ka letlhomeso le le tlhomamisitsweng ka kelotlhoko ya di-UoT. Ka jalo, thutopatlisiso e tsweletsa tiragatso ya tiori le tiragatso ya thuto mo thutong ya MA ka go neela melebo e mentšhwa le tshedimosetso ya nnete e e amanang le go rotloetsa dilekane tse di rulagantsweng tsa indaseteri, didirisiwa tsa dijithale tsa ikonomi le didirisiwa tsa mafaratlhatlha tsa ditsereganyo tsa tiori le tiriso, maemo a a tlhamaletseng a tlhatlhobo, dithulaganyo tsa go lekanyetsa le go bayaleitlho tse di tlhomamisang tiragatso ya go etsisa go tiisa go siamela tiro ga dialogane tsa MA.

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LIST OF ABBREVIATIONS AND ACRONYMS

4IR	Fourth Industrial Revolution
AC	Abstract Conceptualisation
ACCA	Association of Chartered Certified Accountants
Adv Dip	Advanced Diploma
AE	Active Experimentation
AI	Artificial Intelligence
AICPA-CIMA	American Institute of Certified Public Accountants and Chartered Institute of Management Accountants
BCom	Bachelor of Commerce
BTech	Bachelor of Technology
CA(SA)	Charted Accountant (South Africa)
CE	Concrete Experience
CFA	Charted Financial Analyst
CGMA	Charted Global Management Accountant
CHE	Council on Higher Education
CIBA	Charted Institute of Business Accountants
DBR	Design-Based Research
DHET	Department of Higher Education and Training
Dip	Diploma
ELO	Exit Level Outcomes
ELT	Experiential Learning Theory
FASSET	Financial and Accounting Services Sector Education and Training
HE	Higher Education
HEIs	Higher Education Institutions
HEQC	Higher Education Quality Committee
HEQF	Higher Education Qualifications Framework
HEQSF	Higher Education Qualifications Sub-Framework
IFAC	International Federation of Accountants
IIA(SA)	Institute of Internal Auditors (South Africa)
ILO	International Labor Organization

IMA	Institute of Management Accountants
IQL	Inquiry-Based Learning
LSI	Learning Style Inventory
MA	Management Accounting
MAE	Management Accounting Education
NATED	National Accredited Technical Education Diploma
NQF	National Qualifications Framework
PBL	Problem-Based Learning
POPIA	Protection of Personal Information Act
PrBL	Project-Based Learning
RO	Reflective Observation
RSA	Republic of South Africa
SAIBA	South African Institute of Business Accountants
SAICA	South African Institute of Charted Accountants
SAIPA	South African Institute of Public Accountants
SAQA	South African Qualifications Authority
SATN	South African Technology Network
SBE	Simulations-Based Education
SBE	Simulations-Based Education
SL	Service Learning
Unisa	University of South Africa
UoT	University of Technology
WBL	Work-Based Learning
WDTL	Work-Directed Theoretical Learning
WIL	Work-Integrated Learning

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CHAPTER 1: OVERVIEW AND BACKGROUND OF THE STUDY

1.1 Chapter layout

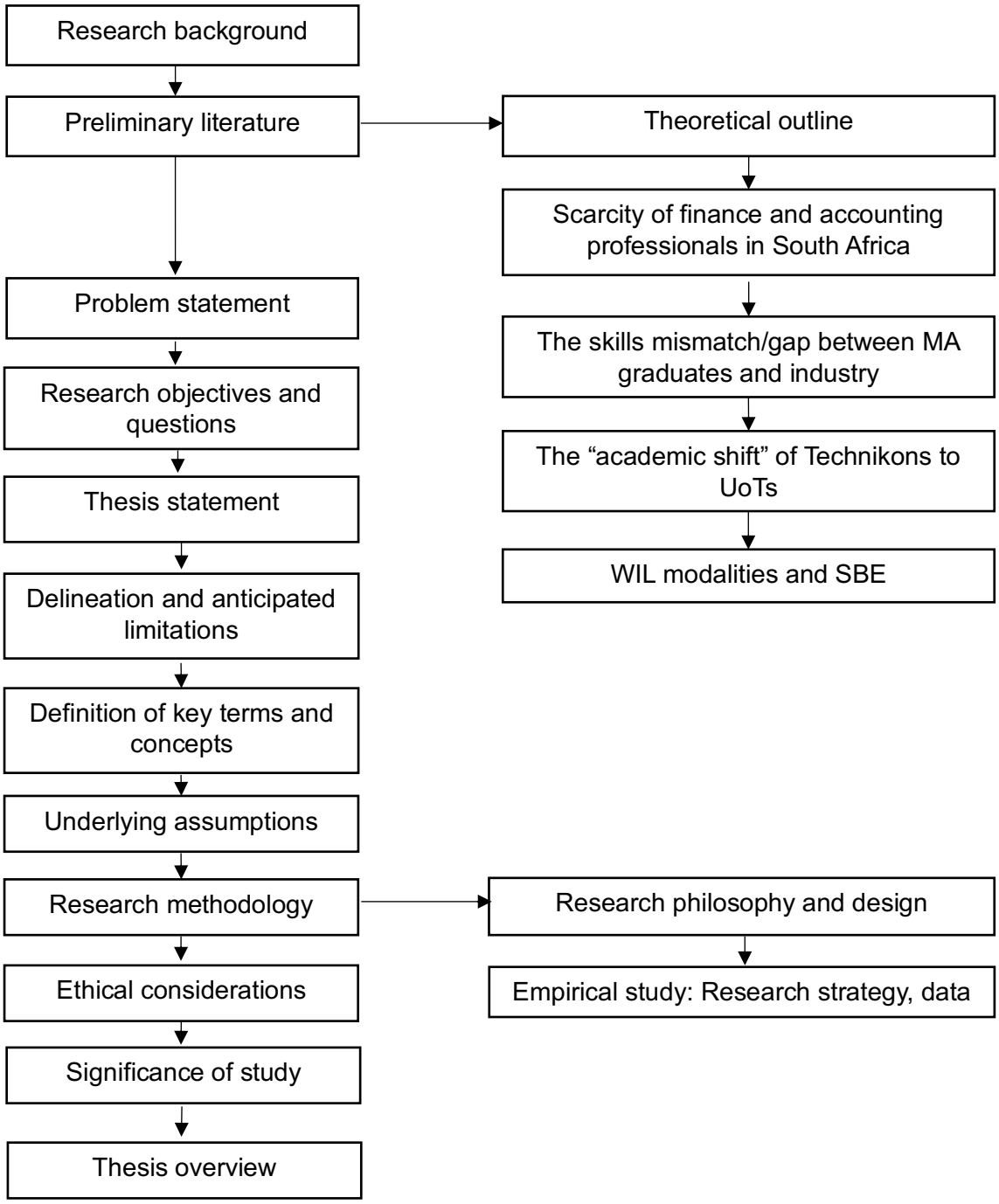


Figure 1.1: Chapter layout

Source: Own compilation

1.2 Background

The question of whether Higher Education Institutions (HEIs) still effectively equip graduates for the complex realities of the workplace has garnered increased scrutiny (Bishop 2019:22; Morgan, Sibson & Jackson 2022:258; Ramnund-Mansingh & Reddy 2021:206). In a thought-provoking article published by the Harvard Business Review, titled: *"Does Higher Education Still Prepare People for Jobs?*", Chamorro-Premuzic and Frankiewicz (2019:1) boldly challenged the relevance of the current higher education frameworks. Similarly, the persistent disconnect between knowledge acquired within HEIs and the practical competencies required by industry has become a general growing concern (Makhathini & Akpa-Inyang 2024b:261; Marshall 2024:590). Considering this, it has become clear that, to cultivate a sustainable and equally beneficial partnership between HEIs and workplace industry, higher education pedagogy must undertake a purposeful transformation - one that centres on the development of relevant practical skills to meet industry demands (Ralston 2021:97; Zegwaard, Johansson, Kay, McRae, Ferns, Hoskyn 2019:202).

HEIs have long served as catalysts for transformative skills development, leveraging on pioneering teaching and learning practices to equip students for future challenges (Lubinga, Maramura & Masiya 2023:2; Mcgrath & Yamada 2023:2). This skills development role is echoed in South Africa's National Development Plan 2030, which cited "education, training and innovation" as cornerstones of the Republic's long-term growth strategy (Department of Higher Education and Training (DHET) 2020:11). Reflecting this commitment at the highest level is South Africa's medium-term development plan 2024-2029 which aims to increase economic growth while reducing unemployment (Department of Planning, Monitoring and Evaluation (DPME) 2025:111). Together, these directives emphasise the DHET's unwavering commitment to pioneering education, advancing skills acquisition, and fostering efficient skills transfer.

The development of crucial graduate competencies for higher education students pursuing South African qualifications has been the Council on Higher Education's (CHE) and the South African Qualifications Authority's (SAQA) longstanding mandate (CHE 2011:4; Killen & Spady 1999:200). The SAQA (SAQA 2000:41) outlined Critical Cross-Field Outcomes (CCFOs) to ensure that every qualification on the National

Qualifications Framework (NQF) embeds core, transferable skills which form the backbone of qualification programmes by promoting lifelong learning through professional and personal development, robust work ethics, and creative novelty (Bezerra & Paphitis 2021:139; Jordaan, Du Preez & Keyter 2025:16). Notably, the development of generic competencies and graduate attributes for HEI students is fundamentally rooted in experiential engagement, as uncovered in the literature (Bishop 2019:22; Ferns, Zegwaard, Pretti & Rowe 2024:371; Kolb 1984:38). Within South Africa, HEIs have progressively shifted towards embedding hands-on learning, particularly for Universities of Technology (UoTs), which offer vocational-orientated qualifications (Mthembu, Orkin & Gering 2012:216). Unquestionably, the revision of South Africa's Higher Education Qualifications Framework (HEQF) (2007) into a single comprehensive structure, namely, the Higher Education Qualifications Sub-Framework (HEQSF) as gazetted in 2013, aimed at integrating all higher education qualifications into the National Qualifications Framework (NQF), creating a coherent, consistent, and internationally comparable education system (CHE 2013:9). This integration has had a significant impact on curricula now offered under the new higher educational framework.

Significantly for this research study was the incorporation of Work-Integrated Learning (WIL)- which encompasses a spectrum of broad modalities, from industry placements and project-based modules to simulations-based experiential learning (HEQSF 2013:11) in Management Accounting (MA) education. Moreover, a WIL curriculum under the HEQSF (2013) has been included in some newly developed accounting education programmes within the field of MA. In its classical form, WIL is an educational approach that integrates academic knowledge with practical work experience, aimed at enabling students to apply academic theory in real-world or simulated professional settings, for the purpose of developing relevant skills and competencies, while enhancing employability (Ferns et al 2024:371). Furthermore, industry partners fulfil a crucial role in WIL, yet their involvement increases the complexity of designing, managing, and implementing WIL activities within a higher education setting (Ferns et al 2024:372). However, the lack of traditional experiential learning opportunities in the form of student placement (WIL Placement) for MA programmes in South Africa necessitates alternative skills development mechanisms, as echoed by Bishop (2019:20).

Within South Africa, the recent Financial and Accounting Services Sector Education and Training's (FASSET) (2023:15) report on the sector skills plan for 2024/2025, underscored critical deficiency in qualified and ethically proficient finance and accounting practitioners due to the decline of the public's trust in the profession because of recent accounting scandals. Moreover, the key skills change drivers within the financial and accounting sector has been a consequence of the "mismatch/gap between basic education, higher education and the workplace [and] remains a problem for throughput in the education and training system" (FASSET 2023:17). The change in the MA profession necessitates practitioners to combine technical expertise with strong interpersonal and intuitive skills, demanding educators to also imbed soft-skills development along with traditional instruction (Kroon, Alves & Martins 2021:2-3). In addition, the digital transformation and adoption of Artificial Intelligence (AI) in the MA practice have significantly revolutionised business operations (Secinaro, Calandra, Lanzalonga & Biancone 2024:207), requiring MA practitioners to possess updated digital proficiencies (American Institute of Certified Public Accountants & Chartered Institute of Management Accountants (AICPA & CIMA) 2023:6-7). Therefore, HEIs ought to equip MA students with pedagogies that are consistently updated to align with evolving professional demands in the digital era (Oesterreich & Teuteberg 2019:331).

The inclusion of a WIL (Simulations) curriculum within particular qualifications offered in UoTs under the HEQSF (2013) has necessitated a research inquiry at a doctoral level due to the lack of literature pertaining to the use of Simulations-Based Education (SBE) as an alternative skills development method for MA students within South Africa. While prior studies have explored WIL implementation (Ferns et al 2024:372; Wait & Govender 2016:281) and the pedagogical benefits of SBE independently (Pellizari & Wall 2015:97; Van Der Merwe 2020:84; Van Niekerk & Delport 2022:568), a clear research gap persists on a theoretically grounded framework for simulated-based WIL in MA. In principle, SBE involves developing authentic, real-world tasks and challenges that afford students the opportunities to apply their academic knowledge and acquire skills in contexts that mimic their prospective professional practice (University of Melbourne 2024:1). The central aim of this research inquiry is to critically examine how effectively Universities of Technology (UoTs) integrate simulations-

based WIL pedagogies ,i.e. a WIL (Simulations) curriculum as mandated by the CHE (2011) and the HEQSF (2013) within their MA programmes. In addition, this study addressed the identified theoretical gap on WIL (Simulations) delivery by translating Kolb's (1984) Experiential Learning Theory (ELT) into an empirically grounded guiding framework for MA programmes offered at UoTs, particularly where WIL (Placement) opportunities are limited.

The research study's background above indicates how experiential learning within higher education is crucial for enhancing work readiness and employability of graduates by factoring in collaborative efforts between HEIs and MA industry partners to align the theory and practice gap where traditional training opportunities are limited. As noted, the progression of the MA professional practice (AICPA & CIMA 2023:1), along with the high use of digital tools to enhance productivity, have altered the nature of accounting professionals and business operations in general (FASSET 2023:15-17), necessitating UoTs to consistently align with such developments in the pursuit of producing industry-ready graduates, coherent with the objectives of vocational education and training (Garraway & Winberg 2019:40-43).

Through the investigation of SBE as an alternative skills-development mechanism within MA programmes, this study seeks to enrich the scholarship of experiential learning implementation to offer novel insights for optimising the design, administration, assessment and monitoring practices of WIL (Simulations) curricula. The subsequent foundational literature pertaining to experiential learning, focusing on John Dewey's (1897:77) philosophy of education and experience, along with David Kolb's (1984:38) ELT, is discussed in the following section.

1.3 Literature review

The literature review will first present the theoretical framework underpinning this research study. Following this, the literature pertaining to the perceived scarcity of finance and accounting experts in South Africa, and the persistent skills mismatch (gap) between graduates and industries will be discussed, demarcating the study's problem orientation. Additionally, the literature discussions pertaining to the academic shift of Technikons to UoTs, and the development of MA skills through WIL at these institutions are outlined. The literature review will further highlight the purpose,

significance and challenges of WIL and its varied modalities as a skills development approach for higher education students.

1.3.1 Theoretical outline

This section presents a common understanding of the central theories surrounding experiential learning. The current study's theoretical underpinnings are drawn from John Dewey's (1897:77) philosophies pertaining to "experience and education", and from David Kolb's (1984:38) ELT as indicated in the introductory section above.

The evolution of formal education took a decisive turn from as early as the 1890s when John Dewey (1897:77) underscored the important role of practical experiences in the learning process. In principle, Dewey (1938:40) firmly advocated that holistic learning occurs when theory learned in the classroom is integrated with real-world experiences, suggesting that educators bear the responsibility towards cultivating student-centred scholarship. This perspective fostered by Dewey (1897:77; 1938:40) positioned education not merely as knowledge transfer, but as an integrative social process, underscored by the belief that human experiences shape one's ability to learn (Canillo & Bendanillo 2023:725; Flinders & Thornton 2013:35). Building on this, the emphasis on experiential learning has resulted in a growing literature signifying the need for formal educational institutions to produce skilled, problem-solving, and innovative graduates (Dewey 1899:127; Kolb 1984:38; Baldwin, Persing & Magnuson 2004:167-168).

More specifically, Skilbeck (2017:1) praised Dewey's (1897:77;1938:40) pragmatic views on pedagogy, indicating that they pioneered the 21st century educational system to produce graduates equipped with discipline and practical skills essential for the demands of today's workforce. However, Dewey's (1897:77) views were criticised by Maddux and Donett (2015:65), citing that they "ignore principles of inquiry from learners". Recently, Okere and Ifediatu (2024:140) contended that although Dewey's (1897:77) philosophy remains relevant to contemporary educational practices due to its emphasis on innovative science and technology, its alignment with modern education systems falls short as it lacks "compatibility, consistency, and adequacy" with current pedagogical structures. Furthermore, Dewey's (1938:40) theories on experiential learning were seen to place educators under pressure, while creating

situations of distress for learners as a way of testing creative thinking (Maddux & Donett 2015:64). Worth mentioning is Cohen's (1998:427) disagreement with Dewey's (1897:77; 1938:40) teaching philosophies as he placed a higher focus on students' interests. Arguably so, learning and teaching experiences are dual in nature between educator and learner as both play a vital role in creating educational experiences and growth (Ungerer 2016:59-60; Hoadley 2012:187).

Much of Dewey's (1897:77; 1938:40) contributions towards experiential learning were innovative for his era, forming the basis of David Kolb's (1984:38) ELT, which emphasises that learning is a process where knowledge emerges through transformative experiences (Kolb & Kolb 2012:1215-1217; Egan, Tolman, McBrayer & Ballesteros 2023:24-25). Described as an "eclectic contribution" to experiential learning education, Kolb's (1984:38) principles on learning by experiences were based on Dewey's (1897:77) philosophies on education and experience (Meittinen 2000:54). Kolb's (1984:38) ELT, illustrated in Figure 1.2 below, frames experiential learning as a continuous cycle of concrete experience, reflective observation, abstract conceptualisation, and active experimentation:

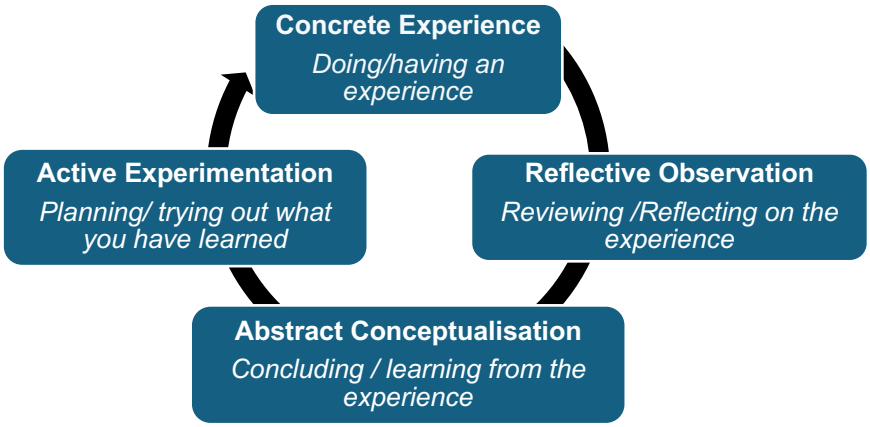


Figure 1.2: David Kolb's experiential learning theory

Source: Kolb (1984:38)

As observed in Figure 1.2 above, the theory focuses on four key phases of learning experiences, in which the first focuses on gathering concrete experience (CE). As described by Widiastutti and Budiyanto (2018:98-99), the concrete experience is an initial phase of the ELT in which learners actively engage in novel situations or

reinterpret an existing experience. Additionally, Widiastutti and Budiyanto (2018:99) further assert that the concrete experience phase is based on the belief that learners cannot learn by simply watching or reading but learn, instead, through active participation. Watson, Pelkey, Noyes and Rodgers (2019:3) indicated that personal feelings of learners are more crucial to problem-solving than systematic approaches in the concrete experience phase, which forms the foundation for the reflection phase. In this vein, the reflective observation phase focuses on the view that learners understand ideas and situations from various points of view, and that each scholar should rely on their own individual interpretations (Kolb 1984:38; Matsuo 2025:424). In addition, the previously mentioned phase supports the development of "critical thinking skills", as cited by Kopzhassarova, Akbayeva, Eskazinova, Belgibayeva and Tazhikeyeva (2016:11586).

The abstract conceptualisation phase was described by Kolb (1984:30-31) as a phase where learning occurs using logic, theories, and ideas rather than feelings to understand problems or situations. Chiu (2019:4) asserts that abstract conceptualisation allows learners to use their previous experiences to understand situations or solve problems, transforming their reflective observations into generalisable theories and frameworks. The ELT then integrates its final phase of active experimentation in which learners make use of previously acquired experience and knowledge for future applications (Kolb 1984:30; Chiu 2019:3), testing their validity of experience while refining their understanding. In addition, the integration of the active experimentation phase is vastly dependent on how a learner embraces and conveys the experience based on feedback and outcomes (Kosir, Fuller, Tyburski, Berant & Yu 2008:660-661). Likewise, the active experimentation phase serves as a critical iterative loop in which learners adjust their theories and methods acquired from the previous phases, leading back to the concrete experience phase of the ELT cycle (Malik & Behera 2024:56-58).

Drawing on Kolb's (1984:38) ELT discussions above, it is apparent that the applicability of the concrete experience, reflective observation, abstract conceptualisation, and active experimentation phases within the WIL curriculum in MA could present a strategic imperative for South Africa, where the persistent shortage of qualified finance and accounting professionals undermines both corporate competitiveness and

economic growth. By leveraging experiential learning methods such as WIL (Simulations), HEIs can effectively bridge the skills gap, ensuring that graduates emerge not only with theoretical knowledge of financial principles, but with the practical competence required to address the nation's critical talent shortage as discussed in the following section.

1.3.2 Scarcity of finance and accounting professionals in South Africa

South Africa faces a critical shortage of qualified finance and accounting professionals, (DHET 2024:18); more specifically, the high demand for roles such as financial analysts, external auditors and management accountants outstrips the labour supply (FASSET 2023:15-17). As indicated by the Personiv's (2024:2) survey report on the 2024 finance and accounting talent market outlook, 83% of senior managers indicated difficulties in acquiring qualified professionals due to the educational decline of the discipline owing to its low graduation rates. The previous report links with the South African Institute of Public Accountant's (SAIPA) (2023:8) assertions that the accounting profession has received a "negative perception", resulting in the decline of local talent due to a lack of interest. Moreover, the previously mentioned report indicated that South Africa requires an estimated 20,000 qualified accountants to meet the labour demands. In this vein, the DHET (2024:14) emphasised that the underdevelopment of the required skills-set and generic competencies often leads to poor industry absorption of university graduates. As the skills shortages surge in South Africa, mechanisms need to be put in place for the alignment of skills and competencies acquired within HEIs and those demanded by industry (Magagula, Maziriri & Saurombe 2020:2-3; Maisiri, Darwish & van Dyk 2019:90-91; Matsotso & Benedict 2020:94). Reyneke and Shuttleworth (2018:140) asserted that the development of soft skills is essential for students studying towards accountancy degrees, requiring HEIs to design tools that comprehensively develop professional competence for students (van den Berg & Rothmann 2024:2; Parsons, Davidowitz & Maughan 2020:161-162). As indicated by Reyneke and Shuttleworth (2018:141), the demands placed on accounting professionals have increased substantially, resulting in industry requiring a diverse set of generic attributes, skills, and competencies. This is consistent with AICPA and CIMA's (2022:57) findings.

Moreover, the applicability of the previous findings is relevant for the MA profession (AICPA & CIMA 2022:57; Horton, Wanderley, Souza & de Araujo 2020:2; Shuttleworth, Berry, Lötter, Viviers & Leonard 2013:1508). In their study, Hlakudi and Coetzee (2023:109) indicated that "competition from unqualified accountants and the threat of new entrants into the industry" within South Africa has hindered the delivery of professional services to clients. Conversely, the FASSET (2023:30-31) recommended that "skills and capacity gaps" need to be tackled at graduate entry level, citing poor levels of professional competence and etiquette amongst graduates. The previous statement links with the DHET's (2024:14) finding pertaining to Post-School Education and Training (PSET), which states that the system "is not offering appropriate training, meaning that the high unemployment is not only due to a lack of demand but also a lack of the skills needed by the industry".

Furthermore, the urgency of addressing the skills shortage of finance and accounting professionals is also applicable to the private sector (Abuka, Tunga & Nwandu 2020:134; Olarewaju & Msomi 2021:104). Financial sustainability of small to medium-sized enterprises (SMEs) in South Africa has been dwindling because of poor financial awareness, budgeting, accounting skills, and access to finance (Olarewaju & Msomi 2021:103). Consistent with the FASSET (2023:15-18) findings, the recent national list of occupations in high demand for 2024 in South Africa included "financial accountants", "management accountants", and "general accountants" (DHET 2024:16). The FASSET (2023:14) report cited difficulties in filling positions such as external auditors, financial managers, management accountants, tax practitioners, financial accountants, and corporate treasurers. Moreover, the mentioned difficulties pertaining to filling such roles are aggravated by the fast-paced and digitalised economy resulting from the Fourth Industrial Revolution (4IR) and Artificial Intelligence (AI) integration (FASSET 2020:37; 2023:18). As echoed by the International Federation of Accountants (IFAC) (2020:3-6), the evolution of the accounting profession requires accountants to engage in value-adding skills beyond technical abilities, emphasising the significance of emotional intelligence, professional competence, and networking attributes. Consistently, as the nature of business operations changes, the skills gap for qualified finance and accounting professionals widens, requiring a change in the pedagogy and training of accountants (Aryanti & Adharian 2020:649). The research on the expected skills for the accounting graduates

has been on the rise, requiring attention to developing and training accountants with generic attributes and skills suitable for the 4IR (Tsiligiris & Bowyer 2021:1-2).

As indicated by DHET (2024:14), one contributing factor concerning work readiness of graduates has been linked to the inadequacy of post-school training to meet industry demands. Such concerns have been echoed concerning the employability and work-readiness of accounting graduates (Mhlongo 2020:49-50; Phan, Yapa & Nguyen 2020:392). Moreso, Keevy, Tharapos, O'Connell, Verhoef, de Lange, and Beatson's (2025:26) study found that the development of professional skills among accounting students can be achieved through co-designed projects between HEIs and industry partners. Thus, the development and upskilling of generic skills for graduates and current professionals plays a critical role in addressing the current skills mismatch/gap in finance and accounting professionals for South Africa. Drawing from the previous statement and the study's theoretical lens discussed in Section 1.3.1 above, the incorporation of real-word situations as a basis of experiential learning has the capacity to provide deeper teaching and learning experiences for both educators and students within HEIs (Mayombe 2024:225; Rowe & Zegwaard 2017:88).

Contextually, in addressing a part of South Africa's dire shortage of finance and accounting professionals, this study's literature examines the critical skills set, broad competencies, and professional attitudes that MA students must possess to excel in practice. The next section details the growing expectations gap uncovered between MA graduates' competencies acquired within HEIs and those demanded by the profession.

1.3.3 Addressing the skill mismatch/gap through WIL programmes

The global labour markets are undergoing a momentous change (OECD 2020:23-25), requiring graduates to possess a holistic set of skills that industries demand (Fraser & Willison 2021:1118; Stewart 2021:89-90). While HEIs are traditionally linked to training individuals for the labour market (Al-Shehab, AL-Hashimi, Madbouly, Reyad & Hamdan 2021:349-350), a critical challenge pertains to the ability of HEIs to produce work-ready graduates for the current digital era (Al-Shehab et al 2021:350). Additionally, the disconnect between HEIs and labour skills demands has sparked numerous scholarly debates (Daka, Minjale, Kakupa & Kaani, 2023:1589; Jonbekova

2015:169; Muzuva 2024:134), particularly on the development of holistic skills required by industry (Abbasi, Ali & Bibi 2018:354). The International Labour Organisation (ILO) recognises *skills mismatch* as a discrepancy between skills and competencies required by employers and those possessed by individuals (ILO 2020:8-9). At a general level, skills are categorised into four types, namely: (i) foundational skills (literacy or numeracy), (ii) professional or personal skills (strong work ethic, integrity, honesty, etc.), (iii) transferable skills or primary work skills (ability to learn, communication skills, problem-solving skills, teamwork skills, creativity, adaptability and leadership skills) and (iv) technical or vocational skills (associated with a specific occupation/discipline) (Brewer 2013:2-4; ILO 2015:8). Hence, individuals who possess a combination of the previously outlined skills set are currently in high demand, particularly in the present digital era, because graduates generally require a broad set of skills that can facilitate transitioning towards employment (Keevy et al 2025:26-27).

While the leading conversation associated with skills mismatch or shortage is largely correlated with unemployment (Kamaruzaman, Hamid, Mutalib & Rasul 2019:17; Stijepic 2021:2), this study focuses on graduates possessing both technical and soft skills that may enhance employability in various commercial industries, irrespective of their qualification stream. Evidence suggests that South African graduates equipped with demanded skills experience relatively low levels of unemployment, largely due to the increasing demand for skilled professionals (FASSET 2023:13; Graham, Williams & Chisoro 2019:360-361). A prominent issue relating to the skills discrepancy between graduates and industry has been related to the methods used by HEIs to develop required graduate competencies (DHET 2024:14). Thus, HEIs along with involved stakeholders require innovative methods for the delivery of academic instruction while simultaneously providing students with industry exposure.

As reiterated, preparing students for the demands of the workplace requires academic knowledge being merged with authentic real-world experiences through experiential learning (Dewey 1986:214; Kolb 1984:38; Taylor, Ryan & Elphinstone 2024:499). Experiential learning, as a foundational concept of WIL addresses the persistent theory-practice gap through alignment of HEIs with the practical realities of industry (Zegwaard et al 2024:374). Numerous scholars have consistently agreed that experiential learning, commonly delivered under WIL within South Africa's higher

education (CHE 2011:4-5), has been instrumental in equipping students with industry competencies (Du Plessis 2018:17; Govender & Wait 2017:49; Rook & Sloan 2021:41; Rowan & Duerden 2024:455). Collectively, this valuable body of scholarly work agrees on the legitimacy of utilising WIL to foster practical workplace competencies that may minimise the prevailing skills mismatch/gap between HEI graduates and industry demands.

However, existing challenges pertaining to the administration, assessment, and implementation of WIL programmes have reverberated (Govender & Wait 2017:55; Jackson 2025:2-4), especially with the rapid advancement of innovative AI tools (Jacoby, Savage & Coady 2024:478). Additionally, Xu (2025:2) indicated that ethical risks in WIL, if left unmanaged, have the potential to escalate towards financial, legal, and regulatory predicaments. The previously mentioned observation underscores the necessity for HEIs to engage in risk management frameworks that may shield educational institutions from legal and reputational damage. As recommended by the CHE (2011:57-58) and the HEQSF (2013:12-13), WIL curricula, in whichever modality (i.e. placement-based, simulations-based, or project-based.), must be meticulously designed, rigorously structured, comprehensively assessed, and closely monitored.

The delivery modes of WIL have been highly debated (Björck & Willermark 2024:2; Du Plessis 2018:19; Ferns et al 2024:371-374). Ideally, students under WIL should be placed in real-world working environments interacting with real industry professionals (Aprile & Knight 2020:869; CHE 2011:4; Zegwaard, Pretti, Rowe & Ferns 2023:31). Traditional modes of WIL delivery have been described as physically exposing students to the place of work through conventional offerings such as work-placements, vacation work, internships, and learnerships, typically requiring collaboration with industry partners or potential employers (Beham, Kump, Ley and Lindstaedt 2010:2784; Wait & Govender 2017:55). Yet, the excessive demand for higher education, resulting in high student enrolments, outweighs the supply of HEIs securing traditional workplace exposure (Makhathini, & Akpa-Inyang 2024:261; Taylor & Govender 2017:105), specifically for MA disciplines in South Africa (Bishop 2019:20). Bishop (2019:22) argued that traditional WIL modes are not pragmatic due to the limited opportunities available, advocating for HEIs to develop experiential learning methods such as SBE.

As noted, the chief motivation for this study is the development of an experiential learning framework delivered through SBE, i.e. WIL(Simulations) framework with adaptation to MAE offered at UoTs, as understood through the theoretical lens of Kolb's (1984:38) ELT. The incorporation of WIL, in the form of WIL (Simulations), for certain new programmes developed under the HEQSF (2013) within South African UoTs necessitates a scholarly inquiry pertaining to its design, implementation, assessment, and monitoring practices to explore the legitimacy, challenges and opportunities of SBE in MA programmes. Moreover, the next section pertains to discussions on UoTs in South Africa, which have undergone radical changes since their inception as Technikons (Kraak 2006:135).

1.3.4 The "academic shift" of Technikon to UoTs

Historically, UoTs were known as Technikons, a form of HEI that focused on: "i) training students in, and practice of technology (including development), and ii) the specific side of the spectrum of vocational preparation (i.e. preparation for specific occupations)" (Ntshoe 2012:199-200). Since their new recognition in 2004, UoTs have faced an academic shift that has had undesirable educational and economic after-effects (Kraak 2006:135). From an academic and training point of view, UoTs have been tied closely to workplace expertise aimed at training students for industry demands (McKenna & Gumbi 2020:98). The emergence of UoTs resulted in a drastic focal change as research outputs were tied to university funding (De Villiers & Steyn 2009:43-45; Kraak 2006:136-137). In their study, Garraway and Winberg (2019:51) indicated that prior to their reform, Technikons had a clear objective to "train students for industry" as students were placed in work environments for experiential learning. McKenna and Powell (2009:39) acknowledged Technikons for the close affiliation with industry in which academic programmes were designed, assessed, and evaluated from the employer's perspective. As research demands intensify and qualification improvements are demanded from UoTs, their "purpose" changed from producing career-oriented and work relevant graduates to now also focusing on research and theoretical pedagogy like traditional universities (McKenna & Gumbi 2020:97). As such, questions pertaining to what constitutes the identity attributes and purpose of UoTs in South Africa have been probed (Garraway & Winberg 2019: 38-39).

Contextually, the changes implemented in UoTs concerning their purpose inadvertently deepened the “experiential learning gap” faced by some programmes offered at these institutions. Since the digitalisation and the 4IR made their mark globally, the South African higher education system had to adjust its curriculum objectives, teaching and learning strategies to align with global practices and meeting labour demands (Menon & Castrillón 2019:6). Consequently, the revision of the HEQF (2007) becoming the HEQSF (2013) has led to credit-bearing WIL components for some qualifications offered at UoTs. The HEQSF (2013:11) states: “Some qualifications will be designed to integrate theory and practice through the incorporation of work-integrated learning (WIL) into the curriculum. WIL is characteristic of vocational and professionally oriented qualifications and may be incorporated into programmes at all levels of the HEQSF”. Building on this foundation, the next section will explore the varied WIL modalities and their distinct contributions for student development as stipulated in the CHE (2011) and the HEQSF (2013).

1.3.5 WIL modalities and SBE

Since the millennium, research has shifted towards the “new sciences of learning” aimed at improving learning systems in education (Bransford, Brown & Cocking 2000:32). The focus on experiential learning, adapted as WIL within the higher education environment, has yielded varied discussions pertaining to its design, modalities and assessments (Ajjawi, Tai, Dollinger, Dawson, Boud & Bearman 2023:499; CHE 2011:4; Flemming & Zegwaard 2018:205). Within South Africa’s higher education framework, WIL modalities are classified as follows: (i) Practicum Placements/Work-Based Learning, (ii) Problem-Based Learning, (iii) Project-Based Learning, (iv) Work-Directed Theoretical Learning, v) Service Learning, and (vi) Simulations/Virtual-based Learning, (CHE 2011:4; HEQSF 2013:11). CHE (2011:5-6) recommended that HEIs have the obligation to ensure that the WIL modality implemented within qualifications supports its intended Exit Level Outcomes (ELOs) while developing critical cross-field outcomes for students. Traditionally, WIL programmes primarily focused on placements, i.e. WIL (Placement) (Wait & Govender 2016:281); however, Bishop (2019:23) pointed out that WIL (Placement) opportunities are not always readily available, requiring HEIs to seek alternative experiential learning methods. For this study, the researcher has distinguished between traditional and alternative WIL modalities as outlined under Table 1.1 below:

Table 1.1: Traditional and alternative WIL modalities as outlined in the CHE (2011)

Traditional WIL modalities	Alternative WIL modalities
Practicum Placements / Work-Based Learning: WIL that requires students to be physically placed within a real workplace environment for experiential learning (King, Garrison, Violato & McCartan 2024:2)	**Problem-Based Learning:** WIL that uses identified issues within a scenario to increase knowledge and understanding (Wood 2003:329)
Project-Based Learning: WIL that involves learning through workplace projects supervised by HEI academics and workplace partners to bring about intellectual inquiry and real-world problems for authentic workplace experiences (CHE 2011:17)	**Work-Directed Theoretical Learning:** WIL focused on the theory of a particular subject matter that enables the alignment of theoretical knowledge with the practical workplace-complexities. (CHE 2011:16)
	Simulations-Based Learning: Learning through activities that imitate real-world scenarios within a controlled academic environment (Bishop 2020:22)

Source: Own compilation

While the outlined modalities above can be applied in varied fields, the focus of this study centres on the use of SBE as an alternative WIL modality for MA. Alternative WIL modalities in the form of SBE offer substantial advantages, including flexibility, cost considerations, and the opportunity to prepare students for the workplace (Sreejaya 2019:53). Moreover, the broader benefits of SBE incorporation within higher education include:

- Standardised assessments: Acknowledged by van der Merwe (2020:46), SBE allows for consistent and objective setting of both formative and summative assessments.
- Allows scope for error: A major advantage of SBE is its scope to allow practice errors without severe financial consequences (Calabor, Mora & Moya 2019:45; Du Preez et al 2023:139).
- Flexibility: HEIs can authentically create experiential learning opportunities within a controlled learning environment flexibility, tailoring content specifics that replicate

real-world MA problems in which students can immerse themselves. Simulations may mitigate the concerns related to the deficiency of student placement opportunities (Bishop 2019:20; Tharapos 2021:640-642) while ensuring that learning remains a synergistic and lifelike process (Johnston, Coyer & Nash 2018:396).

The inevitable pressure faced by HEIs to produce graduates who align with industry demands necessitates the establishment of comprehensive, flexible, yet cost effective experiential learning such as a WIL (Simulations) framework where students are exposed to workplace MA complexities that will enhance skills and professional development and augment employability prospects. While SBE has its advantages, its limitations have been noted in research, particularly for highly regulated professions such as MA, namely:

- Recognition: Pellizari and Wall (2015:97) highlighted the concern that the MA industry seldom recognises SBE as a legitimate skills development approach due to its underutilisation at higher education. This finding necessitates the inclusion of workplace partners that may validate its authenticity as recommended by the CHE (2011:51).
- Complex start-up processes: The effective implementation and running of SBE approaches have been noted to incur high costs due to infrastructure set-ups (Van der Merwe 2020:84). Moreover, the lack of available resources and SBE training specialists in South Africa aggravates the complexities associated with SBE implementation (Maboh, Biaka, & Andoh 2025:51; Van der Merwe 2020:84).
- Time-consuming: Time allocated for SBE has been documented as a considerable challenge due to its complexities (Rudman & Kruger-van Renen 2014:187; Van Niekerk & Delport 2022:568). It is essential for HEIs when facilitating experiential learning, including SBE, to consider time allocation, staff capacity, and available resources (CHE 2011:41).

The accounting profession is highly regulated by various professional bodies. In South Africa, and with special reference to the MA profession, the South African Institute of Chartered Accountants (SAICA), SAIPA, and AICPA and CIMA place a strong emphasis on professional competency (AICPA & CIMA 2023:4). As such, the

development of the mentioned professional competency under a WIL (Simulations) approach is discussed in the following section.

1.3.6 Developing MA skills and competencies through SBE as a WIL modality

The AICPA-CIMA, previously known as CIMA, is the world's leading and largest professional accounting body focused on the development and promotion of management accountancy as a valued profession (Ghosh & Bhuyan 2024:126). Additionally, the AICPA-CIMA's professional competency framework has been organised to centre on five interlinked skills-set domains, namely: i) Technical skills, ii) Business skills, iii) People (soft) skills, iv) Leadership skills, and v) Digital skills (AICPA & CIMA 2025:1). The technical skills domain covers finance, performance and risk management capabilities, while the business skills area centres on business strategy, innovation and commercial acumen (AICPA & CIMA 2023:1; Wright, Morlino, Lamb & Mahoney 2025:3). Competencies related to the people (soft) skills domain relate to communications, interpersonal skills, and ethical conduct (Wright et al 2025:4). In addition, the leadership skills domain centres on the management attributes that support individuals to guide, motivate, and encourage team members toward accomplishing common goals, while the digital skills domain focuses on competencies that are vital for navigating areas of digital transformation, including blockchain, cybersecurity, etc. (AICPA & CIMA 2025:1).

As experienced in varied fields, the MA discipline remains unsettled by the advanced rise of new technologies such as big data, AI, predictive analytics, machine learning, and robotics process automations (RPA) (IMA 2019:4; Möller, Schäffer & Verbeeten 2020:1-2). These changes create the inevitable gap between theory and practice, calling for the revision of the skills-set and competencies for the MA profession (Möller et al 2020:2; Pasewark 2021:124-127). Although digitalisation has caused the redundancy of some traditional MA roles, the profession now requires individuals equipped with digital competencies suitable for the 4IR (AICPA & CIMA 2025:1; IMA 2019:4)

The progression of the accounting profession has had an impact on HEIs, requiring a change in pedagogical methods to produce work-ready graduates who possess ethical skills, digital skills, business skills and soft skills (Aboderin & Havenga 2024:27;

Herbert, Rothwell, Glover & Lambert 2020:4). Conversely, the current expectation gap on skills and attributes required by industry from MA graduates can be addressed through experiential learning approaches such as SBE under WIL. As suggested by Ugrin, Odom, Honn and Rose (2021:43-44), the delivery of SBE in conjunction with collaborative industry has been proven to be effective to enhance students' MA skills. Moreover, South African studies pertaining to the use of SBE at traditional universities yielded mixed findings (Bishop 2019:20; Du Preez et al 2023:139; Wolmarans 2006:366; Vivier, Fouché and Reitsma 2016:368). Practically, challenges pertaining to the use of SBE in South African HEIs centre on the availability of funds and resources along with the deficiency of SBE experts in the Republic (Moabi & Mtshali 2022:3; Van Wyk, Labuschagne & Joubert 2023:2).

Likewise, the limited technical knowledge of SBE possessed by educational providers, as well as prior knowledge of students pertaining to experiential learning delivered as SBE hinders its effectiveness (Chernikova, Heitzmann, Stadler, Holzberger, Seidel & Fischer 2020:523). Nevertheless, SBE remains as a preferred alternative experiential learning modality in situations where traditional student placement opportunities are scarce or unavailable (Bishop 2019:20; Du Preez et al 2023:140). Holistically, the HEQSF's (2013) incorporation of SBE under WIL within certain UoTs offering MAE (categorised as WIL (Simulations) in this study), warrants research pertaining to the development of a single, comprehensive framework that may assist in the delivery, design, implementation, assessment, and monitoring of a WIL (Simulations) curriculum. Having outlined the theoretical and contextual foundations of this current study, the following section articulates the problem statement.

1.4 Problem statement

Despite the substantial evidence concerning the disconnect between HEIs and workplace demands (DHET 2024:14), South African UoTs have yet to adopt WIL approaches that clearly reflect and cultivate the development of MA professional skills and competencies as prescribed by professional bodies. Although the incorporation of WIL (Simulations) under the new HEQSF (2013)-aligned programmes attempts to narrow the previously mentioned disconnect, research concerning the delivery of SBE within WIL in South Africa is lacking, requiring an urgent examination pertaining to its design, implementation, assessment, and monitoring practices. Figure 1.3 below

depicts the study's central problem orientation, distilling the identified gaps, challenges and opportunities related to WIL (Simulations).

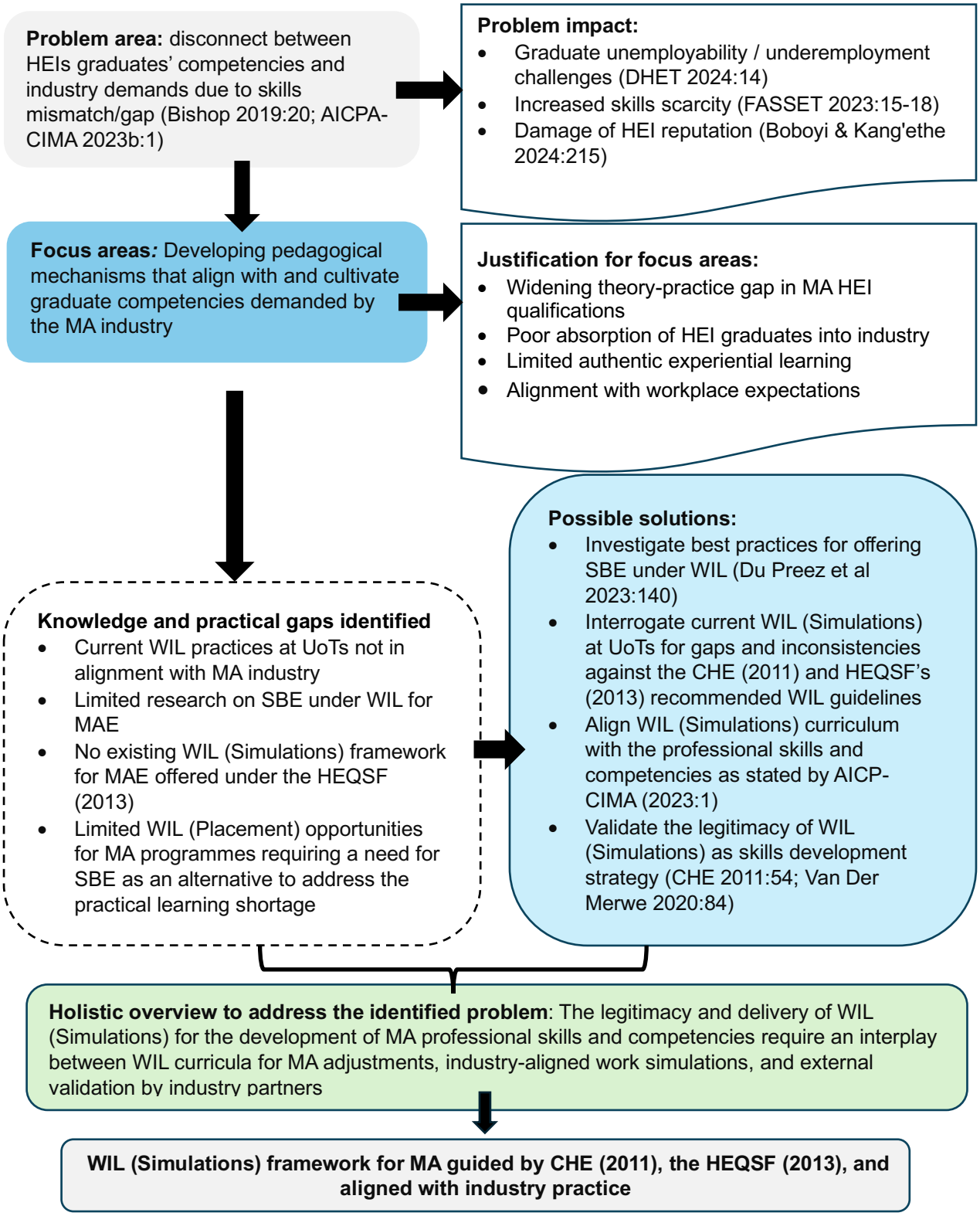


Figure 1.3: Study's problem orientation

Source: Own compilation

Figure 1.3 distils the study's problem orientation, stemming from the persistent disconnect between HEIs and industry demands (DHET 2024:14). Contextually, the mentioned disconnect aggravates employability prospects for HEI graduates (FASSET 2023:15), which may cause reputational damages (Boboyi & Kang'ethe 2024:215), coupled with the increased skills scarcity of finance and accounting professionals (AICPA & CIMA 2025:1; Bishop 2019:20; FASSET 2023:17).

Training management accountants for the current digital era requires pedagogical strategies that blend both theory and practice, while developing skills and capabilities suitable for the evolving business practices (Herbert et al 2020:4). Moreover, Iipinge, Batholmeus, and Pop (2020:543) asserted the need for HEIs to develop flexible live and virtual business simulations that can enhance work-readiness among students. As reiterated, UoTs (formally known at Technikons) offer vocational qualifications aimed at training students for industry demands (Kraak 2006:137). The mentioned "shift" of Technikons to UoTs has consequently led to the demise of 'on-the-job' training (i.e. student placement) programmes under the National Accredited Technical Education Diploma (NATED) qualifications, which formed part of Technikon qualifications (Kraak 2006:137; Papier, Powell, McBride & Needham 2016:166-168). As contended by McGraph and Akoojee (2009:151), and affirmed by Mogale (2023:10), students possessing theoretical knowledge without accessing work placement "undermines the college-employer relations" which contributes to the mismatch between programme learning outputs and industry demands. Furthermore, the lack of work placement opportunities in MA disciplines (Bishop 2019:21) defeats WIL's intended purpose of aligning academic knowledge with practice (Ferns et al 2024:374).

In synthesis, despite the recent incorporation of a WIL (Simulations) curriculum in UoT MA qualifications developed under the HEQSF (2013) in South Africa, there is no existing guiding framework on practices to design, implement, assess, and monitor WIL delivered as SBE modality. Additionally, existing CHE (2011) and HEQSF (2013) guidelines pertaining to WIL practices within HEIs are perceived as outdated and primarily focused on traditional WIL modalities (i.e. Placement-Based, Project-Based), leaving HEI WIL academics without an overarching framework that ascertains

educational coherence and industry alignment. While the DHET's (2023:10) National Skills Fund oversees the funding of WIL programmes within South African HEIs, it remains the responsibility of academic institutions to design, implement, and manage the practical aspects of WIL programmes (CHE 2011:51). Therefore, the practical problem underpinning this research is the persistent mismatch between competency expectations and the work-readiness among MA graduates which is frequently compounded by the lack of WIL (Placement) opportunities for UoTs students. In addition, the literacies on SBE and WIL are frequently isolated, rather than being integrated into a coherent, empirically grounded concept within experiential learning. This study further aims to address the previously mentioned literature gap by developing a structured simulations-based WIL framework specifically designed to MA education for UoTs.

Drawing from the study's problem orientation as discussed above, the following sections outline the research aim, objectives, research questions and thesis statement, along with delineation and limitations.

1.5 Research objectives and questions

This section outlines the study's primary Research Objective (RO) and Research Question (RQ). In addition, the section further details the Research Sub-Objectives (RSOs) and corresponding Research Sub-Questions (RSQs).

1.5.1 Research objectives

The research study's primary objective is to develop a simulations-based Work-Integrated Learning framework to bridge theory and practice in management accounting education at South African Universities of Technology. In addition, the study aims to:

- **Research Sub-Objective 1 (RSO1)**: investigate the administrative and delivery practices of WIL (Simulations) curriculum for MAE as incorporated under the HEQSF (2013) concerning its design, implementation, assessment, and monitoring practices within South African UoTs;

- **Research Sub-Objective 2 (RSO2)**: obtain innovative methods to embed theory-practice integration within a WIL (Simulations) curriculum in developing graduate skills and professional competencies for South African UoTs students.
- **Research Sub-Objective 3 (RSO3)**: to critically examine how academics involved with the existing WIL (Simulations) curriculum implement MA simulations with the purpose of identifying knowledge and practical gaps to enhance future WIL delivery.

1.5.2 Research questions

The main RQ of the current study is articulated as follows: How can a simulation-based WIL framework be developed for MA programmes at South African UoTs aimed at preparing students for industry? The following RSQs were formulated:

- **Research Sub-Question 1 (RSQ1)**: What are the best practices for implementing WIL (Simulations) within MAE at HEIs with reference to guidelines set by the CHE (2011) and the HEQSF (2013) for South African UoTs?
- **Research Sub-Question 2 (RSQ2)**: How can WIL (Simulations) assist in the development of MA graduate skills and professional competencies demanded by the industry for South African UoTs, thereby narrowing the gap between those acquired through HEIs and those demanded by industry?
- **Research Sub-Question 3 (RSQ3)**: How do WIL academics conceptualise and operationalise simulations in the existing WIL (Simulations) curriculum for MA programmes offered at UoTs?

1.6 Thesis statement

The development of a simulations-based WIL framework delivered for management accounting students at South African Universities of Technology presents an opportunity to align the theory and practice gap, cultivate essential management accounting skills and professional competencies, and to enhance employability.

1.7 Delineation and limitations

This section outlines the study's scope, focusing on delineation and limitations

1.7.1 Delineation

The study's scope was confined to South African UoTs that offer HEQSF (2013)-aligned programmes with a major in MA (inclusive of other related disciplines such as cost accounting, financial management, and cost control), and a WIL (Simulations) component. Additionally, the research study only engaged with academic staff involved in the previously mentioned programmes.

1.7.2 Research limitations

The following research limitations were observed by the researcher:

1. Institutional bureaucracy and data access constraints: HEIs in South Africa operate under a highly regulated governance structure which caused data collection challenges due to the POPIA Act of 2013, data sharing restrictions, and prolonged gate-keeper's approvals which affected the study's timelines;
2. Limited stakeholder perspectives: The primary data from the study's DBR phases 2 and 3 were collected from an academic perspective, resulting in the absence of direct input from students and MA industry partners. This limitation may have confined the breadth of perspectives informing the proposed WIL (Simulations) for MA framework's validation;
3. Participant engagement: The primary data of this research study was obtained on a voluntary basis from academic staff employed within UoTs, which posed inherent risks such as self-selection bias, low participation, or poor-quality responses from some participants. Participants who are highly invested in WIL or SBE might have been more inclined to participate, which may have potentially shaped the perspectives reflected in the collected data and findings;
4. Institutional scope limitation: As the study was conducted across two South African UoTs, the variations pertaining to institutional culture, resource availability, MA curriculum structure, and WIL (Simulations) programmes may limit the representativeness of findings across the broader UoT educational sector. Significantly, these mentioned variations may potentially limit the transferability of the proposed WIL (Simulations) for MA framework; and
5. Inherent complexity of analysing qualitative data: While the qualitative data obtained from the participants provided the researcher with in-depth understandings and insights into the delivery of a WIL (Simulations) curriculum,

one inherent limitation observed pertained to the data's lack of structure and standardisation, which resulted in several iterative cycles of coding and refinement during the data analysis phase of the study.

The following section includes the definitions and descriptions of key terms, phrases, and concepts that are applicable throughout the research study.

1.8 Definitions of terms and concepts

The study's key terms, phrases, and concepts pertaining to this research have been detailed below:

Accounting Education: Collective domains within the discipline of accounting sciences inclusive of financial accounting, management accounting/financial management, taxation, and auditing.

Assessment: "The process used to identify, gather and interpret information against the required competencies in a qualification or part-qualification in order to make a judgement about a learner's achievement". (SAQA 2018:23)

Assessment criteria: "The standards used to guide learning and to assess learner achievement and/or to evaluate and certify competence". (SAQA 2018:15)

Assessment methods: "Structured tools or procedures used to gather evidence of student learning" (University of Northern Carolina 2023:2). In work-integrated learning, assessment methods include direct observation, portfolios, case studies and project reports. (CHE 2011:41-45)

Assessment strategy: a combination of formative and summative assessments in which the former refers to "a range of formal, non-formal, and informal ongoing assessment procedures used to focus teaching and learning activities to improve learning attainment", and the latter refers to "assessment conducted at the end of sections of learning or at the end of a whole learning programme, to evaluate learning achievements related to a particular qualification, part-qualification, or professional designation". (DHET 2017:8)

Conceptual framework: "Serves as the connective tissue of a research study in that it helps researchers integrate their understanding of the various influences on and aspects of a specific research study to create a more intentional and systematic process of connecting the various parts of the study". (Denzin & Lincoln 2021:34)

Curriculum: A statement of intended outcomes to be achieved, what knowledge content is to be acquired, which competencies, skills, values and attitudes are to be developed, and the levels of performance that are expected from students. (DHET 2021:37)

Experiential learning: The use of practical experiences for learning. (Kolb 1984:38)

Skills-set and professional competencies: The qualities, capabilities, competencies and understandings that a HEI aspires for its students to develop during their academic years of study. Moreover, these attributes should extend beyond disciplinary expertise or technical knowledge that has traditionally formed the core of most HEI courses. (Bowden, Hart, King, Trigwell & Watts 2000:3)

Higher Education Institution (HEI): "Institution that provides higher education on a full-time, part-time, or distance basis under the South African Higher Education Amendment Act 63 of 2002". (DHET 2002:10)

Industry partners: Defined in context of this research and refer to external businesses, professional bodies or organisations that collaborate with HEIs to co-design, host, support, and co-assess experiential learning delivered under a WIL curriculum.

Management Accounting (MA) Defined in context of this research and refers to the domain within accounting sciences focused on cost accounting, cost management and control, financial management, performance management, and strategic management**.**

Simulations/Simulations-Based Education (SBE): (Sometimes referred to as "Simulation-Based Learning") It is a "learning tool that supports development through experiential learning by creating or replicating a particular set of conditions which resemble real life situations". (Diaz-Navarro, Jones, Pugh, Moneypenny, Lazarovici & Grant 2024:2).

Theory-Practice: Defined in context of this research and refers to the integration of theoretical knowledge acquired at higher education institutions and its application in real-world practice.

University of Technology (UoT): "A university (previously called Technikon) that offers a range of programmes that are vocationally and/or professionally orientated, primarily career-focused qualifications that include higher certificates, diplomas and degrees that have a distinctive focus on the vocational studies". (DHET 2021:115)

WIL (Simulations): Defined in context of this research and refers to SBE delivered under WIL for experiential learning.

Work readiness: "The extent to which graduates are perceived to possess the attitudes and attributes that make them prepared or ready for success in the work environment". (Caballero, Walker & Fuller-Tyszkiewicz 2011:42)

Work-Integrated Learning (WIL): Refers to a curricular, pedagogical, and assessment approach that aims to bridge academic learning with real-world workplace context across various study disciplines. It centres on integrating theory and practice to enrich student learning while enhancing learning outcomes such as employability, civic engagement, and graduate workplace readiness. Moreover, WIL comprises of a wide range of modalities, including traditional work placements, service learning, project- and problem-based learning, apprenticeships, simulations, and work-based learning models. (CHE 2011:4)

1.9 Underlying assumptions

Research assumptions have been described as "fundamental beliefs acknowledged as truth without any direct evidence" (Leedy & Ormand 2015:62). The study's research assumptions were articulated as follows:

- It was assumed that the study's theoretical frameworks underpinned by Kolb's (1984:38) ELT and Dewey's (1897:77) philosophy on education and experience, along with the literature on experiential learning, WIL, SBE, MAE and the empirical data would be sufficiently relevant to inform both framework development and interpretation of South African UoT WIL (Simulations) practices.
- It was assumed that the designed WIL (Simulations) for the MA framework would authentically represent the tasks, decisions and complexities encountered in real-world MA practice.
- UoTs included in the study are currently offering WIL (Simulations) curriculum designed under the revised HEQSF (2013:11).
- UoT academics and WIL coordinators possessed the knowledge of WIL and SBE and were willing to disclose the strengths and weaknesses pertaining to the existing WIL (Simulations) curriculum to yield meaningful findings.
- While UoTs typically differ in size and institutional structures, it was assumed that their WIL (Simulations) components share core design, implementation,

assessment, and monitoring practices such that the findings can be compared across institutions.

- While not statistically generalisable, this study assumed that the findings and proposed WIL (Simulations) for MA framework may be transferable to similar HEIs aiming to enhance work-readiness of MA students.
- Although the rapid advancement of the MA profession is presently on-going, it was assumed that the identified MA skills-set of professional competencies demanded by the MA industry remain constant over the data collection period.

Embarking on a research project of this magnitude required a carefully designed research methodology approach. Building on the insights gained from the literature, theoretical and pragmatic gaps as identified above, the next section outlines the study's research methodology procedures.

1.10 Research methodology

As described by Saunders, Lewis and Thornhill (2023:41), research methodology involves the process, procedures and techniques researchers use to collect and analyse data pertaining to the problem being investigated. This section comprises of discussions related to the research design, philosophical underpinnings of the research approach, and the research methodology for the study. Additionally, the researcher outlined the proposed research strategy, data collection methods, data collection instruments, and the study's data analysis procedures. Thereafter, the pilot study and methodological rigour were outlined.

1.10.1 Research philosophy and design

In principle, a research philosophy entails a set of foundational beliefs and assumptions that influence how a researcher approaches their study (Saunders et al 2023:124). As such, the study's research philosophy followed an interpretivism philosophy constructed under a pragmatic intervention, concisely put, an interpretivism-to-pragmatic philosophy. Within an interpretivism philosophy, high emphasis is placed on the significance of understanding the subjective meanings and interpretations of individuals and groups within society (Creswell & Creswell 2022:9). Moreover, pragmatism is seen as a philosophy that emphasises practical outcomes

and problem-solving research as a meaningful contribution to the body of knowledge (Higgs 2021:4; Saunders et al 2023:152).

In aligning the study's theoretical lens and philosophy, the researcher considered Goldkuhl's (2012:136) opinions on the beliefs of Dewey (1897:77), emphasising that pragmatism and interpretivism share a common objective towards understanding a phenomenon. Within interpretivism, the 'understanding' is seen as contribution, while pragmatism sees the 'understanding' as instrumental towards solving practical problems and initiating a change (Goldkuhl 2012:137-138). The combination of both philosophies has been endorsed by some scholars based on the scope and nature of the phenomenon being investigated (Collis & Hussey 2014:54). However, due to its strong emphasis on subjectivity, interpretivism research findings tend to be difficult to generalise across populations or social environments and could be time-consuming (Balamurugan 2021:4). As a qualitative study, the collaborative approach between researcher and participants within the selected UoTs will allow for a deeper understanding of the WIL in MA offerings to ensure that the findings are relevant to the current practices. The researcher conducted a pilot study to minimise possible adverse effects to gather quality data for the proposed study.

A research design is an approach that researchers use to guide them on how to investigate the research problem introduced by their thesis statement. It involves a comprehensive set of actions on how a research study will be conducted (Hofstee 2018:113). Moreover, research designs are categorised into three paradigms, namely: qualitative, quantitative or mixed-method research (Creswell & Creswell 2018:23-24). As the study hinged on the perceptions and lived experiences of academics presently involved in UoT programmes with a WIL (Simulations) curriculum for experiential learning, a qualitative research design was especially suitable to capture in-depth and contextual insights. Given the aim to obtain first-hand information within a UoT environment pertaining to the delivery of WIL (Simulations) for MA, the researcher aligned the study's research design to Denzin and Lincoln's (2005:3) description of qualitative inquiry, stated as "research that studies things in their natural setting to understand a phenomenon". Moreover, Creswell and Creswell (2018:49) indicated that qualitative designs intend to explore a problem as opposed to solely relying on existing literature, allowing for novel findings.

In safeguarding the trustworthiness of the study's findings, the researcher addressed credibility, transferability, dependability, and confirmability concerns by following structured sampling procedures, while carefully designing a suitable data collection instrument, as advocated by Leedy and Ormand (2015:278). Thus, a qualitative design offered the flexibility and in-depth understandings required to explore how effectively the current WIL (Simulations) curriculum delivered in UoTs develops the skills-set and professional competencies demanded by the MA industry.

The following section details the research's empirical study in which the study's research strategy, data collection and sampling procedures are outlined. In addition, the mechanisms on establishing trustworthiness and rigour will be discussed.

1.10.2 Empirical study

This section detailed the procedures in which the researcher aimed to conduct the empirical study. As described by Laughlin (1995:63-64), an empirical study is research that is grounded "on observation and measurement of phenomena, as directly experienced by the researcher". Within the current study, the data gathered from the UoT academics represent the study's primary data and were triangulated against the study's uncovered literature. Moreover, the empirical research encompassed the study's research strategy, data collection procedures and analysis methods, sampling method, and pilot as discussed in the following sections.

1.10.2.1 Research strategy

A research strategy is the methodological link between a study's philosophy and subsequent choice of methods to collect and analyse data (Saunders et al 2023:191). As the current research pertains to improve experiential learning pedagogies for higher education within the domain of MAE, the research followed Cochrane's (2022:4) *Design-Based Research (DBR) framework to guide curriculum design* principles as displayed in Table 1.2 below:

Table 1.2: DBR strategy followed in the current study.

DBR Phase	**Phase 1**: Preliminary - Analysis and problem exploration	**Phase 2**: Framework design- Design and construction	**Phase 3**: Framework finalisation - Reflective evaluation
Iterative cycle	*Iterative cycle 1*	*Iterative cycle 2*	*Iterative cycle 3*
Steps	1. Conducting preliminary research on the problem identified and situating the study's theoretical framework; 2. Setting the study's research objectives and questions along with the research methodology; 3. Conduct literature review focusing on the study's concepts to identify the study's broad themes; and 4. Construct a conceptual framework for WIL (Simulations) curriculum	5. Develop the outlined research methodology and the study's research instrument; 6. Conduct the pilot study and adjust the research instrument; 7. Conduct the document analysis and the first cycle interviews with UoT academics; 8. Analyse the primary and secondary data; and 9. Design the WIL (Simulations) framework as informed by the Phase 2 findings	10. Conduct data triangulation; 11. Conduct the second cycle of interviews with WIL coordinators and WIL academics to review and reflect on the designed WIL (Simulations) framework; 12. Analyse the data from Phase 3 and develop the finalised WIL (Simulations) framework based on the findings from Phase 3

Source: Own compilation based on Cochrane's (2022:4) DBR for guiding curriculum design

According to Cochrane (2022:4), DBR is a flexible research strategy aimed at "improving educational practices through iterative design and implementation cycles in real-world settings" through four iterative phases, namely: Phase 1 - Preliminary phase (Analysis and problem exploration); Phase 2 - Framework design (Design and construction of framework); Phase 3 - Framework finalisation (Reflection); and Phase 4 - Theory building (Framework implementation and testing), which can be adapted flexibly according to the specific context and needs of the study (Karsten & van Zyl 2022:17). In the context of this research's scope, only the first three of the four previously mentioned phases were adapted as furnished in Table 1.2 above and discussed in detail under the study's research methodology in Chapter 4. As displayed above, the researcher completed the study's three DBR phases following the 12 consecutive steps numbered 1 to 12 as depicted in Table 1.2. Moreover, the DBR phases have been categorised as follows:

- DBR Phase 1 (Preliminary analysis and problem exploration): As indicated by Karsten and van Zyl (2022:18-19), the initial phase within DBR centres on conducting a “comprehensive investigation into the identified problem”. In context of the current study, Steps 1 to 4 represent this phase in which the researcher provided the study’s orientation and background through the preliminary literature focusing on the principles, theories, and practices of experiential learning, SBE, and WIL for HEIs. Moreover, Phase 1 concluded with the study’s conceptual framework that represents vital elements, concepts, or variables concerning higher education WIL practices.
- DBR Phase 2 (Framework design and construction): Sometimes referred to as “framework prototyping” (Karsten & van Zyl 2022:18-19), DBR Phase 2 centres on developing the intervening educational artefact through iterative cycles of design and refinement (Cochrane 2022:4). Within this study, Steps 5 to 9 represent the actions required to design and construct the envisioned WIL (Simulations) framework based on the findings from the primary and secondary data. DBR Phase 2 concluded with a designed WIL (Simulations) for a MA framework informed by literature and empirical findings.
- DBR Phase 3 (Framework finalisation-reflective evaluation): Within the study, Phase 3 was the final phase of the DBR strategy which involved summative evaluation and reflection (Cochrane 2022:4) of the designed WIL (Simulations) framework by WIL academics and coordinators from the selected UoTs. Moreover, Phase 3 involved Steps 10 to 12 which were essential for finalising the WIL (Simulations) for MA framework.

The next section will detail the study’s data collection and sampling procedures relating to the primary and secondary data sources.

1.10.3 Data collection and sampling procedures

As indicated, the researcher aimed to obtain the opinions and perspectives regarding the delivery of WIL (Simulations) curriculum from UoT academics involved in programmes with MAE. At a general level, qualitative data collection instruments include document analysis, interviews, and observations (Schneider & Whitehead 2013:135). However, the combination of multiple instruments, also termed “concurrent

triangulation design", in data collection has been attested to combine a variety of perspectives, coupled with diverse views on the phenomenon being investigated (Creswell 2013:47,81; Merriam 2009:25; Saunders et al 2023:187). Accordingly, semi-structured interviews consist of detailed dialogues aimed at obtaining subjective responses from individuals regarding a phenomenon they experienced (Morse & Field 1996:76). Moreover, Saunders et al (2023:443) indicated that semi-structured interviews can be conducted thematically, allowing the interviewer to "address a research topic using a list of pre-determined themes and initial questions to guide the conduct of each interview" (See Chapter 4, Table 4.7 and Annexure D) , which is consistent with the current study's strategy in DBR Phase 1 under Step 3.

In context of the current study, the researcher combined document analysis and individual semi-structured interviews, which were conducted within the study's DBR strategy. The study's DBR Phase 1 included the mentioned document analysis and, thereafter, the first cycle of semi-structured interviews was conducted in DBR Phase 2 for framework design, followed by the second cycle of semi-structured interviews within DBR Phase 3 in finalising the framework. The semi-structured interviews were conducted in English, on a face-to-face or virtual basis to allow for flexibility and were recorded.

The population and sampling procedures pertaining to the current study involved selecting a sample from registered UoTs presently offering a WIL (Simulations) curriculum for a qualification incorporated under the HEQSF (2013) in South Africa. As researchers need to consider the population and targeted population in order to obtain a sample (Stratton 2021:373-374), the study's population included the seven communal UoTs operating in the country which were deidentified into group numbers by the researcher (i.e. Group 1, Group 2, Group 3, Group 4, Group 5, Group 6, and Group 7). As such, the targeted population included UoTs offering HEQSF (2013)-aligned programmes with MA as a major constituent of the qualification at undergraduate level, namely: Group 1, Group 2, Group 3, Group 4, Group 5.

Sampling has been described as a method of choosing a subgroup of individuals (a sample) from a larger group (a population) to study and draw conclusions about the population in its entirety (Saunders et al 2023:291; Schneider & Whitehead 2013:124).

In qualitative research, various sampling techniques exist, namely: (i) purposive sampling, (ii) snowball sampling (iii) theoretical sampling and (iv) convenience sampling. Leedy and Ormand (2015:280) indicated that purposive sampling is most viable for researchers who aim to yield significant information concerning the matter being investigated. As such, the current study followed the purposive sampling protocols to obtain a sample of UoT academics involved with programmes with a WIL (Simulations) component. Furthermore, the sampling selection process was guided by Gay, Mills and Airasian's (2012:143) guidelines on purposive sampling, which include:

- In order to enhance data credibility, the researcher should purposefully select more participants than needed for the study in order to create a sampling pool; and
- Given the sampling pool, the researcher should then decide on how many of the many participants in the sample can be realistically dealt with in the research study.

Another critical factor that a researcher must contemplate is that there is no one-size-fits-all notion for data to reach the saturation point where sample size for qualitative research is concerned (Fusch & Ness 2015:1409). In qualitative studies, data saturation is described as a point in data analysis where additional data collection yields modest or no new information for the research study (Saunders et al 2023:314).

For a qualitative study design, the adaptation of high-quality probing questions used in data-collecting instruments will guide the researcher to a point of data saturation (Amerson 2011:428; Bucic, Robinson and Ramburuth 2010:228-229). Moreso, Leedy and Ormand (2015:186) recommend that researchers should focus on quality over quantity of data collected, while considering timeliness and available resources when conducting qualitative studies. The current study's sample was purposely selected to obtain rich data by virtue of the participants' capacity to provide in-depth perspectives. Purposive sampling is an appropriate method when the researcher works with very small samples (Campbell, Greenwood, Prior, Shearer, Walkem, Young & Bywaters 2020:652-653).

While the targeted population includes only those UoTs offering undergraduate programmes with MA major and a WIL component, only UoTs currently offering programmes with MA as a major and presently deliver a WIL (Simulations) curriculum

were selected to represent the study's sample. At the time of study, only two UoTs, namely, Group 1 and Group 2, offered a WIL (Simulations) curriculum within their MA qualifications, thus, they represented the study's sample. In addition, the pilot study was conducted within Group 1 as it has the largest student number in the country, representing a diverse demographic set of potential participants. Pilot studies are essential for determining the validity of research instruments of a study by ensuring that questions to be used for a research study are clear, unbiased, structured with no ambiguity (Leedy & Ormand 2015:169). Furthermore, pilot studies play a vital role in determining time required for the actual study (Saunders et al 2023:548). Subject to permissions and ethics approval, the researcher administered a pilot interview from the Group 1. The next section details the study's qualitative data analysis procedures pertaining to data that was collected from the study's DBR Phases 1 through to 3.

1.10.4 Data analysis and establishing trustworthiness of findings

The analysis of primary and secondary data was conducted across the three DBR Phases as outlined in Table 1.2 above, integrating both literature and empirical data sources. Moreover, the data analysis was guided by the identified themes and literature concepts, following Nowell, Norris, White and Moules (2017:4), along with Braun and Clarke's (2006:77) principles of thematic analysis. To ensure a systematic data management process, the secondary data collected within the study's DBR Phase 1 were analysed by the researcher. Thereafter, the primary data gathered using the DBR Phase 2's interview schedule (see Annexure D) were recorded by the researcher and transcribed by an independent transcriber. Subsequently, the researcher analysed and triangulated the data from DBR Phases 1 and 2, coded and categorised, following Saldaña's (2016:14) codes-to-theory framework, using the Computer Assisted Qualitative Data Analysis Software (CAQDAS) ATLAS.ti's Version 24. Moreover, the coded data from the study's DBR Phases 1 and 2 were reviewed by an independent qualitative expert for quality assurance (see Annexure K). Within the study's DBR Phase 3, the data collected from the second cycle of interviews using the DBR Phase 3's interview schedule (see Annexure E) were recorded and manually analysed by the researcher to identify possible gaps and inconsistencies pertaining to the study's designed WIL (Simulations) framework from DBR Phase 2. Subsequently, the accumulated empirical data from DBR Phases 2 and 3 were further triangulated

against the uncovered literature to identify possible knowledge and practical gaps pertaining to WIL practices within UoTs.

In ensuring the trustworthiness and rigour pertaining to the study's findings, the researcher underscored Lincoln and Guba's (1985:289) criteria of establishing trustworthiness in qualitative research. As echoed by Lincoln and Guba (1985:289), qualitative studies must reflect credibility, transferability, dependability, confirmability, and an audit trail in order to establish trustworthiness. To ensure credibility, the researcher anonymised participants and allocated sufficient time for interviews to gain a deep understanding of WIL (Simulations) practices within UoTs. In addition, a member check, as recommended by Leedy and Ormand (2015:276), was conducted during the study's DBR Phase 3 to ensure that views and opinions of WIL academics and coordinators had been accurately captured. In ensuring transferability, the researcher provided a detailed account of each UoT's WIL (Simulations) practices, participant roles, and contextual factors so that readers may draw their own objective opinions and conclusions of the study's findings (Meriam 1998:22; Visagie 2012:8).

Concerning the dependability of the study's findings, a comprehensive record of all data analysis, coding and refinement of the empirical data was documented in ATLAS.ti, providing a clear audit trail as suggested by Carcary (2020:167), which was independently reviewed by the qualitative expert for quality assurance. Lastly, to address the criterion of confirmability, the researcher refrained from bias and maintained an objective stance throughout the data collection and analysis process, ensuring that the study research findings were not unduly influenced or deliberately distorted (Saunders et al 2023:376).

1.11 Ethical considerations

In adherence to Unisa's Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment (2024) requirements for conducting research involving humans, the researcher submitted an electronic application with supporting documents for ethics approval at the College of Accounting Sciences' (CAS) Research Ethics Review Committee (RERC) for review and approval (see Annexure A). The mentioned policy commits to research aspects relating to integrity, accountability, stewardship and confidentiality of data collected. As the study involved

qualitative data obtained from human participants, it was vital to ensure that respondents understood the intellectual property clause of the university. All information collected during the data collection processes remain the property of the university in line with Paragraph 9 (Intellectual property protection) and Paragraph 10 (Protecting confidential information/know-how) (Unisa 2012:9-10). In addition, subsequent ethics approval applications were sent to the respective UoTs involved in this study to obtain permission for conducting interviews with staff members (see Annexures B and C). The researcher also adhered to the Protection of Personal Information Act No 4 of 2013 (POPIA) when collecting empirical data.

1.12 Significance of study

The research study may potentially assist in higher education policies for experiential learning aimed at narrowing the continuous management accounting skills shortages caused by a misalignment between graduates' skills acquired at UoTs and the proficiencies required by employers in industry. The development of an effective framework for WIL offered in the form of SBE may contribute towards the development of graduate skills and professional competencies, which may actively improve employability and industry-readiness within the field of management accounting, while creating alternative experimental learning opportunities within higher education environments. As such, the main purpose of the framework is to provide UoTs with an empirically informed guidance, designed under Kolb's (1984) ELT in integrating simulations-based WIL for MA programmes. The study contributes to accounting education research by uniquely embedding Kolb's (1984) ELT within SBE designed to align theory and practice as an alternative for developing MA competencies among UoTs students.

South African HEIs are quite diverse. This requires appropriate strategies for implementing experiential learning opportunities that integrate teaching practices and industry skills, particularly where traditional WIL prospects in the form of placements are limited. The use of work simulations for WIL in the field of MA within UoTs present a combination of benefits, namely (i) developing graduate attributes for students suitable for the MA profession, (ii) assisting in the design, implementation, assessment, and monitoring of WIL in the form of simulations, and (iii) potentially assisting in the recognition and acknowledgement of experiential learning obtained

though work simulations in the field of MA by finance professional bodies and the general industry. Through stakeholder collaboration when pinpointing objectives and targets for narrowing the theory-practice gap between HEIs and industry, a positive effort towards improvement of work-readiness for graduates can be achieved.

1.13 Chapter overview

The following section provides a concise overview and layout of the thesis:

- In Chapter 1, titled **Overview and background of the study,** the orientation and identified research problem of the study are discussed.
- Chapter 2, titled **Experiential learning in higher education**, provides a theoretical framework for the study. In this section, the researcher reviews and expands on the literature pertaining to experiential learning theories, learning styles, and reflective practice in a higher education context.
- In Chapter 3, titled **Developing management accounting skills and competencies within higher education,** the literature pertaining to the advancement of the management accounting profession and its competency framework is further explored. Literature pertaining to South Africa's higher education system and its roles in developing management accounting skills through WIL is discussed. The literature dealing with the various WIL theories, modalities, and frameworks is outlined. The chapter also expands on SBE delivered under a WIL curriculum considering its design, assessments, and validity. The chapter then features the study's conceptual framework designed for the delivery of SBE under a WIL curriculum for MAE.
- Chapter 4, titled **Research methodology,** here the study's research design, strategy, and overall methodology selected for the research study are described and validated.
- Chapter 5, titled **Data analysis, interpretations and discussions of the findings***,* focuses on a structured report of the research findings. The chapter also includes the designed WIL (Simulations) for an MA framework based on the study's findings.
- Chapter 6, titled **Reflection, WIL (Simulations) for MA framework, conclusion, and recommendations** includes comprehensive discussions pertaining to the reflective evaluation of the designed framework findings to finalise the proposed

WIL framework. This concluding chapter further presents the study's methodological and substantive contributions, holistic research summary, conclusions, and recommendations for future studies.

CHAPTER 2: EXPERIENTIAL LEARNING IN HIGHER EDUCATION

2.1 Chapter layout

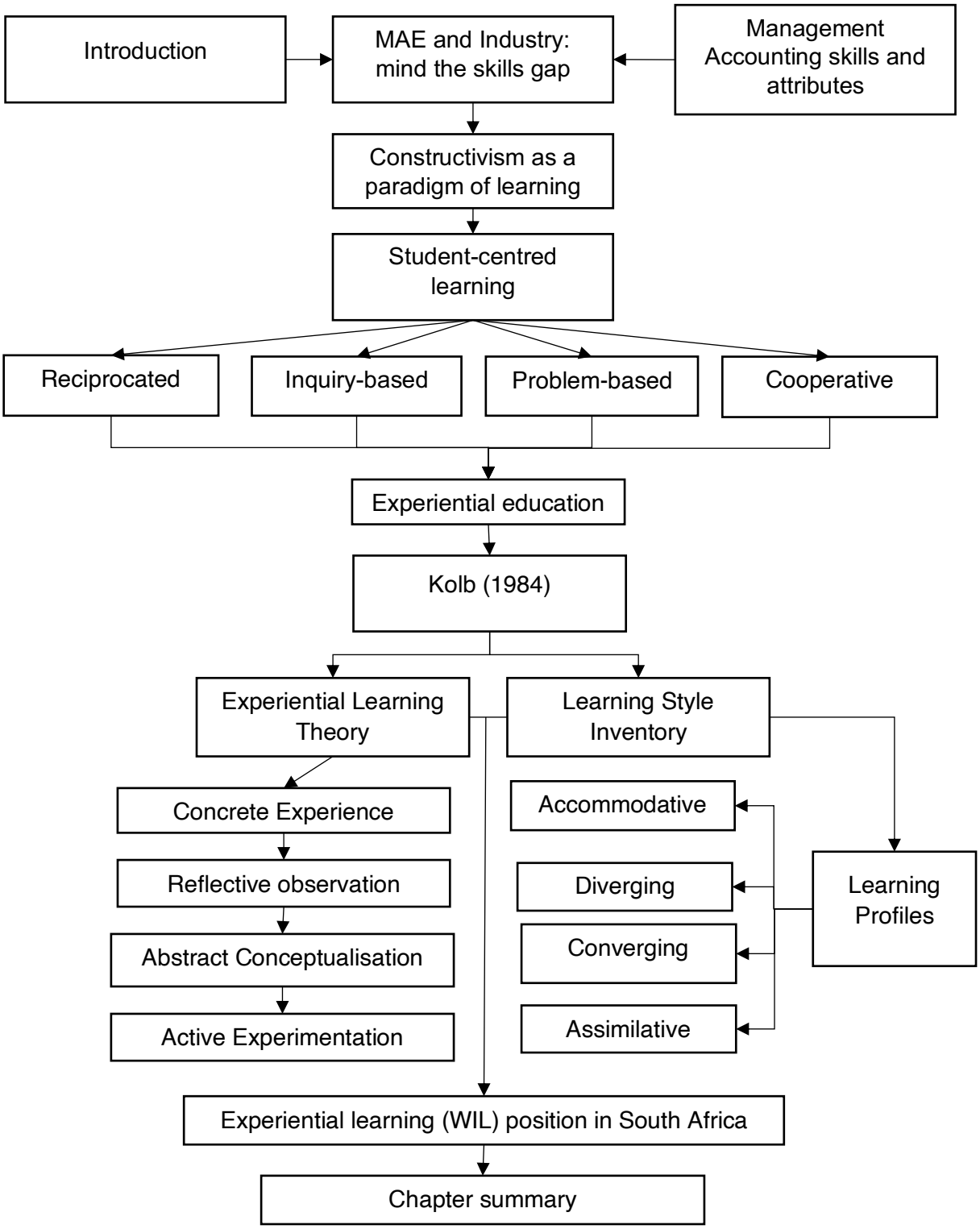


Figure 2. 1: Chapter 2 layout

Source: Own compilation

2.2 Introduction

South African UoTs function within a higher education framework and place a strong emphasis on industry alignment and career-driven learning outcomes (Kraak 2006:137; McKenna & Gumbi 2020:98;). As discussed in Chapter 1, scholars such as Herbert et al (2020:4), Möller et al (2020:2), and Tsiligiris and Bowyer (2021:2) have consistently recognised a persistent gap between MAE and MA practice. This gap is possibly worsened by the evolving MA profession and industry expectations (AICPA-CIMA 2022:57; Horton et al 2020:2). In this regard, the literature suggests that addressing the previously mentioned gap hinges on developing graduate attributes suitable for the workplace demands (Bishop 2019:21; Kroon et al 2021:2-3), particularly through experiential learning methods such as WIL (CHE 2011:4; Ferns et al 2024:371).

Chapter 1 orientated the study's practical and theoretical gaps which relate to the persistent theory-practice gap in MA currently faced by UoTs in South Africa. As outlined in Chapter 1, the CHE's mandate to review higher education programmes was sought to realign higher education learning outcomes with global benchmarks and industry expectations (CHE 2013:5). This was done by bolstering the objectives of the National Qualifications Framework (NQF) (as outlined in Section 5 of the NQF Act) into the HEQSF (2013). This framework includes "developing, fostering and maintaining an integrated and transparent national framework for the recognition of learning achievements", and "ensuring that South African qualifications meet appropriate criteria, determined by the Minister of Education and Training as contemplated in Section 8 of the NQF Act, and are internationally comparable". Consequently, in the process of revising programmes to align with the HEQSF (2013), some UoTs offering MAE have embedded experiential learning in the form of SBE under WIL, contextually, WIL (Simulations). Within the HEQSF (2013), programmes incorporating WIL may employ a range of experiential learning pedagogies, including SBE, Work-Directed Theoretical Learning (WDTL), Problem-Based Learning (PBL), Project-Based Learning (PrBL), and Practicum Placement/Workplace-Based Learning (WBL) (HEQSF 2013:11).

As such, South African UoTs that have incorporated a WIL (Simulations) curriculum under the HEQSF (2013) for newly developed programmes bear the responsibility of

designing, implementing, assessing, and monitoring the WIL curriculum as mandated by the CHE (2011:58). As indicated by Bishop (2019:21), South African HEIs that offer MAE are challenged with limited practical training (i.e. Practicum placement/Workplace-Based) opportunities for MA students, requiring universities to consider the use of SBE as an alternative for skills development. Critically, the novelty of delivering a WIL (Simulations) curriculum within MA-related qualifications at South African UoTs has warranted an investigation into its design, implementation, assessment, and monitoring practices aimed at enhancing the work readiness of graduates by narrowing the gap between MA academic theory and professional practice. Thus, this research attempts to partially fill the knowledge and practical gaps pertaining to the delivery of a WIL (Simulations) curriculum as incorporated in MA-related programmes developed under the HEQSF (2013). In addition, this research further aims to critically explore various experiential learning theories and models that can be embedded within a WIL (Simulations) curriculum for MAE for the purpose of developing graduate skills and competencies within a South African perspective.

This chapter critically examines the evolution, theoretical underpinnings, and practical applications of experiential learning within higher education, focusing on a constructivism paradigm. While Chapter 1 established the sectoral skills mismatch in MA as a motivating problem, this chapter focuses on the how the theoretical mechanisms through which the identified gaps may be pedagogically addressed. Additionally, the chapter establishes the study's theoretical framework by delineating the historical and philosophical underpinnings of "learning through experience" by engaging Kolb's (1984:39) Experiential Learning Theory (ELT) and Learning Style Inventory (LSI), thereby mapping distinct learner profiles. Moreover, the chapter also positions the incorporation of WIL within South African HEIs with the overarching aim of informing the development of skills and competencies among MA graduates.

2.3. Narrowing the skills and competency divide between MAE and industry

This section draws attention to the persistent MA skills deficit resulting from the gap between MAE and industry as echoed in the literature (Bishop 2019:20; DHET 2024:16; FASSET 2023:17; Jansen 2018:1487). Central to this scholarly discourse is the discipline's lack of pragmatic and application-orientated pedagogy similar to natural sciences domains, which often result in a "translation barrier" between

graduates and practice (Turker & Lowe 2014:394). In addition, the section discusses the literature pertaining to poor work readiness of MA graduates caused by the misalignment between HEIs and MA professional practice.

2.3.1 Identifying the skills shortages and mismatches

The scarcity of finance and accounting expertise in South Africa was echoed in Chapter 1, Section 2.2, in which the problem pertaining to skills shortages and skills mismatches was mapped out. The shifts in occupational roles coupled with evolving competency demands within accounting has led to what scholars refer to as "skills gaps", often described as "skills shortages", "skills mismatches" or "expectations-performance gaps" (Elo, Puumalainen, Sjögrén & Pätäri 2025:18). While numerous factors may aggravate poor work readiness within HEI graduates, the disconnect between HEIs and professional industry has been echoed as a key contributor (Makhathini & Akpa-Inyang 2024b:261; Marshall 2024:590), often resulting in skills shortages and skills mismatches (DHET 2024:14). At a general level, *skills shortages* arise "when employers are unable to recruit staff with the required skills in the accessible labour market and at the ongoing rate of pay" (Brunello & Wruuk 2021:1147), while *skills mismatches* refer to "spatial variations in both the nature of skills required and the kind of skills available across the country" (Local Government Sector Education and Training Authority (LGSETA) 2020:8). Contextually, skills mismatches have been echoed by the IMA (2015:2-3), citing the deficiency of industry competencies concerning entry-level MA graduates. More specifically, the MA competency framework has evolved, requiring practitioners to possess five interlinked skills-set domains related to technical skills, business skills, people (soft) skills, leadership skills, and digital skills (AICPA & CIMA 2025:1). As indicated by Alam and Hossain (2021:2), "AI, big data, cyberspace, informatics, internet of things, robotics etc. have become mundane language in today's business", requiring MA practitioners to acquire or upskill their skills-set and competencies. Moreover, the significance of competencies in the area of "professional ethics and value", cannot be understated (IMA 2022a:44), as management accountants are often required to "identify ethical conflicts and lapses in the workplace, and take appropriate actions" (IMA 2022a:45). The recent "Mind the skills gap" report by AICPA-CIMA (2025:18) highlighted that, although young generations are keen to enhance their skills-set, a prominent gap persists between the training they pursue, the competencies demanded by employers,

and the skills development opportunities they believe they receive. However, how HEIs undertake diverse strategies to develop soft skills among MA students at undergraduate level remains relatively unexplored (Gunarathne, Senaratne & Herath 2021:2).

Within a local context, studies pertaining to the skills gap concerning MA graduates and industry demands have been growing (Bishop 2019:23; Landsberg & van den Berg 2023:178; Shuttleworth et al 2013:1509). Conversely, Kotze and Miller's (2023:762) study revealed that "leadership skills, teamwork skills, and emotional intelligence" were the least developed competencies among MA graduates, despite them indicating a desire for these skills to be enhanced during their academic studies. Similarly, Rudman and Sexton's (2024:293) study, framed within a 4IR context, indicated that MA graduates perceive practical work experience as an effective method for soft-skills acquisition. Holistically, the previously mentioned scholars affirm the FASSET's (2023:17) assertions that "mismatch/gap between basic education, higher education and the workplace remains a problem for throughput in the education and training system", underscoring the urgency to reform experiential learning within HEIs aimed at developing skills closely aligned with industry demands.

2.3.2 MAE as a soft science discipline

The scholarly discourse over "hard" and "soft" science disciplines in higher education has been echoed by numerous scholars (Khairani, Kurniawan & Lubis 2023:95; Phillips 2014:9-11), particularly over the development of discipline-specific competencies among students (Shapin 2022:287; Silverio, Villa-Cuesta, Hyslop, Kolack & Sobel 2024:472). Hard science disciplines, predominately referred to as "natural science discipline", often focus on studying naturally occurring phenomena such as physical sciences, biology, chemistry and geology, which typically involve students applying rigorous scientific and mathematical models to solve problems using a deductive reasoning quantitatively (Shapin 2022:290-291). In contrast to hard science disciplines, soft science disciplines, frequently termed as "social sciences", encompass studying social phenomena such as sociology, psychology, history, art, which often involve social and cultural structures in which students solve problems through subjective analysis and qualitative interpretations as opposed to structured mathematical or scientific models (Gastaldo & Eakin 2024:6; Shapin 2022:291).

Moreover, the “softness” or “hardness” of academic disciplines centres on the degree to which structured scientific and mathematical methods are used to solve problems in learning (Shapin 2022:293; Storer 1967:75). While accounting education as a discipline involves the application of logical “principles, laws, rules, methods, and theories” (Basu 2015:235), it is classified as a soft science discipline (Hussain, Liu & Miller 2019:13; Mautz 1963:317).

Moreover, learning through practical applications and experimentations, revered as “pragmatic science” is typically adopted within hard science disciplines (Ormerod 2020:799-800). The lack of pragmatic science within MAE has negatively impacted HEIs’ effectiveness in developing transferable skills among students as echoed by Jansen (2018:1487). The previously mentioned scholar highlighted that academics within the MAE field who wish to practically present MA topics often fail to translate its theories and principles into a real workplace application (Jansen 2018:1488). As indicated by Curtis and Sweeney (2023:201), accounting literature provides limited “insights into both pragmatic and non-pragmatic forms and uses of management accounting”. Drawing from the discussions above, there appears to be an absence of analytical clarity on how MAE can be pragmatically approached within a higher education context. Nonetheless, the philosophies of pragmatists such as Dewey (1938:77) and Kolb (1986:38) have been deemed relevant for experiential learning in accounting education and MA (Curtis & Sweeney 2023:201; Jackson & Meek 2021:63; Simpson & den Hond 2022:128).

The lack of practical learning through pragmatism has been directly linked to poor work readiness of MA graduates (Ngwakwe 2015:70-71). Poor work readiness among accounting education graduates has been addressed in the literature, of which numerous scholars explored the varied methods aimed at developing skill-sets and competencies (Crawford, Brimble & Freudenberg 2024:1062; Jackson, Rowbottom, Ferns, & McLaren, 2016:35-36). Moreover, the previously mentioned methods aimed at skills-set development among MA graduates to enhance work readiness have been investigated (Bishop 2019:20; Herbert et al 2020:4; Iipinge et al 2020:531; Wolmarans 2006:352). Recently, the IMA’s (2022:6) “Essential management accounting competencies for all entry-level accountants” publication reported ten graduate attributes perceived to be attractive by MA employers, which include: “grades; self-

confidence and self-assurance; MA skills; communication, initiative, and leadership skills; critical thinking; accuracy; computer skills; seeing the big picture; integrity; and commitment to professional development". As such, HEIs ought to establish MA pedagogies that align with these mentioned graduate attributes. Similarly, WIL has been advocated as an appropriate experiential learning approach to achieve skills development among MA students (Jackson & Meek 2021:63; Iipinge et al 2020:533; Kercher, Todd, Gill, Bennett & Gepp 2025:321; Tsiligiris & Bowye 2021:621).

The literature pertaining to experiential education encompasses numerous studies conducted on MAE offered in higher education, providing research frameworks for pursuing studies to explore MAE and experiential learning approaches from a South African perspective. Moreover, the evolution of the MAE requires HEIs to consider the discipline's advancements as a basis in identifying suitable pedagogical approaches for experiential learning. Gianneti, Cinquini, Vitali and Mitchell (2021:487) summarised the evolution of MAE literature as follows:

i) the learning process has a crucial role to play within MA change;
ii) the learning process within MAE is in phases of trials and errors, which are essential for adjusting MA pedagogy routine; and
iii) previous experiences and knowledge have an impact on how the learning processes within the field of MAE are carried out.

In line with the current study's objectives, the aspects as pointed out by Gianneti et al (2021:487) frame how the interplay between experiential learning and MA theoretical learning significantly impact MAE, particularly for the development of industry demanded skill-sets and competencies among MA students (Alsharari, Dixon & Youssef 2015:476; Barac & du Plessis 2019:53-55; Gianneti et al 2021:488; Quinn 2014:76). Furthermore, experiential learning philosophies have been closely linked to contemporary practices of constructivism in education (Mughal & Zafar 2011:28), which is discussed in the following section.

2.4 Constructivism as a paradigm of learning

In this section, a detailed discussion on constructivism as a learning paradigm, with an emphasis on experiential learning, is presented. The advancement of educational research, human thinking and evolution has resulted in the discovery of varied

teaching and learning paradigms (Draper 2002:358). While numerous educational theories exist, behaviourism, cognitivism, constructivism, connectivism, and humanism remain the most prominent learning theories (Muhajirah 2021:37) as defined below:

- Behaviourism learning theory "focuses on observable behaviours and discounting any mental activity. Learning is defined simply as the acquisition of new behaviour" (Pritchard 2017:6).
- Cognitivism learning theory places emphasis on "how knowledge is acquired, processed, stored, retrieved, and activated by the learner during the different phases of the learning process" (Yilmaz 2011:205).
- Constructivism learning theory supports learning where people construct their understandings and knowledge of the world through experiences, interpretations and reflections of those experiences (Honebein 1996:11; Pritchard 2017:24).
- Connectivism learning theory is a modern educational learning theory which is "grounded in the notion that learning is through the formation of connections between each other as well as their roles, hobbies, and other aspects of life" (Goldie 2016:1065).
- Humanism learning theory, "closely related to constructivism and adult learning theory, states that learning is a natural desire with the ultimate goal of achieving self-actualisation" (Aliakbari, Parvin, Heidari & Haghani 2015:9).

The constructivism learning theory has been acknowledged as a foundational basis for experiential learning (Kaufman 1996:42) due to its emphasis for learners to "construct" new knowledge through integrating experiences with their existing cognitive structures (Kolb & Kolb 2012:1215-1217). Passarelli and Kolb (2012:138) further acknowledged constructivism's contributions towards student-centred and active learning within Kolb's (1984:38) ELT. The constructivist theory in education is believed to support active learning and reflection while endorsing scholarship as an ongoing development of complex and interrelated mental structures (Alam 2016:52). As emphasised by Piaget (1964:176), constructivism asserts that learners do not simply absorb facts but further analyse and interpret knowledge based on their prior understanding, which directly links to Kolb's (1984:38) ELT relating to

active engagement. In a constructivist approach, emphasis shifts from teaching to learning, where the students become a priority, and educators facilitate experiential learning (Alam 2023:155). As highlighted by Jonassen (1994:34) and Alam (2016:52-53), in constructivism, knowledge is constructed and not reproduced, while students aim to develop problem-solving skills and approaches. Furthermore, the theory of constructivism requires reflection of prior and new knowledge where students see beyond the content presented to them (Alam 2023:157), which links to Kolb's (1984:38) reflective observation phase within the ELT cycle. While constructivism supports the design of SBE that mirror complex organisational contexts for active learning and engagement (Alam 2016:51-52; Passarelli & Kolb 2012:138), constructivist tasks are frequently open-ended as they encourage learners to participate with their subjective experiences and existing knowledge (Brook & Brooks 1993:2-12), which may pose variability in student performance standards within SBE. The previously mentioned risk suggests that SBE activities, particularly for MA may require academics to clearly articulate performance benchmarks and feedback mechanisms to ensure that student engagement and measurable competence are equally prioritised.

Experiential educators have been documented to value student-centred learning, justifying the use of learner-focused facilitation practices (Estes 2004:141; Friedman & Goldbaum 2016:186; Villarroel, Benavente, Chuecas & Bruna 2020:3). As a process, experiential education is based on the constructivism theory as learning is built on understanding through inquiry and reflection (Dewey 1938:40). The student-centred approach (as depicted in Figure 2.2 below) is deemed appropriate within higher education as its fosters motivation and the incentive to learn (Wright 2011:92). Moreover, student-centred learning sees the educator as a facilitator, providing students with a sense of direction, while allowing them to take responsibility towards their own scholarship (Natesan, Bailitz, King, Krzyzaniak, Kennedy, Kim, Byyny & Gottlieb 2020:986). Contrary to traditional classrooms, students work primarily in unstructured groups (see Figure 2.2) where learning and knowledge creation is vibrant and collaborative.

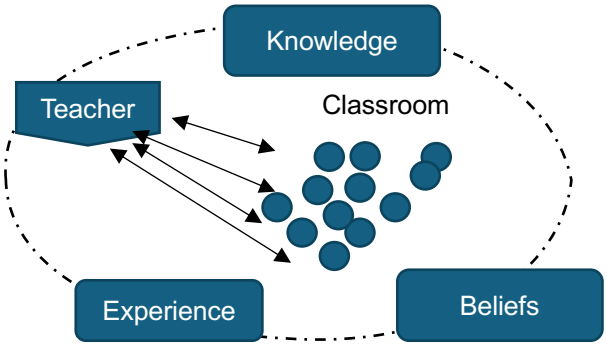


Figure 2. 2**:** Student-centred learning

Source: University of South Australia (2022:1)

As suggested by Jonassen (1991:28), student-centred learning, delivered under constructivism, requires educators to create a learning environment that includes appropriate problem case studies, work examples, and cognitive and collaborative tools. The learning environment under constructivism is argued to be constructive, collaborative, contextual and reflective (Alam, 2016:54; Jonassen 1991:29). Additionally, Cetin-Dindar (2016:233) assert that within a constructivist learning environment students are motivated to freely engage in activities that foster decision-making, allowing them to make their own decisions and draw their own conclusions. Furthermore, the approach has been acknowledged for encouraging students to become self-motivated, affording them the opportunities to address contextual problems and challenges that enhance their learning (Kerimbayev, Umirzakova, Shadiev & Jotsov 2023:4-5). Contextually, constructivism, bolstered under Kolb's (1984:38) ELT is a generally accepted underpinning for experiential education for MA students as echoed by Jayasinghe (2021:282). The holistic objectives of a constructivist learning environment have been documented by Golder's (2018:681-685) review of Honebein's (1996:11) *seven goals for the design of constructivist learning environment,* which include:

1. Advocating experience with the knowledge construction process.
2. Providing experience and value for multiple perceptions.
3. Ensuring that learning in embedded realistically and with relevant context.
4. Determining confidence and "own voice in the learning process" for learners.
5. Embedding learning within social experiences and conditions.

6. Encouraging the use of multiple approaches for representation.
7. Boosting self-awareness in the knowledge building process.

The seven goals as listed above, along with Kolb's (1984:38) ELT, form the foundational principles that can be embedded within WIL (Simulations) to create a simulated learning environment for MAE. Moreover, Jayasinghe's (2021:282) findings confirm that a constructivism approach enhances teaching MA, while Sidorova, Kopus, and Yurasova's (2023:622-623) study on experiential SBE constructed under Kolb's (1984:38) ELT imply that "learning through tasks simulated in a real workplace positively influences students' perceptions of their readiness for professional activity in terms of their technical, intellectual, organisational, personal, and interpersonal skills". Despite the studies conducted on a constructivism approach for MA, Kashora, van der Poll, and van der Poll (2016:15-17) cautioned on the inherent challenges associated with this learning theory, which include poor resource planning by HEIs, limited access to technology by students, and high-cost implications. Similarly, Van der Merwe (2020:84) highlighted comparable challenges associated with the delivery of SBE in higher education programmes in general. Du Preez et al (2023:146) indicated the complexities associated with SBE delivered for accounting education, highlighting its novelty, high-cost implications, and frustration faced by students within a South African context. Contextually, while Honebein's (1996:11) constructivist goals present insightful framework for designing SBE activities, their pragmatic implementation within South African UoTs warrant significant considerations. Presently, South African UoTs are often under resourced while confronted with large student enrolment numbers (Makhoba 2024:31). Moreover, many UoTs still operate with limited funding that affect their availability of technological infrastructure (Ngcobo, Marimuthi & Stainbank 2024:4). As echoed by Van der Merwe (2020:84), such factors pose challenges as SBE is learner-centred and often requires a highly interactive learning engagement. Nevertheless, the mentioned feasibility challenges may not necessarily invalidate Honebein's (1996:11) principles of constructivism within SBE, however, they do require a more structured approach for simulations scaffolding.

Nevertheless, Nørreklit (2019:23) echoed that while the adaptation of constructivism in MAE is feasible, academics should consider that teaching MA theory only provides a framework for MA practice as constructed under experiential learning activities. The

design, delivery, and assessment of appropriate experiential learning activities remain the responsibilities of academics at HEIs. The following section outlines learning activities deemed to be constructive in nature, namely: reciprocated teaching/learning, inquiry-based learning (IBL), problem-based learning (PBL), and cooperative education (Ayaz & Sekerci 2015:143; Cetin-Dindar 2016:2; Kim 2005:7).

2.4.1 Reciprocated teaching/learning

In the context of learning, reciprocated teaching/learning, also known as peer-to-peer education, is an "educational framework where both the teacher and students engage in a dialogue, alternating their roles while discussing sections of the text with the goal of collectively constructing meaning" (Vuong & Steklács 2025:2). According to Song, Chen and Wu (2018:3), students become "teachers" within a small group of other students through group discussion sessions. Moreover, Palinscar and Brown (1984:118-120) indicated four reciprocal strategies to enhance learning, namely: *summarising* a subject matter, *formulating appropriate questions* concerning the subject matter (Oo, Magyar & Habók 2021:678), *clarifying* in which students expand upon challenging unfamiliar concepts (Vuong & Steklács 2025:3), and *predicting outcomes* based on prior knowledge (Chen & Kong 2016:134). Reciprocated teaching/learning has been acknowledged for building students' knowledge while enhancing attributes such as self-efficacy, communication skills, and creativity (Nemeržitski & Heinla 2020:184-187). While this approach is predominantly aimed at secondary schooling (Graven 2017:21; Howitt 2019:743; Xu & Connelly 2017:136; Zhu 2021:943), the applicability of its principles has been investigated for undergraduate students within the fields of languages (Chang & Lan 2021:29), computer science (Zendler & Reile 2018:132) and business studies (Tyran & Garcia 2015:54).

In context of this research, it is worth mentioning that, within SBE, reciprocated teaching/learning has been encouraged as a mechanism to enhance learning while developing the attribute of "working as a team" (Dalwood, Bowles, Williams, Morgan, Pritchard & Blackstock 2020:387), a critical attribute for entry-level MA graduates as echoed by IMA (2022:3). Considering its benefits, reciprocal teaching/learning could form part of SBE for MAE delivered under WIL within HEIs. However, embedding such practices has not been based on the same theoretical framework and UoT context as of the current study, suggesting the need for further research. Nonetheless, the CHE

(2011:4) considers IBL, PBL, and cooperative learning as part of WIL within South Africa's higher education (HEQSF 2013:11).

2.4.2 Inquiry-based learning (IBL)

As part of the student-centred teaching method, IBL is an active-learning approach that concentrates on students' inquiry and engagement in the complete learning process (Fouchè & van der Merwe 2020:30; Prince & Felder 2006:123). In principle, IBL "is an approach that provides students with opportunities to develop skills that enable them to locate, gather, analyse, critique and apply information in a wide range of contexts as they develop understanding" (CHE 2011:72). Moreover, its principles are underpinned by an inductive approach to pedagogy, in which teaching and learning begin with students being presented with a set of observations, situations, scenarios, or complex problems (Preston, Harvie & Wallace 2015:74). With the set of these previously mentioned observations, situations, scenarios or complex-problems, students are then expected to study, analyse and interpret them so as to generate "a need for facts, procedures and guiding principles" (Spronken-Smith & Walker 2010:723), in line with Bloom's taxonomy of educational objectives (Bloom, Engelhart, Furst, Hill, & Krathwohl 1956:4). IBL has been particularly useful to strengthen student engagement, academic achievements as well as integrating theory and practice (Hutchings & O'Rourke 2002:65).

Additionally, Pratama (2024:22) recommends the adaptation of IBL for the accounting education curriculum within HEIs to "improve student outcomes and better prepare them for the demands of the professional world". The principle of inquiry can be particularly useful for experiential learning where students are expected to reflect on subject matters learned. However, Borkowski (2024:1-2) indicated that the main challenge of IBL is getting students to obtain solutions of problems on their own, which could be addressed by establishing "educational scaffolds" that gradually offers formative problems, tasks, and activities.

2.4.3 Problem-based learning (PBL)

PBL is a "term used within higher education for a range of pedagogic approaches that encourage students to learn through the structured exploration of a research or practice-based problem" (CHE 2011:74). Moreover, the approach stresses on active

engagement in which students define, deploy and reflect upon a real-word problem within the learning process (CHE 2011:74; Fouchè & van der Merwe 2020:31), specifically the attainment of new knowledge and skills as opposed to just applying past information to present situations or case studies (Milne & McConnell 2001:62). As a student-centred pedagogy, PBL provides students with the opportunity to learn through active experience aimed at solving mind-stimulating problems (Clough & Shorter 2015:277; Hung 2011:529; Ndlovu 2019:2). Moreover, PBL has been acknowledged for developing critical thinking skills which may be useful for future practice (Seibert 2021:85; Stanley & Marsden 2012:268). As indicated by the AICPA-CIMA (2022:56), critical thinking skills are essential for MA professional practice. In this regard, Radianto (2013:1186) successfully incorporated PBL within undergraduate MA students' curricula, indicating that the approach was useful in developing students "innovativeness, creativity, opportunity creation, and calculated risk taking".

The use of innovative teaching and learning strategies such as PBL within SBE may positively enhance skills suitable for practice. As argued by Barut, Soares, de Araujo and Kanet (2016:50), PBL in accounting education aims to stimulate critical-thinking and problem-solving skills, which are aligned with the profession's competencies demanded by the MA industry as stipulated in AICPA-CIMA's (2018:3) *The changing role and mandate of finance* report. As mentioned, the evolving MA profession requires practitioners to possess problem-solving competencies that may address big data and business complexities aggravated by the changing business and economic landscape (AICPA-CIMA 2023a:4; IMA 2022b:4; Nagari, Marsely & Nuraini 2020:75). However, effective implementation of PBL for large groups of students might not be feasible due to resource and institutional constraints (Bruder, Hamwy, Sellami & Romanowski (2025:31). Moreover, Amerstorfer and Freiin von Münster-Kistner (2021:2) cautioned that higher education students often face self-expression challenges when engaging in PBL due to "what their peers will think of them if they reveal that they do not understand or know something". Nonetheless, uncovering the challenges faced by both students and academics within PBL offers HEIs the opportunity to consider context specific solutions given the available capacity and resources.

2.4.4 Cooperative learning

Cooperative learning is a learning approach that entails how students interact with each other during the learning process (Johnson & Johnson 2013:372). In addition, cooperative learning is underpinned by social interdependence and constructivism theories (Johnson & Johnson 2015:4). The interdependence theory theorises that the manner in which individuals structure their personal goals defines how they interact with others, which ultimately affects the outcomes they achieve (Johnson & Johnson 2012:2). Cooperative learning challenges traditional teaching and learning approaches which predominately focused on how students interact with instructors as it shifts the focus towards how students engage amongst themselves. Likewise, Chaiyarat (2024:2) asserted that "cooperative learning environments encourage the exchange of ideas and new perspectives" among students, which may, in turn, foster creative problem solving. As echoed in the literature, cooperative learning actions classroom activities into academic and social scholarship experiences (Buchs, Filippou, Pulfrey & Volpé, 2017:296; Heller & Hollabaugh 1992:637; Michaelson, Davidson & Major 2014:59-66). However, the learning challenge of low motivation and participation among students engaging in cooperative learning has been noted to be its main weakness (Chaiyarat 2024:12; Michaelson 2020:60-62).

Similarly, Fiechtner and Davis (2016:12) pointed out that group-orientated activities within HEIs are likely to be unsuccessful due to the unequal distribution of work among students, worsened by poor planning and lack of general guidelines. Nonetheless, adopting cooperative learning principles for experiential learning may possibly offer HEI students the opportunity to improve their generic skills when engaging with each other (Furman & Sibthorp 2013:18; Kohonen 1992:14-39; Lin 2019:29-30; Nealy 2005:4-6).

In synthesis, drawing from the principles of constructivism as a paradigm of learning, along with its constructive learning methods provides the basis for carefully designed experiential learning tasks and activities which may develop discipline-specific competencies demanded by the workplace environment. The following section explores the advancement of experiential learning theories and the principles which contextually underpin the study's main objectives.

2.5 The history and progression of experiential education

The creation of knowledge and advancement of human development were long associated with experiential education (Calico, Edgar, Edgar & Johnson 2014:6). Confucius, a well-known Chinese philosopher and politician, is believed to have provided evidence on the practice of experiential education as early as the 4th century, based on his classical quote which reads: “I hear and I forget; I see, and I remember; I do, and I understand” (Sung, Hwang, Lin & Hong 2017:143-145). Formally, the Association for Experiential Education (AEE) (2025:1) described experiential education as “a philosophy and methodology in which educators purposefully engage with learners in direct experience and focused reflection to increase knowledge, develop skills, clarify values, and develop people’s capacity to contribute to their communities”. Moreover, the key principle of experiential education centres on learners being subjected to “carefully chosen experiences” that are sustained by reflection, acute analysis, and synthesis (Cox, William & Wolcott 2019:101). The collective research, empirical inquiry, and continuous refinement of experiential education have contributed to the integration of experiential learning across numerous academic disciplines within HEIs, fostering skills development for students at tertiary training (Lin 2019:20; Miettinen 2000:55).

Historically, experiential education coined the phrase “learning by doing”, consistent with the principles of experiential learning. While experiential education, experiential learning, and WIL share common principles of integrating theoretical knowledge with practice, they should not be confused as this may oversimplify a multifaceted intellectual history (Roberts 2018:3). Moreover, Roberts (2018:4) asserts that experiential education serves as the broader philosophy within education that is adopted in a systematic methodology that assesses the structure and function of knowledge. Experiential learning centres on continuously developing “real world skills” at an individual level (Roberts 2018:5), which can be achieved in varied social contexts. Although WIL draws from the broader principles of experiential learning (Ferns et al 2024:372), its approach is structured to integrate academic knowledge with practical experiences drawn from workplace settings (CHE 2011:4-5).

The literature on experiential learning revealed numerous philosophers and scholars that have contributed to its advancement, namely: Confucius (551-479 BC), Aristotle

(384-322 BC), Dewey (1938), Piaget (1950), Lewin (1951), and Kolb (1984) as illustrated in Figure 2.3 below:

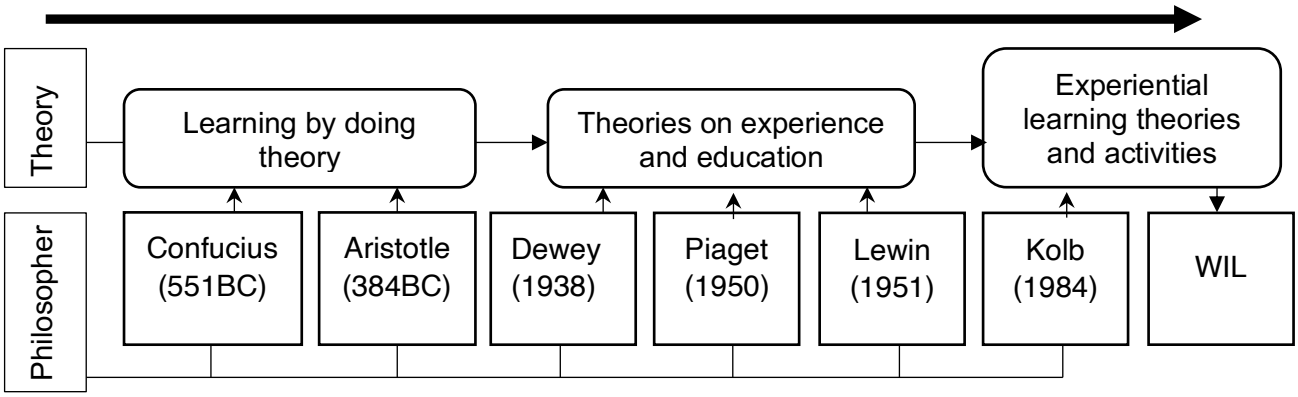


Figure 2.3: Timeline of experiential education theories

Source: Own compilation

While experiential education, experiential learning, and WIL are not synonymous, they share common principles which foster the combination of learning through experiences. As pointed out by Gentry (1990:9), engaging students with hands-on experiences has long been proven to be an effective method of learning that may uniquely connect theoretical education concepts to practical settings. Connecting academic knowledge with practice has long been noted to be challenging as evidenced by the assertions of Santayana (1905:33) who described that education as a means “to get experiences out of ideas”. The previously mentioned assertions highlight the narrative on the complexities associated with the integration of education and learning experiences. Moreover, these complexities are aggravated by the learning conditions and environment in which experiential education takes place (Beukers & Bertolini 2021:396; Gentry 1990:10).

2.5.1 Experiential learning and WIL

As illustrated in Figure 2.3 above, WIL shares common theoretical principles underpinned by the advancement of experiential education and experiential learning (CHE 2011:4; Valencia-Forrester 2020:698). Moreover, WIL is connected to and often overlaps with the fields of experiential learning, work-based learning, and vocational education and training (Zegwaard et al 2023:38). As emphasised by the CHE

(2011:72), “experiential learning focuses on the learning process for the individual (unlike experiential education, which focuses on the transactive process between teacher and learner)”. Moreover, Ferns et al (2024:376) pointed that WIL, as underpinned by experiential learning, aims to align academic knowledge and workplace practices. Crucially, Zegwaard et al (2023:38) indicated that WIL is an educational approach that fosters exposing HEI students to authentic, work-focused experiences for the mutual benefit of three stakeholders, namely, HEI students, HEIs, and external workplace partners. The previous assertion consistently aligns with CHE (2011:51) recommendations pertaining to the involvement of external workplace partners in WIL, indicating that “the effectiveness of WIL depends to a major extent on the commitment of both academic and professional partners”. As such, WIL cannot occur without external workplace partnerships. In synthesis, the delivery of WIL as an academic approach for experiential learning within HEIs is justified for the development of workplace skills and competencies among students for the purpose of work readiness.

The progress of pragmatism within education saw Dewey’s (1916) *Democracy and Education,* which placed an emphasis on the unity of thought and action, frequently referred to as “thinking and doing” (Woods & Barrow 2006:22). John Dewey, colloquially referred to as the “father of experiential education”, was of the opinion that schools should be “laboratories of democracy” in which learners engage in intentional activities drawn from real-world problems (Dewey 1938:40). According to Musolf (2013:83-84), Dewey’s ideas on education were pragmatic and central to progressive movement for scholarship, which ultimately changed the fundamental approaches in teaching and learning. As noted by Williams (2017:91-92), Dewey believed educational classroom settings were not “developmentally appropriate” for young scholars, while advocating learning within a natural environment (Dewey 1899:127; 1938:40; 1986:241). Critically, Dewey believed that experiences are beneficial for intellectual growth, moral development, and gaining a sense of purpose among learners (Dewey 1986:245). Conversely, Kurt Lewin’s (1951:45) *Field of Social Science* theory established the foundation for experiential learning approaches by factoring in that “behaviour is a function of person and environment”, citing that learning occurs through iterative cycles of planning, action, and reflection.

Although literature related to Dewey's theories on experiential education are historically relevant, they predominately focus on the foundational phase of education (Holt 2020:143-145). The works of Jean Piaget (1950) drove the theory of "cognitive development", which suggests that learners establish new knowledge by "assimilating and accommodating" experiences within existing mental frameworks. The previously mentioned theory formalised Kolb's (1976:10) Learning Style Inventory (LSI), which characterises four learning styles among learners, namely, accommodating, diverging, converging, and assimilating learning styles, and Kolb's (1984:38) ELT, which consists of the iterative cycles of concrete experience, reflective observation, abstract conceptualisation, and active experimentation (Kolb & Kolb 2013:8-10). Kolb's (1984:38) theory on learning suggests that learners need to actively engage in transformative experiences (Kolb 1938:40; Kolb & Kolb 2012:1215), bringing structure to design and evaluate experiential learning framework across varied disciplines. This resulted in much of Kolb's (1984:38) research being recognised as a conceivable framework to deliver experiential learning within higher education (Fielding, 1994:396), which ultimately influenced HEIs' approach towards workplace skills development among students, drawing on experiential learning activities from workplace scenarios as a means to align academic theory and practice (Fewster-Thuente & Batteson 2018: 3-4; Healey & Jenkins 2000: 185; Letina 2016:665).

The 21st-century saw a rapid change in business operations, influenced by technological advancement and the 4IR, necessitating modern methods for preparing students for the workplace across all disciplines (Chetty & Pather 2015:2). Contextually, van den Berg and Rothmann's (2024:2) South African study revealed that "thinking and learning to learn" were the most critical 21st-century competencies for accounting education students. Moreover, South African UoTs, in which vocational training is paramount, require experiential learning activities that are participative, interactive, and integrated with industry (McKenna & Gumbi 2020:98; Mentz, Kotzé & van der Merwe 2008:30-32). As more UoTs align their programmes with the HEQSF (2013), WIL as a component of experiential learning has formed part of their curricula to include internships, simulated learning, work-based theory learning, problem-based learning, project-based learning, and workplace-based learning (CHE 2013:12;HEQSF 2013:11-13; Howcroft 2017:459; Jackson & Meek, 2021:63; Levant, Coulmont & Sandu 2016:368). However, the DHET (2024:14) reported that South

African HEIs still fail to adequately train students for workplace demands, alluding to the need for higher education pedagogy designed to closely align with industry demands for graduate readiness (Rowan & Duerden 2024:455).

The concept of cooperative education, where HEIs form partnerships with external stakeholders in industry for students to engage in credit-bearing practical experience as part of their education, is a common practice for all vocational training institutions (CHE 2011:51; Fergusson, van der Laan, Imran & Ormsby 2021:26). As such, SBE delivered under WIL within HEQSF (2013) aligned programmes should be designed, implemented, assessed, and monitored with the involvement of external industry partners (CHE 2011:54-57).

In synthesis, the advancement of experiential learning to WIL has garnered attention due to its wide range of philosophies, modalities, stakeholder involvement, and its perceived benefits (Wait & Govender 2016:280). Areas of concerns that have been raised in the literature include its implementation costs, quality assurance, measurability, expectations, assessments, legal, and ethical concerns (Ashman, Rochford & Slade 2021:2; Effeney 2020:388; Rowe & Zegwaard 2017:91; Tran & Soejatminah 2017:262; Winterton & Turner 2019:537). Despite these apprehensions, research and the practice of WIL in higher education continues to garner international attention.

The next section outlines the theoretical underpinnings of experiential learning relating to the philosophies of John Dewey (1938:40) and David Kolb (1984:38) which were briefly discussed above. As noted by Miettinen (2000:54-56), Kolb's (1976:10, 1984:38) theories are believed to have been influenced by principles of Kurt Lewin (1951:18-24), Kurt Hahn (1957:46), and Jean Piaget (1951:57), whose works paved a framework towards the 21st century's holistic approach for experiential learning.

2.5.2 Existing experiential learning theories (ELTs)

This section attempts to justify the adaptation of experiential learning principles within WIL in a higher education setting. Special attention has been paid to ELT (Kolb 1984:38) and LSI (Kolb 1971:10) within experiential learning.

Educational research was shaped by scholars who established “experimental pedagogy” in the 1880s, in which experiments, surveys, and standardised assessments commenced within other countries between 1890 and 1915 (Hitchcock & Hughes 1995:3-4). As a multi-faceted concept that emphasises “personal and social development, as well as the development of active citizenship in a democratic society” (Gustavsson, Kittelsaa & Tøssebro 2017:491), research on education has been shaped by philosophies that centre on learners, teachers, and the learning environments (Bovil & Woolmer 2019: 407; Marquis 2018:1; Serin 2018:166). Moreover, the experiential pedagogy within education fosters academic instructors to curate direct learning experiences among learners through iterative reflections for the purposes of increasing their knowledge and developing skills, while clarify values (AEE 2006:222-223). Conversely, the element of “clarifying values” within experiential learning is a critical benefit, as educational institutions need to design experiential learning activities that enhance ethical and moral values for students. As echoed by Bradford (2018:2-5), ethical concerns that were observed when delivering experiential learning within HEIs include “inadequate informed student choice”, “instructor biasness over what is covered”, and “poor debriefing for students”. Furthermore, Salinas-Navarro, Vilalta-Perdomo, Michel-Villarreal, and Montesinos (2024:708-709) raised issues pertaining to “assessment authenticity, ethical considerations, and overall impact” of experiential learning as a result of the widespread interest in generative AI for academic scholarship. Collectively, modern experiential pedagogy ought to be designed to harness mutual benefits of all stakeholders involved while considering its ethical implications.

Within South Africa’s higher education, experiential learning approaches such as WIL intentionally align academic theory with professional practice following a structured methodology (Rook & Sloan 2021:41). Moreover, the CHE (2011:7) reiterated that WIL programmes delivered within South African HEIs have been constructed to underpin the principles of Dewey’s (1938) “experience and education”, Schön’s (1983) “reflexive practice”, Biggs’ (1999) “constructive alignment”, and Kolb’s (1984) “ELT”. Theories that have broadened and advanced experiential learning, particularly within formal higher education include, but are not limited to Dewey’s (1938:40) pragmatic theory on learning through experiences and Kolb’s (1984:38) ELT. Educational constructivism theories developed by John Dewey and David Kolb include inquiry-based learning

theory (Dewey 1902:7-13), social learning theory (Dewey 1938:40), cultural naturism (Dewey, 1938:40), ELT (Kolb 1984:38), and LSI (Kolb 1976:10; 1984:38). Considering the scope of the current study, the researcher aims to develop the envisioned experiential learning framework constructed under the philosophies of David Kolb, more specifically, ELT (Kolb 1984:38), and LSI (Kolb 1976:10; 1981:222) as they have been recognised to underpin modern experiential pedagogy within a higher education setting (Blose & Chiororo 2021:28; CHE 2011:7; Chiu 2019:3). Moreover, the use of Kolb's (1984:38) ELT is justified for the purpose of developing graduate competencies and attributes within a higher education setting because it supports skills enhancement, critical thinking and reflexive practice, while enhancing moral values.

2.5.3 Positioning Kolb's Experiential Learning Inventory (LSI)

David Kolb's progressive contribution towards the postmodern experiential education movement has largely been inspired by John Dewey, who argued that educators need to rely on authentic experiences and activities as a pedagogical tool, while they identify the purpose, intent, and directions of educational objectives (Breunig 2009:1126). In its classic form, the LSI is a self-assessment tool derived from Kolb's (1984:38) ELT, which aims to measure a learner's preferred approach for "grasping" and "transforming" learning experiences by determining the scores on four learning styles, namely: "accommodative, convergent, divergent, and assimilative" learning profiles (Kolb 1976:10;1984:38; Kruger & Kempen 2019:2; Widiastutti & Budiyanto 2018:98) as displayed in Figure 2.4 below:

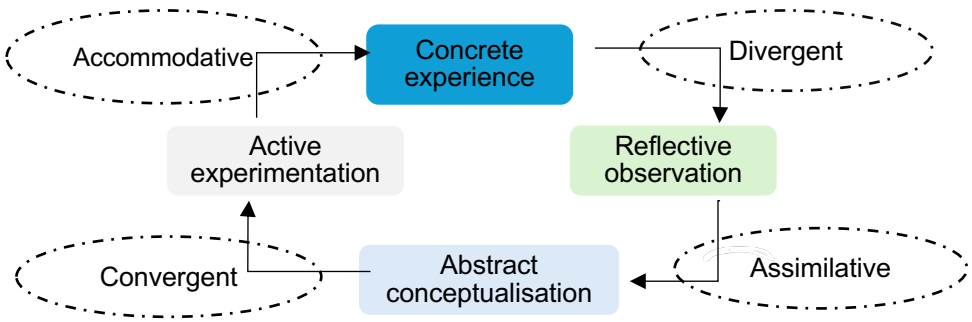


Figure 2.4: David Kolb's ELT and LSI

Source: Kolb (1984:38)

Kolb's (1984:26,34,38) theories were based on Jean Piaget's (1951:56-62) cognitive development theory, which suggests that children's learning is highly influenced by stages of their mental development. As illustrated above in Figure 2.4, Kolb's (1984:38) comprehensive ELT and LSI comprise two components, of which the first denotes the mentioned ELT four cycles of learning (concrete experience, reflective observation, abstract conceptualisation, and active experimentation), while the second denotes the four learning profiles (accommodative, convergent, divergent, and assimilative). Moreover, the Kolb Learning Style Inventory version 4.0 (KLSI 4.0) was introduced in 2013 as a major revision of the LSI since 1999, and the third since the original was published in 1971 (Kolb & Kolb 2013:14) which extends the original four learning styles to nine, namely: "initiating, experiencing, imagining, reflecting, analysing, thinking, deciding, acting, and balancing". Nonetheless, paramount for this current research is the relationship assembled in Kolb's (1984:38) original ELT and LSI framework displayed in Table 2.1 below, which has been echoed as a 'good mix' for educational needs suitable for adult learners with diverse learning preferences (Baltaoğlu & Güven 2019:2; Madu, Ogbonnaya, Chikeme & Omotola 2019:178; Smith & Rayfield 2017:103).

Table 2.1: Four components of the learning cycle with relevant characteristics

Learning cycle	**Learning modes**	**Learning activities**
Concrete experience (CE)	Feel, sense	Lab work; reading primary information; case studies; simulations; games; examples
Reflective observation (RO)	Observe, see	Reflect on past situations; group/ individual discussions;
Abstract conceptualisation (AC)	Think, deliberate	Readings; case study projects; model construction; analogies
Active experimentation (AE)	Do, act, execute	Simulations; case studies; lab works; fieldworks;

		project assignments; homework

Source: Kolb (1984:39), and Svinicki & Dixon (1987:141-146)

Table 2.1 above illustrates a significant foundation for designing experiential learning environments by positioning Kolb's (1984:38) ELT's learning modes with corresponding learning activities. As such, the implementation of Kolb's (1984:38) ELT necessitates reviewing a learner's profile, which is based on Kolb's (1984:38) LSI as depicted in Figure 2.4 above. Similarly, Sathe and Yu (2021:193) concluded that Kolb's (1984:38) ELT and LSI can be seamlessly integrated within business simulations for accounting education students. This not only presents a framework for creating experiential learning activities suitable for the MA student but also paves the way for opportunities for developing SBE learning activities that are congruent with Kolb's theories. The next section will focus on experiential learning components and the interrelations that exists within each variable of the ELT and LSI.

2.5.4 Experiential learning components

As illustrated in Figure 2.4 above, the LSI is organised around two opposite dimensions of learning, of which the first is based on 'perception', and the next is based on 'abstract approach' (Abbas & Lopes, 2020:5-6). The perception learning mode comprises of Concrete Experience (CE), in which learning is based on sensory input such as "seeing, hearing, and touching", and of Abstract Conceptualisation (AC), which relies on cognitive processes like analysis and logical reasoning (Abbas & Lopes 2020:5-6). The second dimension, processing, contrasts Reflective Observation (RO), where learners make sense of experiences through reflection, with Active Experimentation (AE), where knowledge is acquired through direct action and practical application (Abbas & Lopes 2020:6; Kolb 1984:40; Malik & Behera 2024:56-58). The recognition of these dimensions may assist in understanding learners' preferences, which can be categorised into four distinct learning styles, namely: accommodating, diverging, assimilating, and converging (Kolb 1984:38).

2.5.4.1 Concrete experience (CE): the feeling phase

The *concrete experience* component has been described as an initiative phase of the experiential learning model that focuses on prior knowledge and experiences, serving

as a support component for teaching new information (Kolb 1984:40-47). As voiced by Wijnen-Meijer, Brandhuber, Schneider and Berberat (2022:2-4), CE is a learning mode where the learner acquires a sense of learning through experience. The role of the learner is to actively engage in a task or activity with the aim of obtaining new knowledge (Chiu 2019:2; Kolb 1984:40, Kolb 2015:2-6; Kolb & Kolb 2017:13). This stage of the learning cycle places a higher emphasis on personal involvement, where the active learner predominantly relies on their personal feelings as a systematic approach towards problem-solving abilities (Kayes 2002:137; Rodgers, Simon & Gabrielsson 2017:189-192). Contextually, the CE learning mode has been featured within accounting education research (Picard & Courtois 2023:163; Rodgers et al 2017:190). Conversely, in Rodgers et al's (2017:190) study, which exemplifies the use of Kolb's (1984:38) ELT within SBE, a group of MA students were given a task to purchase raw materials and convert these materials into a sellable product, while keeping a record of all costs associated with the process. The students must then write a final report, which is presented and discussed during a lecture (Rodgers et al 2017:190). This example highlights the significance of active participation from accounting students, consistent with the current study objective over the use of SBE to create MA experiential learning for creating new knowledge and perspectives within MAE.

In the same vein, Villarroel et al's (2020:1-3) study on developmental psychology elaborated that combining experiential practice with theoretical teachings enhanced students' learning through the ability to integrate different concepts. Within MAE at HEIs, the previously mentioned findings link with the concern relating to traditional pedagogy, in which students only learn through theoretical assessments, which ultimately result in poor graduate attributes being developed (Abbasi, Ali, & Bibi 2018:354; Halpern & Hakel 2003:36–37; Rook & Sloan 2021:42; Tomkins & Ulus 2016:159). Moreover, while theoretical learning of MAE principles delivered within HEIs remains crucial, the lack of practical exposure causes the divide between MA graduates and industry (Bishop 2019:20; Mesuwini, Thaba-Nkadimene, Mindle & Mokoena 2023:83; Rudman & Kruger 2014:161; van Romburgh & van der Merwe 2015:141). It has become apparent that the concrete experience phase of Kolb's ELT (1984:38) is crucial in experiential learning and may assist in modernising SBE. Furthermore, this research aims to contribute towards experiential learning based on

Kolb's (1984:38) theory regarding a concrete experience, which can be applicable in MAE.

2.5.4.2 Reflective observation (RO): the watching phase

The reflective observation learning mode, which occurs after concrete experience, concentrates on how students perceive ideas and scenarios objectively, reflecting on concrete experiences (Kolb 1984:40; Lehane 2020:241). Reflective observation (Kolb 1984:38) and reflexive learning (Cunliffe 2004:408) both involve critical engagement with experience; however, the two concepts should not be confused as they differ in scope and depth. Within Kolb's (1984:38) ELT, reflective observation signifies the second phase of the learning cycle, where learners step back to observe and assess what occurred during the concrete experience learning mode, analyse their responses, and identify patterns between experience and theoretical knowledge to inform future actions. Reflexive learning extends beyond reflection by involving self-awareness and examination of the broader social, cultural, and political contexts that shape one's beliefs and actions (Cunliffe 2004:407; Parker, Racz & Palmer 2020:294). Additionally, learning reflexively often challenges the learner's worldview and assumptions, fostering transformative learning (Mezirow 1991:109). Overall, reflective observation and reflexive learning both promote deep reflections of educational experiences; however, reflective observation focuses on "meaning-making" and learning from specific experiences (Kolb 1984:38-40), whereas reflexive learning questions a learner's underlying thought process for a deeper from of reflection (Wei 2024:353).

Reflective learning forms an integral component of SBE delivered under experiential learning (Husebø, O'Regan & Nestel 2015:368; Motsoeneng & Dlamini 2020:313; Nash & Harvey 2017:471). Research relating to reflective learning has been conducted for numerous educational disciplines, including engineering (Wallin & Adawi 2018:507), computer science (Renner, Wesiak, Pammer-Schindler, Prilla, Müller, Morosini, Mora, Faltin & Cress 2020:167-170) and accounting disciplines (Callaham, 2018:5-16; Jakobsen, Mitchell, Nørreklit & Trenca 2019:517). To ensure that students practically understand concepts, Kolb (1984:40) emphasised that learners should rely on their own "neutral feelings, opinions and attitudes" after being exposed to concrete experiences. Similarly, Kennison and Misselwitz's (2002:239) definition of reflexive education emphasised four key elements of learning, more

specifically, a learner's ability to "describe" an experience, the skill to "analyse" crucial elements of the described experience, the ability to "transform" one's preconceived ideas of the experience, and the capacity to "act", consistent with Bloom's taxonomy of educational objectives (Bloom et al 1956:4).

In this vein, the popular methods of reflective learning applicable within experiential learning delivered at higher education institutions include reflective journaling (Salle & Bethold 2021:108), self-reflection (van Loon 2019:2), and individual development plans (McIlveen, Brooks, Lichtenberg, Smith, Torjul & Tyler 2011:149). In education, reflective journaling has been outlined as keeping a personal record of students' learning experiences with the aim of reflecting on their observations, responses and interpretations to scenarios and experiences to explore and enhance critical thinking and decision-making (Wisniewski, Zierer & Hattie 2020:2). Reflective journaling has been investigated as an experiential education approach within the field of accountancy, including MA (Butler, Church & Spencer 2019:12; Hill 2016:291; Murphy 2017:482; Rodgers, Simon & Gabrielsson 2017:187). Several studies have highlighted the significance of reflective observations and reflective journaling practices under SBE delivered as a component of experiential learning for accounting education (De Villiers 2016:499; Jackson & Meek, 2021:63; Picard and Courtois' 2023:163). As elaborated by Veine, Anderson, Andersen, Søyland, Wallin and Reams (2020:147), reflection is an integral part of learning activities that allows students to face complex scenarios that have uncertain outcomes. Moreover, Mcguigan and Kern (2009:49) investigated the use of reflective journaling for accounting students as a method of increasing integration with course-related material, citing improved personal attributes, self-direction, and self-assessment among students (Mcguigan & Kern 2009:64).

Despite the success of adopting reflective learning within higher education, the University of Cambridge (2025:1) noted several pragmatic challenges associated with the approach, more specifically, the lack of motivation, organisational culture, and insufficient time allocated for reflective practices. Moreover, Matsuo (2025:424) cautioned that few studies on team reflexivity have considered the importance of reflecting on positive experience. Nonetheless, investigating constructivism pedagogical alternatives for MAE with the aim of aligning educational outcomes with current business demands for the MA profession has been on the rise (De Meyst &

Hartmann 2025:23; Nomlala & Mvunabandi 2023:988). The previously mentioned assertion is critical for UoTs that offer applied pedagogy and vocational qualifications (Scholtz 2019:414), particularly for enhancing work readiness among MA graduates (Terblanche & De Clercq 2021:325). As echoed by Dowelani and Dowelani (2020:1018), South African HEIs still face a challenge pertaining to the development and implementation of curricula that align with industry demands, warranting research that focuses on experiential learning activities developed to closely align with workplace practice.

2.5.4.3 Abstract conceptualisation (AC): the thinking phase

Within Kolb's (1984:38) ELT, the abstract conceptualisation learning mode fosters learning using existing theories, ideas, hard facts, and logic to solve problems without relying on personal feelings. Moreover, Kolb (1984:30-36) indicated that abstract conceptualisation supports the transformation of concrete experience and reflective observation into coherent understanding of subjects being learned. As mentioned by Močinić and Tatković (2021:416) abstract conceptualisation closely aligns with theoretical and academic learning that require critical thinking, reasoning and problem solving. As indicated by Kolb (1984:38; 2015:31), the linkage between reflective observation and abstract conceptualisation lies with actions taken by students after evaluating experiences. Moreover, Gibbs' (1988:49) reflective learning model advocated for "structured debriefing" in support of experiential learning activities, placing a higher emphasis on continuous cycles of improvement for a repeated experience. Moreover, reflective learning requires students to possess a "plan of action" necessary for future problem solving or situation analysis within experiential learning (Gibbs 1988:49). Similarly, Yin, Song, Tabata, Ogata, and Hwang (2013:139) elaborated that new knowledge is formed when students integrate previous observations, integrations, and reflections into concepts that create structured understandings of their experience. The previous assertion links with the dynamic relationship between Kolb's (1984:38) ELT's reflective observation and active experimentation, in which learners' reflection serves as a catalyst to generate informed actions which produce new experiences to reflect on (Kolb 2013:6-9) .

Contextually, Falloon (2020:782-785) reiterated that Kolb's (1984:38) abstract conceptualisation serves as a critical transformation for experiential learning designed

under SBE, as students transform their learning experiences by constructing conceptual knowledge to attain learning objectives. Notably, Chorzelski (2021:13), Bishop (2019:20), and Ahmed (2019:85-89) investigated the delivery of course content through SBE for improved industry readiness for various accounting subjects offered within HEIs. Ahmed (2019:86) reiterated that the adaptation of experiential learning within accounting curricula could include educational games, paper-based (print) problem exercises, and virtual sources that build students' personal and professional skill. However, the incorporation of SBE under experiential learning for accounting education has been noted to be a complex exercise (Motsoeneng & Dlamini 2020:313), particularly for the development of skills aligned with professional practice (Nomlala & Mvunabandi 2023:988). As suggested by Sathe and Yu (2021:194), while experiential learning activities foster technical knowledge and comprehension among accounting students, future research needs to investigate soft skills using rigorous research methods.

2.5.4.4 Active experimentation: the doing phase

Paramount to the current study is the deficiency of practical training opportunities such as practicum placement for MA students within South Africa as highlighted by Bishop (2019:22) and Lubbe & Svesson (2022:40). In addressing this concern, SBE offers an alternative approach towards skills development and work readiness among MA students through iterative active experimentations. As pointed out by Alabi (2024:2), “learners have the opportunity to test their newly acquired knowledge and skills through practical application in real-world or simulated environments, further reinforcing their learning”. At a general level, Kolb’s (1984:38) ELT features the active experimentation learning mode where students apply actions (doing) to unfamiliar situations within the range of generalisation (Chiu 2019:3; Morris 2020:1067). As noted by Amod and Brysiewicz (2019:2-5), active experimentation serves as a final loop within Kolb’s (1984:38) ELT as it supports concrete experiences, reflections and abstract conceptualisation learning modes. The formation of abstract concepts is tested through the active experimentation learning mode (Kolb 1981:289).

Students, as problem solvers, should be able to demonstrate the effectiveness of their interventions within real-life scenarios (Rahmi 2021:116). As highlighted by Garcia and Guerra (2004:152), educators have the responsibility to create learning environments

that bring about stimuli and inquiry, resulting in active responses that can be applied to daily practice. Moreover, active experimentation allows students to apply previously acquired knowledge in new situations (Kolb & Kolb 2012:1217). In synthesis, the active experimentation can be classified as a catalytic bridge between higher education and the continuum of professionalism, where students, in their preparation for industry, test different concepts to associate what they have learned with real-life situations. As such, it is crucial that HEIs involve workplace partners to validate the active experimentation activities delivered under experiential learning (CHE 2011:51). Ultimately, the integration of Kolb's (1984:38) ELT within the MA curriculum offers a flexible, yet feasible experiential learning approach, particularly in South Africa, where traditional practicum placement opportunities for MA are not readily available. Moreover, academics within HEIs can simulate real-world tasks and activities drawn from workplace practices that are tailored toward individual learning preferences as recognised by Kolb's (1984:38) LSI.

2.5.5 Identifying individual learning styles and profiles

The incorporation of LSI within Kolb's (1984:38) ELT is significant as it assists academics and learners to understand individual learning preferences (Kolb 2014:105), which include accommodating, diverging, converging and assimilating learning styles. As pointed out by Bradford (2018:2), Kolb's (1984:38) LSI (KLSI) assists learners to "learn how to learn as one has to be able to accurately observe and reflect, and then make sense out of the experience". Determining students' learning styles within HEIs should be conceived as systematic processes in which individuals gather, absorb, understand and retain knowledge and skills (Dunn 1984:10-11). As asserted by Hallin (2014:1443), identifying learning styles for HEIs' students can assist in instructional design within faculties, and improve student participation while assisting in developing lessons appropriate for the specific educational field. Moreover, Dewey (1897:79) emphasised that HEIs can enhance instructional design by providing feedback on the effectiveness of their learning efforts. Arguably, HEI students possess unique learning abilities that should be recognised by instructors (Dewey 1897:78). The LSI was established to determine the degree to which learners, as individuals, display learning styles derived from ELT (Kolb & Kolb 2013:43). As the extension of Kolb's (1984:38) ELT, the LSI is a self-assessment questionnaire which evaluates learners' ability to grasp and analyse theoretical foundations and their applicability

across diverse educational contexts to assess visual, auditory, reading, writing, and kinaesthetic understandings (Idowu 2024:1-2).

More significantly is the KLSI matrix - a visual framework that integrates two learning dimensions, namely, perception and processing, drawn from Kolb's (1984:38) ELT as displayed in Table 2.2 below:

Table 2. 2: Kolb's LSI matrix view

	Active experimentation (AE)	**Reflective observation (RO)**
Concrete experience (CE)	Accommodating (CE+AE)	Diverging (CE + RO)
Abstract conceptualisation (AC)	Converging (AC+AE)	Assimilating (AC + RO)

Sources: Sameer & Anu (2021:109); Kolb & Kolb (2005:197)

Within the above framework as depicted in Table 2.2, the perception dimension reflects on how individual learners perceive or absorb information through concrete experience and abstract conceptualisation (Sameer & Anu 2021:109-110). Additionally, the processing dimension sees how individual learners process or act on information through reflective observation and active experimentation (Kolb & Kolb 2005:197). Moreover, Sameer and Anu (2021:109-110) are of the opinion that the learning styles within the KLSI are not generic as they are influenced by a learner's background, personality, and past learning experiences. However, capturing learning styles using the KLSI tool among HEI students has been echoed to be a challenging exercise due to its need to be sensitive enough for identifying unique learning profiles (Idowu 2024:3). Moreover, self-assessment instruments such as the KLSI often result in biasness, while lacking depth when capturing students' learning preferences (Simon & Eachus 2000:308). This observation links with Kolb and Kolb's (2005:197) utterances that learning profiles are often influenced by culture, personality, background, and other related demographics, which may pose accuracy challenges in using a single metric to determine learning profiles among students.

Kolb's (1984:38) LSI has been used as a learning style determiner within accounting education offered at HEIs (Abbas 2020:1; Cekiso, Arends, Mkabile & Meyiwa 2016:211; Salcedo 2021:549; Visser, McChlery & Vreken 2006:299). Abbas (2020:19) applied the recent KLSI 4.0 (Kolb & Kolb 2013:6) to explore the correlations between learning style flexibility and academic performance among MA students at university, of which the findings indicated that students who flexibly shifted between learning styles tended to outperform those who did not. Salcedo (2021:549) surveyed 353 accounting major undergraduates in the Philippines to determine the dominant learning style using Kolb's (1984:38) LSI, identifying a predominance of the "thinking" and "analysing" learning styles which form the variants of the assimilating and converging styles. Moreover, Salcedo (2021:555) suggested that accounting education academics should create educational interventions aimed at developing weaker learning styles through active experimentation exercises. Locally, Visser, McChlery, and Vreken (2006:299) compared the learning styles between South African and United Kingdom accounting students, citing that the KLSI showed little effect in determining learning styles. In addition, Koob and Funk (2002:294), as well as Sandler-Smith (2001:610), have pointed out KLSI's inadequacy concerning consistency, reliability, and construct validity. Nevertheless, Cekiso et al (2016:211) investigated learning style preference among accounting students within a local UoT, where the findings revealed that the converging learning style (AC+AE) was the most dominant at all levels of study.

In synthesis, despite the substantial scholarly research conducted on the use of the KLSI (1984:38; 2013:6) to profile accounting education students' learning preferences at HEIs, there remains a notable gap in its application among MA students. Overall, the administration of self-assessment tools such as the KLSI (1984:38; 2013:6) within the MA curriculum for experiential learning may deepen engagement and understanding of complex accounting education principles (Salcedo 2021:555).

2.5.5.1 The accommodative learner

The accommodative learning profile is characterised by a preference for concrete experience and active experimentations, which exhibit a hands-on approach and reliance on intuition as opposed to logical and theoretical frameworks (Ahmed, Wojcik, Ananthanarayanan, Mulder & Mirza 2019:2; Kolb & Kolb 2005:195). According to Kolb

(2021:12), learners exhibiting an accommodative learning style “rely on people for information [rather] than their own technical analysis” to solve problems, making them suitable for action-oriented professional tasks such as sales or marketing. The accommodative learner is one that learns though “doing and feeling” where new concepts and experiences are bolstered in experiential learning (Fewster-Thuente & Batteson 2018:2-4). Based on a unique combination of concrete experience (CE) and active experimentation (AE), accommodative learners use a trial-and-error approach based on their unique senses (feelings) and actions (doings) when learning new situations (Lehane 2020:243). Cited as a learning profile that actively pursues risk, opportunity and action (Lizote, Alves, Teston & Olm 2019:4), the accommodative learner is noted to easily adapt to new and unfamiliar situations. Moreover, Manolis, Burns, Assudani and Chinta (2013:44) used the KLSI (1984:38) four-style typology to examine experiential training within organisational settings, noting that students with an accommodative learning style achieved higher gains when pedagogical interventions incorporated simulations and role-play activities. As echoed by Tan and Laswad (2015:387), accounting education students who exhibit an accommodative learning style prefer to work in teams when completing tasks and are prone to become frustrated when required to follow voluminous instructions and regulations.

2.5.5.2 The divergent learner

Described as individuals who learn through “feeling and observing”, divergent learners prefer to see situations in unique perspectives, gather knowledge, and solve problems through theoretical imaginations (Kolb & Kolb 2005:98). The divergent learner profile is characterised by a combination of concrete experience (CE) and reflective observation (RO) within the KLSI (Kolb & Kolb 2005:98). Echoed to be curious individuals, the divergent learners prefer to work with others and accept constant personal feedback (Verna 2020:81-82). Moreover, divergent learners gain concrete experience through observations as they work best in scenarios that call for creation of alternative ideas and solutions such as brainstorming (Galperin & Punnett 2021:97-99). In the field of education, Dewi and Tandyonomanu (2018:570) conducted a study involving undergraduates where critical thinking skills development (interpreting, analysing, evaluating, drawing conclusions and rationalising the outcomes of thought) was compared to the students with a convergent learning profile and a divergent learning profile. Considering Dewi and Tandyonomanu’s (2018:571) investigation,

convergent learners appear to possess higher critical thinking skills, while divergent learners allowed emotions and intellectual freedom to explore possibilities, solutions awareness and meaning. Moreover, Kolb (2021:58) reiterated that learners who exhibit a diverging learning style based their learning on “the world hypothesis of organicism”, making them suitable for humanities and social sciences due to their “valuing” skills, namely, relationship building, assisting others, and sense-making (Chiu 2019:4-6; Kolb 2021:11), skills that are also considered as valuable to MA graduates.

2.5.5.3 The convergent learner

According to Dewi and Tandyonomanu (2018:570), the convergent learner is one who exhibits high levels of critical thinking skills. The convergent learning profile combines abstract conceptualisation (AC) and active experimentation (AE) (Kolb 2013:6). Moreover, Kolb and Kolb (2005:96) indicated that convergent learners exhibit skills related to problem solving, decision-making, and practical application of ideas. In contrast to a divergent learning style, learners with a convergent learning style rarely rely on their emotions and prefer to address practical issues as they experiment with novel ideas (Chiu 2019:4; Kolb 1984:40; Lehane 2020:241). When investigating the learning styles of undergraduate accounting and cost analysis students, Abbas and Lopes (2020:23) observed that learners who undertook practical accounting modules displayed higher characteristics of the convergent learning profiles as they performed better when engaging in experimental activities. This observation links with Kolb’s (2021:10) assertions that students with a convergent learning style prefer technical jobs such as engineering and production as they demand high levels of technical and problem-solving skills. As reiterated, Cekiso et al’s (2016:244) study on UoT students studying accounting education within South Africa, indicated that the convergent learning style was the most prominent among students, supporting Abbas and Lopes’ (2020:23) conclusions. Predictably, Effah, Otchere, and Owusu’s (2021:7) study signals similar results among accounting students, which may allude to the need for supplementary practical learning experiences for an accounting curriculum due to its high demand for critical thinking and problem-solving skills.

2.5.5.4 The assimilative learner

Students with an assimilative learning style demonstrate less interest in other people as they pay more attention to ideas and abstract concepts (Kolb 2005:97). Assimilators are skilled within the KLSI's (2013:6) abstract conceptualisation (AC) and reflective observation (RO). In research, assimilators have been closely associated with natural sciences as they learn by thinking through ideas (Tabe, Shafiei & Mousavi 2018:98), which, in turn, is consistent with Kolb's (2021:10) assertions that assimilating styles demonstrate high capabilities when learning mathematics and physical sciences. According to Tabe et al (2018:98), assimilators tend to create new knowledge based on concepts and models due to their aim for intellectual recognition. When investigating the academic performance of students who exhibited an assimilative learning style, JilardiDamavandi, Mahyuddin, Elias, Daud and Shabani (2011:188) found no significant statistical differences with other learning profiles (accommodative, convergent and divergent). However, the previously mentioned study's results could not be generalised to all other learning fields (JilardiDamavandi et al 2011:188-189). Interestingly, Ata and Cevik (2019:1351) noted a higher assimilative learning style among education students who were engaged in practical teaching. The above findings could be an indication that assimilative learners perform better when engaging in practical learning activities, irrespective of the discipline. Conversely, Buckley and Doyle (2017:43-48) echoed that matching students' learning styles with the suitable instructional approach may significantly enhance academic performance.

Considering the above literature on KLSI, Tan and Laswad (2015:387) cautioned that studies that investigated the learning styles of accounting or business students were inconsistent, suggesting that such students tend to possess diverse learning styles (Tan and Laswad 2015:388). Moreover, the significant deficiency of similar studies conducted for identifying learning styles among MA students signal a knowledge gap within literature. Considering the various viewpoints outlined above, Kolb's (1984:38; 2013:6) ELT and KLSI remain relevant when designing experiential learning activities aimed at enhancing academic instruction, practical training, simulated tasks and activities that can be incorporated under a WIL curriculum.

2.6 WIL in South African higher education

The South African higher education sector is diverse, comprising research-intensive universities, comprehensive universities, UoTs, and vocational training institutions (CHE 2011:7). These institutions are differentiated according to the former Higher Education Qualifications Framework (HEQF) (2007), now the HEQSF (2013), based on qualification outcomes across fields such as applied sciences, business studies, education, engineering, law, arts, and health sciences. Chetty and Pather (2015:2-4) assert that South African HEIs must prepare students for professional practice by providing practical learning experiences. Moreover, Mthembu, Orkin and Gering (2012:215) echoed that South African HEIs should offer programmes designed to address the needs of the labour market, focusing on practical skills and the application of technology. Likewise, the CHE (2011:6) emphasises that graduates should integrate seamlessly into the workforce through specific practical learning modes.

As noted in Chapter 1, Section 2.6, this study proposes SBE delivered under WIL, i.e. WIL (Simulations), as an alternative method to develop MA skills and prepare graduates for industry due to the deficiency in practicum placement opportunities for MA students (Bishop 2019:22). However, as discussed in Section 2.2.1, MAE currently lacks pragmatism, which complicates its practical delivery at the higher education level (Jansen 2018:1487). Additionally, the incorporation of Kolb's (1984:38) ELT within WIL (Simulations) as a pedagogical approach for bridging academic theory and professional practice within South African HEQSF (2013)-aligned programmes remains unexplored. In this section, the researcher reviews WIL as characterised by the CHE under the HEQSF (2013:11) for experiential learning purposes. This review specifically seeks to answer the research sub-question 1 (RSQ1) which reads: "What are the best practices for implementing WIL within management accounting education at HEIs with reference to guidelines set by the CHE (2011) and the HEQSF (2013) for South African UoTs?"

Additionally, the discussions on WIL within South Africa, the purpose of incorporating WIL for MAE, implementational challenges pertaining to WIL, and the concerns over the skills mismatch within the MA profession are outlined.

2.6.1 Contextualising WIL in South African HEIs

As noted earlier, experiential learning is well established, but its effective application depends on careful alignment with the specific discipline. Hoover and Whitehead (1975:25) define experiential learning as occurring when “a personally responsible participant cognitively, affectively, and behaviourally processes knowledge, skills, and/or attitudes in a learning situation characterised by a high level of active involvement”. Du Plessis (2015:21) similarly emphasises that, in a university context, experiential learning involves students gaining skills, attributes, and values through “direct experiences” outside the traditional academic environment.

To clarify the scope of WIL, the Southern African Society for Cooperative Education (SASCE 2014:3) explains that, although Cooperative and Work-Integrated Education (CWIE) was mainly offered at UoTs, as well as Technical and Vocational Education and Training (TVET) institutions for artisans and technicians, it has since expanded into fields such as law, accounting, and medicine. Du Plessis (2015:31–33) further outlines three dimensions of experiential learning under the SASCE framework: learning for the workplace, learning at the workplace, and learning through the workplace. The previously-mentioned statement critically aligns with the need for MA graduates to undergo practical training as a requirement for them to become professionals (AICPA & CIMA 2023:5-7). Internationally, experiential learning encompasses varied delivery modes; however, South Africa’s HEQSF (2013:11–12) formally defines the notion of learning through experience as WIL. Implementing WIL in higher education has been praised for reducing the heavy reliance on traditional lecture-based instruction (Jackson 2015:350).

Moreover, the CHE (2013:32) introduced significant changes to programme aims, outcomes, and delivery methods in an attempt to address the persistent shortcomings within South Africa’s higher education system pertaining to graduate output and readiness. Likewise, South Africa’s recent National Development Plan 2030 (National Planning Commission of South Africa 2014:48) echoed that the performance of HEIs within the Republic range from “world-class to mediocre”, advocating the need for continuous quality improvement, while increasing the development of critical skills categories such as “engineering, actuarial science, medicine, financial management, and chartered accountancy” (National Planning Commission of South Africa

2014:317). This statement further draws attention to the need to improve the graduation rate of South African students, thus the strong emphasis on applying WIL within various disciplines in higher education.

The CHE's publication: "Work-Integrated Learning: Good Practice Guide:", Section 1.4 highlights the main purpose of WIL as a mechanism for developing students' professional skills and improving employability (CHE 2011:6). In addition, the following benefits were stated:

- Students may experience academic benefits such as improved academic performance, enhanced interdisciplinary thinking, and increased motivation to engage in learning.
- On a personal level, learners can develop stronger communication skills, improved teamwork and cooperation, as well as enhanced leadership abilities.
- From a career perspective, students may gain greater clarity about their career paths, develop a stronger sense of professional identity, access more employment opportunities, and cultivate positive work ethics and values.
- In terms of skills development, learners are likely to build greater competence and acquire advanced technical knowledge and skills.

In synthesis, South African HEIs, including UoTs, embarked on curriculum reform to align with the new HEQSF requirements (2013:12). This reform resulted in the incorporation of a credit-bearing WIL curriculum for certain UoT qualifications. In the context of this study, the researcher highlights the knowledge and practical gaps arising from these programme reforms pertaining to: (a) the development and delivery of the recent HEQSF (2013)-aligned undergraduate qualifications offered over three years; and (b) the design, implementation, assessment, and monitoring of a credit-bearing experiential learning component (WIL) within MA programmes at some UoTs.

2.6.2 Purpose for WIL in MAE

The National Development Plan and Vision for 2030 in South Africa advocates a tripartite partnership between higher education, government and industry to reduce unemployment to 6 percent by 2030 (National Development Plan 2014:44). These collaborations have been enacted through various WIL mechanisms (Musuwini, Thaba & Kgomotlokoa 2021:107–109). Although most research has focused on traditional

practicum placement, i.e. WIL (Placement) in the natural sciences, there is growing concern about the need for experiential learning within soft-science disciplines such as accounting education (Crawford et al 2024:1062; Jackson et al 2016:35-36; Jackson & Meek 2021:63; Stanley & Xu 2019:2). Moreover, HEIs bear the responsibility to ensure staff and infrastructure capacity to deliver such experiential learning interventions (CHE 2011:29-30; Mesuwini et al 2023:83). Likewise, academic staff responsible for facilitating WIL should be orientated on its delivery (CHE 2011:29) and possess adequate teaching and industry-based experiences as suggested by Whelan (2017:172).

South Africa's persistently high unemployment rate is strongly linked to a skills mismatch between industry requirements and the competencies supplied by HEIs (DHET 2024:14). Graham, Williams and Chisoro (2019:365) highlight that employers often lack confidence in new graduates' ability to adapt to evolving industry demands, undermining the labour market's trust in recent qualifiers. Historically, Technikons, now known as UoTs, were established to address this gap through work-oriented training (Winberg & Garraway 2019:38-39). Since their transition to UoTs, these institutions have experienced an identity crisis, emphasising research over their original industry-training objective (Kraak 2009:17; Mungal & Cloete 2016:203-205). Prior to the alignment of qualifications with the HEQSF (2013), the South African Technology Network's (SATN) (2007) report criticised the unequal credit allocations between UoT national diplomas and traditional university bachelor's degrees (Koller 2010:165-166). Despite both qualifications requiring three years of study and 360 credits, UoT programmes exited at NQF level 6, whereas bachelor's degrees were pegged at NQF level 7 (Koller 2010:166). Table 2.3 below illustrates the articulation levels for undergraduate qualifications under the former HEQF's (2007) National Accredited Technical Education Diploma (NATED) 151 framework and the current HEQSF (2013):

Table 2. 3: HEQF (2007) NATED and HEQSF (2013) aligned undergraduate qualifications for UoTs

NATED (151) qualifications at UoTs	New HEQSF qualification at UoTs
Undergraduate	**Undergraduate**
National Certificate (National Cert) NQF exit level: 5 Credits allocated: 120	**Higher Certificate (Higher Cert)** NQF exit level: 5 Credits allocated: 120
National Higher Certificate (NHC) NQF exit level: 6 Credits allocated: 240	**Advanced Certificate (Adv Cert)** NQF exit level: 6 Credits allocated: 120
National Diploma (NDip) NQF exit level: 6 Credits allocated: 360	**Diploma (Dip)** NQF exit level: 6 Credits allocated: 240/360
No equivalent non-HEQSF aligned qualification present	**Advanced Diploma (Adv Dip)** NQF exit level: 7 Credits allocated: 120

Source: Koller (2010:166)

Since the onset of curriculum and programme reforms, several UoTs have embedded experiential learning offered as WIL into their MA programmes. As illustrated in Table 2.3, these reforms align UoT qualifications with the HEQSF (2013) at NQF Levels 6 and 7. Koller (2010:170) contended that the shift from NATED 151 to the HEQSF necessitated a comprehensive redesign of UoT offerings to meet the new generic requirements. For the purposes of this study, attention is focused on those UoTs that have introduced MAE programmes with a WIL (Simulations) curriculum.

2.6.3 Challenges in implementing WIL

One of the most pressing concerns in higher education is integrating theoretical and practical knowledge, especially in business and commerce disciplines (De Meyst & Hartmann 2025:23; Idzikowski, 2014:131). This, in turn, is further worsened by the evolving business practices which ultimately necessitate the upskilling of financial disciplines such as MA (AICPA-CIMA 2025a:3; 2023b:7; 2020:6; 2019:1; 2018:2; 2015:6). Several factors have been identified in relation to the delivery of WIL within accounting education, including Stanley and Xu's (2018:2) study which revealed that accounting programmes face challenges when securing WIL (Placement) opportunities for students. Conversely, Bishop (2019:21) highlighted similarly scarce workplace opportunities for MA students in South Africa. Traditional WIL, as noted in Chapter 1, involves placing students physically in industry with the expectation that

such exposure yields practical experience. Govender and Wait (2015:45) have explored the challenges of implementing WIL in South African higher education institutions (HEIs). An extensive literature search further revealed these key concerns:

- Legal consequences: Institutions that failed to meet the new HEQSF (2013) requirements (2013:11) and the CHE's (2011) WIL practice guidelines risked having their programmes discredited by the South African Qualifications Authority (SAQA).
- Limited WIL opportunities for non-professional programmes: Experiential learning is not readily available, especially for MA students, as Bishop (2019:21) notes. This scarcity is particularly acute for those pursuing non-professional accounting education qualifications such as MA at UoTs. Where traditional WIL (Placement) are scarce, alternative practical-learning methods must be initiated.
- Limited experience in implementing WIL in MA: The DHET's agenda is to ensure HEIs produce "work-ready" graduates (DHET 2024:14-15). In her doctoral thesis on radiography conducted within a South African UoT, Du Plessis (2015:13) raises concerns about academic staff readiness to offer WIL in line with the HEQSF (2013). Du Plessis (2019:16-18) further examines how modern workplaces challenge effective WIL programme design, teaching/learning, assessment, and monitoring. Interestingly, this study concludes that WIL initiatives should be led by academic staff with relevant industry experience (Du Plessis 2019:23).

The broad challenges mentioned above relate to studies conducted for various disciplines. As echoed by the SATN (2019:6), all South African HEIs had until the end of 2019 to fully align their qualifications with the HEQSF (2013). Within UoTs, the removal of industry relevant NATED qualifications such as the national diplomas and Bachelor of Technology (BTech) have consequently disrupted the long-standing progression routes (CHE 2022:17), requiring the incorporation of WIL (Simulations) for certain qualifications. Unsurprisingly, the incorporation of WIL (Simulations) for programmes such as MA present several bottlenecks, chief among them pertains to its implementation within UoTs for the purpose of enhancing workplace readiness and reducing skills mismatches.

2.6.4 Skills mismatch among South African UoT MA graduates

At a general level, skills mismatch has been described as a disparity between the competencies supplied by HEI graduates and those expected by industry (Liu, Salvanes & Sorensen 2016:3). Both the short-and long-term effects of such mismatches have been linked to higher unemployment rates, qualification mismatches, and deficits in soft-skills (Mncayi & Dunga 2016:413-415). Moreover, HEIs bear the responsibility to facilitate mechanisms that ease the transition of graduates into the workplace (DHET 2024:14; Mncayi & Dunga 2016:418-420). Despite progressive measures to expand access, South Africa's student outcomes remain poor and uneven across institutional types and racial groups (Fisher & Scott 2011:3-5). The graduate unemployment in South Africa increased from 18.5% in 2019 to 19.7% in 2023, which was deepened by the significant levels of job and education mismatch across the labour market (DHET 2024:4). Conversely, Vandeweyer and Verhagen's (2022:26) skills imbalances in the South African labour market report highlighted two broad mismatches pertaining to the overlap between field-of-study and qualification, namely, mismatch by education level (over or under qualified) and field, and mismatch by occupation and industry. The previously mentioned finding consistently fits with the International Labour Organisation's (ILO) assertions which state skills mismatches occur due to a mismatch by qualification, which entails level of education or field of study, and a mismatch by skills, which entails limited practical experience (ILO 2018:8-12). Furthermore, 51.7% of South African workers face mismatch by educational level and their respective fields (DHET 2024:4). Additionally, 30.3% of workers are employed in jobs unrelated to the field of study in which they obtained their highest qualification (Statistics South Africa: Quarterly Labour Force Survey 2023:1). These figures underline the persistent challenges in aligning educational outcomes with South Africa's labour market demands. Contextualising the above findings with the present study, the focus pertains to the disconnect between HEIs MA graduates' competencies and industry demands due to skills mismatch (Bishop 2019:20; AICPA-CIMAb 2023:1-3), which could result in graduate unemployability/underemployment challenges (DHET 2024:14), increased skills scarcity (FASSET 2023:15-18), and damage of HEIs' reputation (Boboyi & Kang'ethe 2024:215). As emphasised by Wright et al (2025:2-4), HEIs should offer accounting education curricula that align with professional competency frameworks by incorporating experiential learning for entry-level graduates. More specifically, the MA

competency framework places a strong emphasis on technical skills, business skills, people (soft) skills, leadership skills, and digital skills (AICPA & CIMA 2025:1). However, such competencies may not be fully developed for MA students at UoTs as these programmes are not endorsed by professional bodies such as the South African Institute of Chartered Accountants (SAICA) or AICPA-CIMA, which could lead to the skills mismatch as illustrated in Figure 2.5 below:

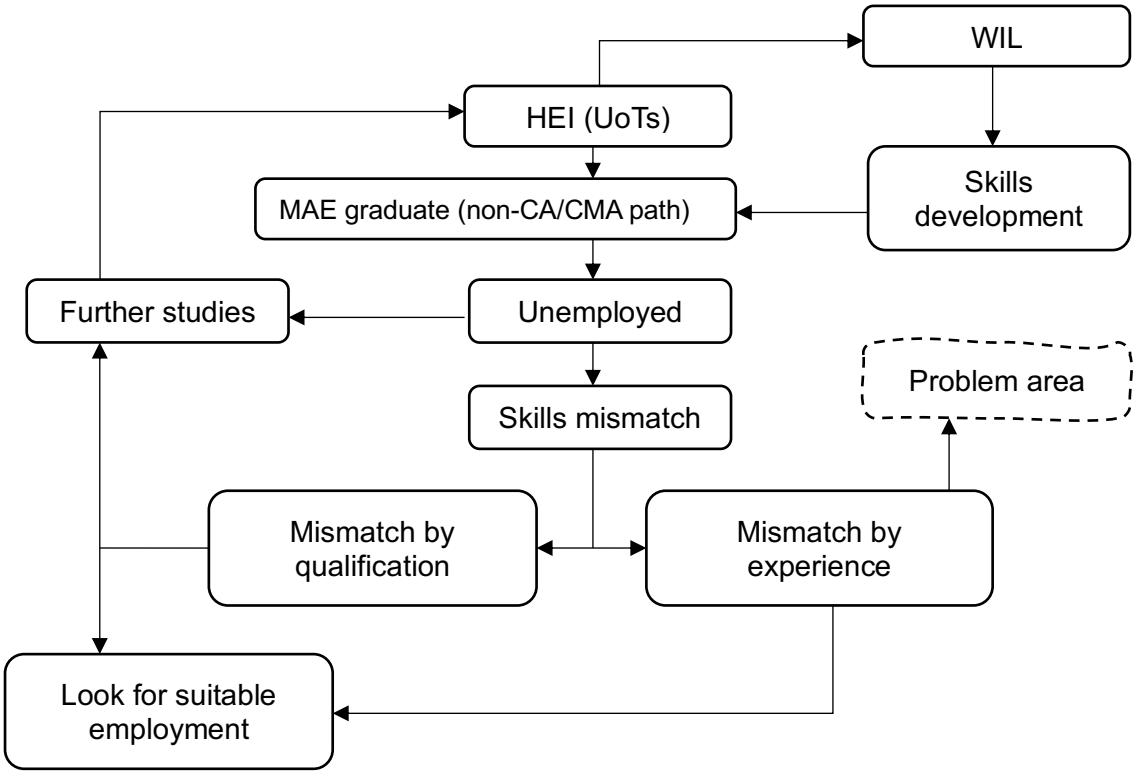


Figure 2. 5: Contextualising skills mismatch for MA graduates

Source: Own observation

Figure 2.5 above contextualises the potential risk that MA graduates from UoTs could face as they transition to the non-professional body graduate pool only to encounter unemployment and a distinct skills mismatch. Although WIL is designed to bridge theory and practice (CHE 2011:4; Oosthuizen, Spencer & Chigano 2022:214), South African MA graduates still emerge without the precise qualifications, skills-set or experience that employers demand (Bishop 2019:20; FASSET 2023:17). Consequently, such graduates face the two forms of mismatches echoed by Vandeweyer and Verhagen (2022:26), namely, mismatch by qualification or by experience. Such graduates either study further or seek suitable employment. The experiential mismatch, in particular, highlights the core problem area where; despite

undergoing structured WIL and upskilling efforts, graduates frequently lack the credentials or hands-on experience needed to secure roles within MA. Accordingly, they must choose between enhancing their qualifications through additional coursework or entering the job market underprepared, perpetuating a cycle of underemployment and skills-development challenges. Additionally, skills mismatches have been investigated by Dumalisile (2019:7-9) for South African MA graduates within the banking sector, revealing deficiencies in the demanded technical and strategizing skills.

As mentioned, the MA professional is often associated with AICPA-CIMA and SAICA. MA students studying towards these designations follow a strict theoretical and practical training programme, usually followed by numerous months of training experience and rigorous board examinations prior to the designation being conferred (SAICA competency framework 2021:6). Such students tend to be highly in demand as they possess an expert level of competencies (DHET 2024:16; FASSET 2023:18). As illustrated in Figure 2.5, the problem area signals the concern where MA graduates who obtained formal qualifications from UoTs and not in pursuit of a professional designation face the challenge of competing for similar roles with professionally endorsed graduates. The experience gap faced by UoT graduates can be alleviated through experiential learning mechanisms such as WIL (Simulations) (Bishop 2019:20). As echoed in Kraak's (2015:108) study, comparing the graduate absorption of Cape UoT and Vaal UoT graduates in industry in general, over 5% of the graduates received employment though WIL (modality unspecified), while 30% were absorbed into industry through internships, i.e. WIL (Placement). More so, the majority of respondents highlighted the importance of soft skills such as networking, communication and computer skills that assisted them in becoming employed.

In synthesis, cultivating graduate skills-sets and professional competencies not only narrows the gap between industry needs and higher education outcomes, but also fosters the soft skills that graduates carry with them throughout their careers. Given the persistent challenge of limited practical experience and skill mismatches among graduates from UoTs, it is essential to explore alternative approaches to attribute development, especially where WIL (Placement) opportunities are unavailable. Moreover, UoT undergraduates exiting at NQF level 6 and 7 are particularly vulnerable to underdeveloped professional competencies, as they do not follow pathways

towards formal designations such as the Chartered Accountancy (CA) (SA) or Chartered Global Management Accountant (CGMA). As such, it is crucial that alternative skills development frameworks, such as the WIL (Simulations) curriculum designed to align with the MA industry, is further explored.

2.6.5 Policy-driven design domains for WIL (Simulations) in MA

Evidently, the CHE (2011) and the HEQSF (2013) WIL frameworks were designed to impose accountability requirements for all South Africa HEIs, particularly those oriented in vocational training such as UoTs. Implicitly, translating the CHE (2011) and the HEQSF (2013) policies into concrete design components for WIL (Simulations) in MA centre around three core domains:

- Aligning experiential learning outcomes with MA competencies: In line with the CHE's (2011:13) "WIL curriculum planning and mapping guidelines", WIL activities negate HEIs to "recontextualise both academic and professional knowledge domains, and the alignment of workplace and academic interests, to the extent that this is possible or desirable". Therefore, WIL (Simulations) curriculum requires explicit mapping of MA simulations with MA competencies to integrate applied technical, digital, and professional proficiencies as reflected in the AICPA-CIMA (2023) competency framework.
- Assessment authenticity and moderation: The CHE (2011:44) requires that all WIL assessments are designed to include formative and summative assessments that reflect workplace practices and are moderated by external industry partners. As such, WIL (Simulations) assessments for MA designed at UoTs require a high level of collaboration with industry partners for transparency, authenticity, and alignment.
- WIL management and partner roles: Consistent with the external validation requirement for WIL activities echoed by Zegwaard et al (2023:38), the CHE (2011:52-57) emphasises the need for formalised collaboration and clearly defined roles between HEIs and industry partners. In the context of WIL (Simulations) for MA, the previously mentioned emphasis implies that academic roles and MA industry partners' responsibilities should be clearly defined to distinguish between "SBE design activities" and "SBE validation" to ensure alignment between UoTs and professional standards.

The outlined WIL (Simulations) design domains critically form a design brief towards developing a framework that is policy informed while addressing UoT and MA industry alignment, assessment authenticity and validation with clearly defined stakeholder roles.

2.7 Chapter summary

Chapter 2 offers an in-depth exploration of experiential learning within higher education, with a specific focus on MAE. The chapter commenced with the persistent disconnect between HEI MA graduates and industry demands, pointing to a critical skills shortage among graduates. Moreover, the discussions pertaining to mentioned gaps centred on the notable lack of pragmatic, and practice-oriented pedagogy associated with MAE as a discipline. Thus, there is the need for innovative pedagogical approaches to address this challenge, particularly in disciplines where there are limited opportunities such as WIL (Placement). To address this challenge, the chapter introduces constructivism as a guiding learning paradigm. Constructivist approaches emphasise active engagement, allowing students to construct knowledge through meaningful experiences. These approaches include reciprocated teaching and learning, where roles between students and instructors are fluid; inquiry-based learning, which promotes exploration through questioning; problem-based learning, which engages students in solving real-world problems; and cooperative learning, which fosters collaboration among peers.

The chapter then outlined the historical development of experiential education, leading to the application of WIL. It further examined experiential learning theories that have shaped educational practices and outlined Kolb's ELT as a theoretical frame for understanding individual learning processes. Central to this discussion was Kolb's experiential learning cycle, comprising four stages, namely: concrete experience, reflective observation, abstract conceptualisation, and active experimentation. Moreover, the chapter discussed the profiling of individual learning styles based on KLSI, outlining the four learner profiles: accommodative, divergent, convergent, and assimilative.

The chapter then included discussions which contextualised WIL within South Africa's higher education system where its purpose and goals were outlined and positioned

within MAE, while also addressing the real-world challenges of implementation, such as institutional constraints and lack of WIL (Placement) opportunities. In addition, the factors that contribute to ongoing skills mismatches faced by MA graduates from UoTs were outlined. The chapter ultimately suggests three policy-informed design domains for WIL (Simulations) in MA as a means of bridging the gap between academic theory and workplace readiness.

The next chapter entails a literature review on the progression of the MA profession and higher education's role in developing MA skills. It further examines SBE delivered under WIL for skills development within a South African context.

CHAPTER 3: DEVELOPING MANAGEMENT ACCOUNTING ATTRIBUTES IN HIGHER EDUCATION

3.1 Chapter 3 layout

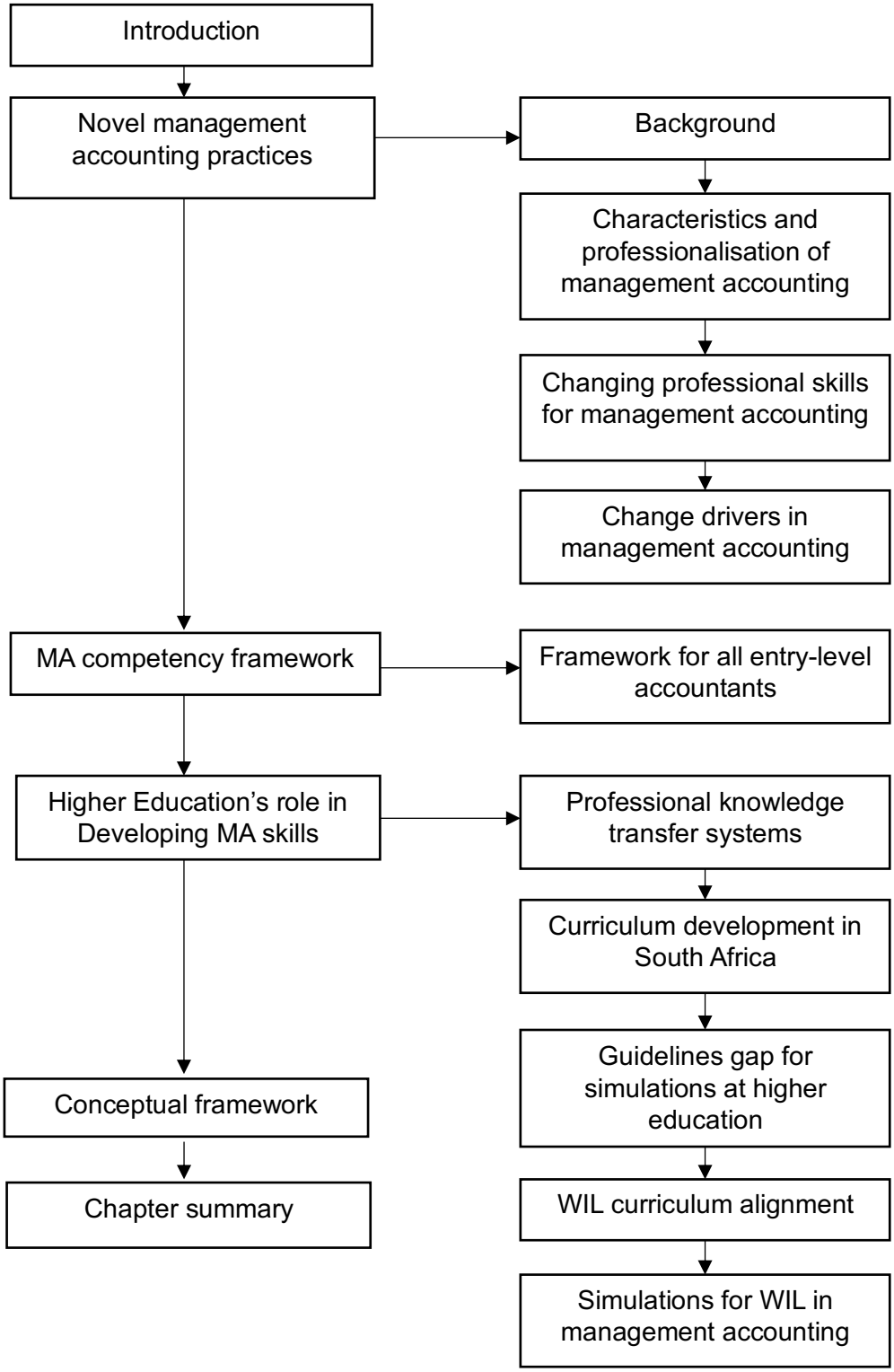


Figure 3.1: Chapter 3 layout

Source: Own compilation

3.2 Introduction

The preceding chapter outlines various challenges associated with developing MA skills suitable for preparing graduates for industry, in particular, using WIL within higher education. Central to this study are the various WIL modalities echoed by the CHE which include WDTL, PBL, WBL, and SBE. More recently, the change in South Africa's higher education structure from the HEQF (2007) to HEQSF (2013) has resulted in some qualifications being reformed and include SBE delivered under WIL, i.e. WIL (Simulations) (CHE 2011:4; HEQSF 2013:11). As highlighted in the previous chapters, research to date fails to contain any systematic research on the delivery of WIL (Simulations) from a South African perspective for MAE. In addition, far too little attention has been prioritised on the use of WIL (Simulations) in MAE for UoTs offering HEQSF (2013)-aligned programmes. While numerous studies support WIL in the form of student work placements – WIL (Placement) in developing graduate attributes for MA students, much uncertainty still exists on a suitable framework for the delivery of a WIL (Simulations) curriculum in preparing students for industry within HEQSF (2013)-aligned qualifications.

The previous chapter highlighted the expectations gap between MA skills acquired by UoT students during their higher education training period and those required by practice. This concern from Chapter 2 has been worsened by the effects of job competition and matching among general employment seekers (Pan, Jin & Liu 2020:3). Fast becoming a key instrumental indicator of an increased need for work-ready MA graduates is the high reliance on skilled finance and accounting professionals coupled with industry changes and new skills-set requirements for modern business operations (AICPA & CIMA 2023:6-7; 2019:4). It is therefore imperative for the higher education sector to effectively train MA students through experiential learning methods that may develop the required industry skills-sets.

In this chapter, a review on the background and attributes of the MA profession along with factors that affect its on-going change are discussed. Detailed attention is given to higher education's role in developing MA competencies through simulated experiential learning for MAE at higher education. In addition, Chapter 3 highlights the South African CHE's (2011) guidelines on WIL modalities, offerings, design and assessment, concentrating on WIL (Simulations) for HEQSF (2013)-aligned

programmes. Finally, this chapter introduces the conceptual framework of the study based on three dimensions: graduate competencies for South Africa's higher education; MA entry-level skills requirements and higher education's intervention for developing suitable graduate attributes in MAE.

3.3 Management accounting professional practices

This section focuses on the evolving MA profession as highlighted in the literature and practice. The management accountant's role in a modern business practice faced with rapid technological changes, big data along with environmental and sustainability concerns rarely receive the attention they deserve in the current market conditions.

3.3.1 Background

The evolution and development of MA as a field has been documented by Kaplan (1984:390) who indicated that its practice has been existing since the 1800s. Historically termed "cost accounting and managerial control practices", the field underwent radical changes owing to industrial developments. While the practice came into fruition in the 1800s, Kaplan (1984:393) highlighted that a significant framework for MA was observed from 1925. Formally, the Management Accounting Practices Committee (MAPC) of the National Accounting Association (NAA) defined MA as the process of identifying, measuring, accumulating, analysing, preparing, interpreting, and communicating financial information used by management to plan, appraise and make decisions within an organisation (Kamal 2015:12-15). While the definition relates to a traditional compliance mind-set challenged by the IMA (2008:1-2), it entails core elements applicable to modern MA practices. The advancement of commercial practice and heavy reliance on technology resulted in a novel focus for MA (Alam & Hossain 2018:2-3; Waweru 2010:165-166). In modern business, the MA profession has evolved to carry out strategic roles closely related to planning, evaluating, and controlling activities (IMA 2008:2; Kamal 2015:12-15). Table 3.1 illustrates the focal changes in MA.

Table 3.1: Evolution of MA practice

Time period	Terminology	Focus areas
1812-1920	Accounting for Process	Operational costs and efficiency of process prior to the development of the matching concept
1920-1950	Cost Accounting	Matching concept was now developed. The focus shifted towards cost determination and financial control
1951-1980’s	Managerial Accounting	Major shift towards providing decision-making information to management for planning and control
1980’s	Cost Management	Rapid shift towards waste reduction leading to the development of Just In Time (JIT), Activity Based Costing (ABC), target costing, quality, investment, and product life cycle
1990’s to 2000s	Value Based Management	This era saw shift towards more strategic roles including the creation of customer value, Balanced Scorecard (BSC), Economic value Added (EVA) and other similar models
2010s	Strategic Management Accounting	Major shift towards innovation, risk management, partnership, and strategy
2020s	Management Accounting and Finance	Dynamic shift towards digital innovations and transformative skills pack which include business partnering, strategic, and critical thinking, and real-world problem-solving.

Sources: Garner (1947:385); Johnson (1983:139-143); Martin (2015:1); AICPA-CIMA (2025:1; 2019:6)

Formally, the description of MA changed significantly between 2000 and 2010 necessitating the need for IMA to revise its elements. The revised definition for MA is an occupation that encompasses partnerships with management for the purposes of decision-making, drafting planning and performance management systems, while providing expertise in financial reporting and control to support management in devising and implementing a corporation's strategy (IMA 2008:1-2). The focus in MA

is currently towards “strategic partnership” and “stewardship” between practitioners and organisations, demanding broader leadership and strategic management skills.

As reaffirmed by Secinaro, Calandra, Lanzalonga, and Biancone (2024:207), the digital transformation and adoption of AI within MA practice now requires practitioners to either develop or upskill these proficiencies. Moreover, the 2020s saw a radical change within the MA profession to focus on MA and finance along with the adoption of digital tools (AI, machine learning, automation, etc.), and a strong emphasis on leadership, critical thinking, and problem-solving skills (AICPA-CIMA 2023b:4-6). As pointed out by Abbas (2025:3-4), the mentioned shift reshaped the management accountants' roles and skills relating to job elimination, upskilling, deskilling, and reskilling (Abbas 2025:3-4). In contextualising the modern narrative of MA, a discussion on its characteristics, requirements and career paths of the profession will be discussed.

3.3.2 Characteristics and professionalisation of MA

Due to the rise in public interest for accounting and finance-related services, the profession has become highly regulated (Ntim, Lindop & Thomas 2013:363; Olojede & Erin 2021:207). Within accounting services, the International Federation of Accountants (IFAC) cited “public interest” as the mutual benefit shared by citizens from services provided by the accountancy profession (IFAC-Public Interest Framework 2011:4). A large and growing body of literature has investigated the effects of corporate scandals on investors’ confidence with reference to financial reporting and corporate governance (Awolowo, Garrow, Clark & Chan 2018:2; Ntim et al 2013:365). The series of accounting scandals ranging from Enron (2001), Parmalat (2003), Toshiba (2015), and Steinhoff (2016) resulted in a greater concern for poor ethics and financial deception (Awolowo et al 2018:4). Contextually, Christensen, Cote and Latham (2018:1157) cited that accounting ethics instruction offered in higher education may not result in actual ethical conduct from graduates when in practice. These concerns not only outline the need for HEIs to train accounting and finance students towards the necessary skills-set for the industry, but also to develop ethical conduct.

Within the current study, the distinction between management accountants and MA professionals has been defined as follows: a management accountant as an individual who has successfully completed a commercial qualification with MAE as a major course at a SAQA recognised HEI registered in South Africa. Additionally, a management accountant professional is an individual who has successfully completed formal education and training in MAE, acquired practical experience within industry and has completed their certification with a MA professional body. With regards to this research study, qualifications obtained in the stream of MAE will fall within any UoT commercial qualification, with a major in MA, including, but not limited to cost accounting, financial management, financial sciences, or related qualifications.

3.3.2.1 Professional route for management accountancy

The route towards professionalisation for MA is based on individual educational background, circumstances and practical experience (Wessels & Steenkamp 2017:169). Being the most widely recognised professional body for MA, the AICPA-CIMA, (Previously known as CIMA) follows four levels within their Chartered Global Management Accountant (CGMA) competency framework. It fosters the development of technical, business, people, leadership, and digital skills underscored by ethics, integrity and professionalism (AICPA & CIMA 2025:12). The CGMA designation is obtained by successfully completing four levels of study, namely: a) certificate level, b) operational level, c) professional level and d) strategic level offered under three distinct pillars of enterprise, performance and financial competencies (AICPA & CIMA 2025:11-12) as discussed below:

a) Certificate level

The revised AICPA-CIMA curriculum introduced a certificate in business accounting that primarily serves two purposes: to serve as a fundamental entry pathway to the professional qualification, and to provide an exit qualification for candidates who wish to understand the primary aspects of business and accounting (AICPA & CIMA 2017:4). As a foundational qualification open to anyone irrespective of education, background or experience, the curriculum immerses students in the fundamentals of MA, business economics, corporate governance, ethics and business law (AICPA & CIMA 2025:11-12). Upon completion, students are awarded the CIMA certificate in

business accounting (Cert BA) which is a standalone qualification that serves as an entry route to the CGMA designation.

b) Operational level

The operational level within the CGMA qualification framework is open to anyone with the CIMA certificate in business accounting; or a relevant degree in accounting, finance, commerce or business; or a Master's of Business Administration (MBA) or a master's degree in accounting; or a membership or part-qualified status from an IFAC body (AICPA-CIMA 2025b:14). Candidates who study towards this level are exposed to the principles of managing finance in a digital world, MA, and financial reporting. Moreover, the qualification's exit assessment, the operational case study exam, assesses professional capabilities and competence to demonstrate pervasive skills (Lim & Geok 2022: 23-24; Reyneke & Shuttleworth 2018:141). This level places a greater emphasis on digital, technical, business, and accounting skills (Rîndaşu, Topor & Ionescu-Feleagă 2023:40-42). Upon completion, students are awarded the CIMA Diploma in MA (CIMA Dip MA).

c) Management level

In the management level of the AICPA-CIMA curriculum, students are exposed to the areas of project and relationship management, and advanced topics in MA and financial reporting all assessed under the management case study exam (AICPA & CIMA 2025:16). The management level aims to bridge the skills gap between qualifiers and practice by producing competent and confident management accountants suitable for the digital industry (Rîndaşu et al 2023:43). Upon completion, students are awarded the CIMA Advanced Diploma in MA (CIMA Adv Dip MA).

d) Strategic level

The strategic level is offered as an integrative mode where AICPA-CIMA students delve into strategic management, risk management and financial strategy (AICPA-CIMA 2025b:16; 2019:5). Within the strategic pillar, a higher emphasis is placed on internal and external factors that may affect the operations and position of an organisation (Ahid & Augustine 2012:50-52). In their study, Petrović and Tanasić (2020:50) stressed that MA professionals are required to fulfil their roles as business partners by engaging with management on organisational strategy issues. As

business partners, AICPA-CIMA qualifiers are expected to uphold the highest MA skills-set that range from technical competencies to persuasive abilities. Upon completion, students are awarded the designation CGMA certification on the condition that they produce evidence for 36 months of relevant work experience.

While this eases entry towards the MA designation, the AICPA-CIMA (2022:1) has set various entry routes for candidates as illustrated in Table 3.2 below:

Table 3.2: Formal training for MA profession and career paths

Educational background requirements	CGMA framework level
Academic background: • Recommended: English and Mathematics with a grade C score and above • Bachelor's Degree (non-related) *Partial exemptions:* Certificate (NQF 5) and Diploma (NQF 6) graduates with CIMA recognised qualifications *Full exemptions:* BTech/Degree/Advanced Diploma (NQF 7) graduates with CIMA recognised qualifications	CIMA Certificate in business accounting modules: • Fundamentals of Business Economics (BA1) • Fundamentals of MA (BA2) • Fundamentals of Financial Accounting (BA3) • Fundamentals of ethics, corporate governance, and business Law (BA4) Award: CIMA Certificate in Business Accounting (CIMA Cert BA)
Requirement: CIMA Certificate in business accounting completed *Partial exemptions:* General commercial qualifications (NQF 7) *Full exemptions:* BTech/Degree/Advanced Diploma (NQF 7) in MA related qualifications recognised by CIMA	Operational level modules: • Managing finance in a digital world • MA • Financial reporting • Integrated case study exam Award: CIMA Diploma in MA (CIMA Dip MA)

Requirement: CIMA Professional Management Level completed	Management level modules: • Managing performance • Advanced MA • Advanced financial reporting • Management case study exam Award: CIMA's Advanced Diploma in Management Accounting (CIMA Adv Dip MA)
Full exemption excluding strategic case study exam: SAICA certification in CA(SA)	Strategic level modules: • Strategic management • Risk management • Financial strategy • Strategic case study exam •
Requirements: Passed Strategic case study exams plus fulfil the assessment of practical experience requirements (PER)	**Award:** Chartered Global Management Accountant (CGMA)

Source: AICPA-CIMA (2025:14-16)

The AICPA-CIMA qualification routes are designed to broaden MA knowledge and competencies of accounting practitioners while strengthening critical thinking and business decision-making skills beyond higher education. The professional designation offers career pathways for highly demanded roles such as staff accountants, financial analysts, data analysts, strategic planners, controllers and Chief Financial Officers (CFOs) (AICPA-CIMA 2025b:9; IMA 2019:16). In the same vein, the changing role of the MA practice and profession necessitates a higher emphasis towards the development of technical and a soft-skills set at fundamental levels.

3.3.2.2 Professional bodies for accounting recognised in South Africa

Within South African higher education, the accountancy profession falls largely into (but is not limited to) four distinct fields of specialisation, namely: accounting sciences, cost and MA, auditing and taxation (Jansen & De Villiers 2016:1-4). While the concept of professionalisation has over the years been highly debated (Alnesafi & Ahmad, 2018:285; Carr-Saunders 1928:21), the professionalisation of accountants, auditors,

and finance experts has been a frequently researched topic (Fogarty & Kalbers 2000:125; Lee 1995:48-49; Plant 2015:43). Recent literature relating to accounting education for the profession and professionalisation has cited the value of alliances between higher education institutions, practitioners and professional bodies (Oliver & Jorre de St Jorre 2018:821). As a point of departure, the specialising areas of accounting education along with their respective professional bodies will be outlined. In the interest of this study, only accounting professional bodies that affiliate with South African HEIs will be considered.

Table 3.3: Accounting bodies in South Africa

Specialisation	**Professional body**	**Acronym**
Accountancy	South African Institute of Chartered Accountants	SAICA
	South African Institute of Professional Accountants	SAIPA
	Association of Chartered Certified Accountants	ACCA
	Institute of Accounting and Commerce	IAC
	South African Accounting Academy	SAAA
Auditing	Institute of Internal Auditors South Africa	IIA(SA)
	Independent Regulatory Board for Auditors	IRBA
Management Accounting	American Institute of Certified Public Accountants & Chartered Institute of Management Accountants (formerly known as Chartered Institute of Management Accountants)	AICPA-CIMA
Financial Management	Chartered Financial Analyst Institute	CFA
	Chartered Institute for Business Accountants (formerly known as South Africa Institute of Business Accountants)	CIBA (SAIBA)
Taxation	South African Institute of Tax Practitioners	SAIT

Source: Own compilation

In the interest of this research, a professional body can be described as any council of expert practitioners in a field, including occupational bodies and statutory councils (Ballim, Mabizela & Mubangizi 2014:1144; SAQA 2018:6). The key roles of professional bodies have been summarised as follows (Ballim et al 2014:1147):

- Establish, control, monitor and develop quality standards that guide their profession and graduates wishing to enter their profession;
- Safeguard the interest of the public;
- Represent the interests of practitioners within their profession; and
- Advance the interests and development of the profession itself.

The above-mentioned roles are fundamental for HEIs affiliated with professional bodies. Nonetheless, HEIs can benefit from involving external industry partners such as professional bodies as recommended by the CHE (2011:51). For instance, Phan, Yapa and Nguyen (2020:392) concluded that AICPA-CIMA's "ready for business" projects may be useful for closing the expectations performance gaps between employers and MA graduates. The previous-mentioned study further acknowledges that active learning activities such as project-based learning and WIL were useful to fill the expectation gaps between graduates and employers. The AICPA-CIMA's "ready for business" project resulted after the professional body conducted global research towards bridging the employability gap for MA graduates and professionals (AICPA & CIMA 2019:3-4). The previously mentioned project highlighted the need to address the disconnect between educators' priorities and the skills required in business. The AICPA-CIMA alluded to the change that the finance profession is undergoing and suggested that MA students need to possess accounting skills, business acumen, people skills, and leadership skills which must be underpinned by ethical conduct, integrity, and professionalism (AICPA & CIMA 2023:4-7). In context of this research project, the incorporation of the AICPA-CIMA's competency requirements for the delivery of a WIL (Simulations) curriculum under MAE HEIs warrants further research.

It has become apparent that graduates who possess pervasive skills are important for employers, professional bodies and associates. Similarly, the SAIPA (2025:1) accredits accounting education programmes within South African HEIs provided that they meet its educational standards and prepare students for industry. Similarly, the AICPA-CIMA endorsed several South African qualifications, including the University of South Africa's (Unisa) Advanced Diploma in MA (Unisa 2023:1), Stellenbosch University's (SUN) Bachelor of Commerce (BCom) in MA (SUN 2025:1), and University of Johannesburg's (UJ) Advanced Diploma in Financial Management (UJ 2022:2). Candidates who obtained these qualifications may qualify for examination exemptions outlined in Table 3.2 above. Conversely, limited literature exists pertaining to the recognition of experiential learning outcomes by accounting bodies within South Africa as WIL is typically pegged within UoTs not endorsed by professional bodies. A study conducted by Rudman and Kruger (2014:611) elaborated that experiential learning in the form of group work is still an insignificant part of HEIs' teaching

framework for MAE within South Africa. Moreover, the lack of experiential learning and poor pervasive skills development led to most professional bodies updating their competency models and syllabuses they prescribe to HEIs (Rudman & Kruger 2014:612). In their conclusion, Rudman and Kruger (2014:618) indicated that obstacles in offering experiential learning in the form of group projects were observed relating to group selection, size, management and assessment.

Tertiary institutions offering MAE affiliated with professional bodies provide are perceived to provide sophisticated curriculums (Venter & de Villiers 2013:1246). Although the previously mentioned relationship between HEIs and professional bodies has various benefits, it is not without challenges. SAICA came into scrutiny under de Villers and Venter's (2013:1246) study which stated that HEIs felt the accounting body has a dominant hold within accountancy education coupled with wide-ranging demands. Similarly, Bellim et al (2014:1148) argued that accounting faculties in higher education have lost their research focus to become more teaching intensive to meet professional bodies' demands. Furthermore, Lassou, Hopper, and Ntim (2021:2) indicated that a major concern with contextualising international accounting standards within an African context is a challenge because it may lead to weak regulatory frameworks and enforcements. As noted by Segotso, Mvunabandi and Phesa (2024:132), South Africa consists of individuals with diverse backgrounds, which may result in language comprehension bottlenecks when implementing international accounting standards in general and within HEI curriculum due to weak mathematical and language skills among students (Sithole & Dube 2025:375).

3.3.2.3 Limited recognition of MA profession

The discussions on MA characteristics, professional requirements and career streams will serve as a valid argument for MA to be recognised as a profession. Similar to any other accounting and finance profession, MA has a set of occupational requirements that individuals should fulfil prior to entering practice. These requirements include formal training and education, skills development, practical experience, and adherence to ethical and regulatory standards, while maintaining relationships with a professional body (AICPA & CIMA 2022:1). While charter holders within the MA profession enjoy international status and recognition (Shuttleworth 2014:336), HEIs often experience higher student drop-out rates within accounting programmes

(Machera 2016:14; Sithole & Dube 2025:376). The SAIPA (2023:8) described the significant drain in accounting talent as a grave concern due to the threat it poses to the accounting job market. Conversely, the previous concern links with Shuttleworth's (2014:336) assertions that there is "low awareness" among first-year accounting students and accounting teachers with regards to the career opportunities in the MA field as well as the requirements towards becoming an MA charter holder. Additionally, low through-put rates among accounting students have been largely attributable to poor mathematics skills (SAIPA 2018:1) and social and financial difficulties (Machera 2016:15) coupled with a complex workload and time taken to meet certification requirements.

A study conducted by Roos (2009:48) states that success rate among students studying towards MA chartership is largely dependent on their age, tuition and, most importantly, the quality of study material utilised. The AICPA-CIMA, through its Quality Through Partnership (QTP) system aims to provide quality control for educational partners that offer its tuition (McChery & Paisey 2003:197). According to Fouché and van der Merwe (2020:16), students from South African educational partners affiliated with AICPA-CIMA are deemed to be better prepared for AICPA-CIMA exams and often qualify for certain course exemptions as discussed above. The previously mentioned matter was raised by Lima, Pinho, Bugarim, Craig and Machado (2018:48-50) who concluded that accounting graduates from SAICA accredited institutions were more successful in AICPA-CIMA examinations compared to graduates from non-accredited ones. Moreover, Viviers, De Villiers, and Van der Merwe (2023:648) pointed out that "self-efficacy", which relates to one's beliefs, thoughts and feelings individuals have regarding their personal capabilities, was positively correlated to academic performance among accounting education students, irrespective of whether students were studying towards a professional designation or not.

Various suggestions have been made for high schools, HEIs, and professional bodies to promote MAE and the MA professional designation (Roos 2009:54; Shuttleworth 2014:346). As a mechanism of addressing the critical skills shortages within the accounting and finance field in South Africa, innovative ways of growing the number MA professionals remain a priority (FASSET 2023:18). In the same vein, the entry-level management accountants' competency framework addresses the need for

educational partners to embed skills and proficiencies within curricula for students studying towards MAE (IMA 2019:4-7).

3.3.3 Evolving professional skills for the modern management accountant

The evolution of MA has triggered much concern regarding its identity within the literature (Wolf, Kuttner, Feldbauer-Durstmüller & Mitter 2020:312; Zainuddin & Sulaiman 2016:466). Several publications have cited that the role of management accountants evolved from being a "bean counter" to a business partner (Wolf et al 2020:212). More specifically, Neilsen (2017:2-3) explicates the role link between business analytics and MA in the modern business world of data. In another study, Morales (2019:252) advocates that management accountants ought to build symbiotic categories between what they do and who they are. Morales (2019:252) further identified these symbiotic categories as "support" or "partnership" duties, stating that such labels may provide clarity on the role MA fills in business.

Professional bodies for MA have observed that business leaders require dexterity and futuristic predicting skills within uncontrollable economic conditions based on action and thought (Horton & de Araujo Wanderley 2018:40-44). According to AICPA-CIMA (2022:1), management accountants require a "mind-shift" from compliance and adherence to seek more engagements as significant business partners. This mind-shift has been based on the change in the functional role of management accountants (AICPA-CIMA 2017:1). Additionally, AICPA-CIMA (2022:1) summarised the following aspects regarding the MA profession:

i) For modern organisations, the management accountant should provide multiple services. These should include planning and control, financial management and control, performance management, etc.

ii) For professionals, the management accountant should offer growth in a rather influential, trusted, and respected profession with career roles that strongly lead towards value creation (financial planning, mergers and acquisitions and related services) as well as value stewardship (strengthened internal controls and risk management aimed at protecting value creation).

The above changes in responsibilities for the MA profession are consistent with Jackson, Michelson and Muhir's (2022:3) observations where they cited how newer

technologies have influenced skill sets required by industries. Crucial for this research study is identifying the extent to which higher educational institutions of technology develop employability skills for the MA profession. Figure 3.2 demonstrates the 21st century employability skills-set expected from MA professionals:

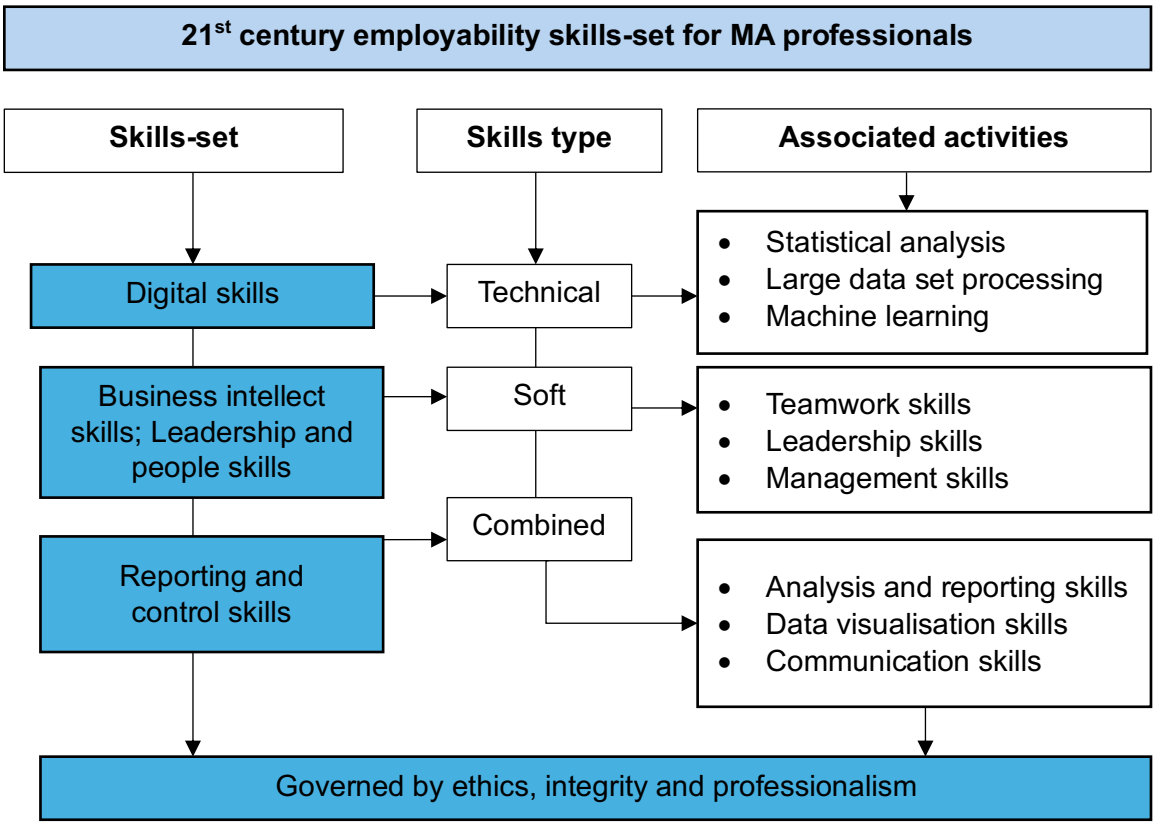


Figure 3. 2: Modern employability skills-set for MA professionals

Source: CGMA competency framework (AICPA-CIMA 2019:4-7)

Figure 3.2 above depicts a collection of generic employability skill-sets for accounting professionals as depicted by the AICPA-CIMA's (2019:4-7) updated competency framework. In the context of this research, a review of the CGMA competency framework has been considered. As echoed, the CGMA framework signifies five key knowledge areas, namely: i) digital skills; ii) business intellect skills, iii) leadership skills; iv) people skills, v) reporting and controls skills. The previously mentioned skills are governed by ethics, integrity, and professionalism, and can be described as follows (AICPA & CIMA 2019:4-7):

- **Technical skills**: MA practitioners should possess the competency to technically apply accounting and finance skills with a range of business conditions;

- **Business skills**: The ability to transform raw data into business insights and strategies should be demonstrated by MA practitioners;
- **People skills**: The use of professional and business language to communicate, influence, negotiate and collaborate must be customary for management accountants;
- **Leadership skills**: MA professionals must possess leadership capabilities to build and motivate teams as a method to drive performance; and
- **Digital skills**: Finance functions must be managed and guided with the use of technology in a digital world.

As an illustration, the researcher categorised CGMA's competency framework skills into the following categories: i) skills type (soft skills, technical skills or combined) and ii) associated activities (tasks and functions performed). The framework aims to train MA professionals to acquire expert aptitude in finance skills, operations, strategy, and performance management competencies underpinned by international research to preserve the uppermost relevance with industries for developing highly demanded skills (AICPA-CIMA 2019:3). Additionally, MA-skills-sets for the 21st century have been discussed in recent literature (Banasik & Jubb 2021:256; Huttunen, Jauhianen, Lehti, Nylund, Martikainen & Lehner 2019:16-17; Smith 2017:2-4). Smith (2017:2-4) summarised three skills as being crucial for future-ready management accountants, namely: a) data analytical skills, b) business intellect skills, and c) reporting skills. Translating the previously outlined skills into SBE for MA could include the following instances:

- Data analytical skills: simulations activities that centre on students interrogating simulated financial data to conduct cost-volume-profit analysis on Microsoft Excel ® for formative assessments.
- Business intellect skills: Within simulations for MA, students could demonstrate strategic decision-making within a simulated organisation introducing a new product to the market. Such a high-stake assessment may require students to demonstrate an integration between formative and summative learning outcomes as they are assessed on their abilities to translate strategic objectives into operational budgets.

- Reporting skills: Professional communication skills, stakeholder engagement, and persuasive reporting could be assessed by students presenting a year-to-year financial performance of a real-world company to simulated board members.

According to Radovilsky, Hedge, Acharya, and Uma (2018:82), big data has had a prolific influence on the manner in which most organisations make business decisions. The concept of big data has necessitated organisations to make their business decisions based on data, technology, quantitative analysis, and decision-making support (Radovilsky et al 2018:82). The relevance of big data analysis within MA roles has been investigated by Appelbaum, Kogan, Vasarhelyi and Yan (2017:29) where the authors constructed a framework called MA data analytics. The previously mentioned framework alludes to the usefulness of data analysis to MA pillars related to cost accounting, performance management and planning or decision-making (Appelbaum et al 2017:29). Conversely, AlAnsari, Alqadhi, Aljawder, and Wadi (2022:512) highlighted the progress of AI within MA, emphasising that practitioners need to align with modern MA practices.

The second part of the skills-set, namely, business intellect skills mainly revolve around non-technical skills aimed at improved business competencies for accounting professionals. In a study conducted by de Villiers (2010:2-4), the researcher explored the significance of soft rational skills that includes business presentation skills, interpersonal and teamwork skills within accounting graduates, citing a higher demand for graduates who demonstrated these attributes. Karlsson, Hersinger and Kurkkio (2019:186) furthermore highlighted the evolution of the "hybrid management accountant", citing the prevalence of pervasive characteristics for management accountants in fulfilling a business partner role. To fulfil a business partner role, management accountants should possess business attributes that include the scorekeeping of financial information and management decision-making competencies so that they can act as value-adding internal consultants within organisations (Halbouni & Nour 2013:286; Karlsson et al 2019:187-189; Zainuddin & Sulaiman 2016:466).

The MA skills-set for the 21stcentury professional include corporate reporting competencies that integrate big data management, corporate communication, and

reporting. According to the Association of Chartered Certified Accountants (ACCA), effective communication remains a core activity within the finance and accounting profession as it serves the purpose of coordination and control for organisations (ACCA 2021:1). Conversely, strong communication skills include the ability to convey both verbal and non-verbal messages effectively within corporations (Viviers 2016:242). The impact that big data and technology have had on communication skills required by MA practitioners has been documented by Al-Htaybat and von Alberti-Alhtaybat (2017:850). One of the noted concerns faced by organisations in the 21st century is the incorporation of large data required for corporate reporting and decision-making activities (Kokina, Gilleran, Blanchette & Stoddard 2021:153-156). According to Younis (2020:92), the previously mentioned challenge can be mitigated through data management and analytical skills that may assist management accountants in providing quality accounting information. Rendering to IMA (2019:4-7), MA reporting involves a range of activities that include descriptive data aimed at analysing trends, interpretive abilities and predictive capabilities. Additionally, sustainability reporting has become integral within MA reporting. According to Delloitte (2016:2), accounting professionals have a corporate and social responsibility to report on environmental issues, social aspects, and governmental matters to allow for more business transparency and operations.

In synthesis, the change in economic conditions and business operations have necessitated a thorough review on the skills required by industry for the MA professional (AICPA & CIMA 2019:4). As reiterated by Smith (2017:2-4), future-ready management accountants should possess data analytical skills, business intellect skills and reporting skills as discussed. In support of this statement is the competency framework that AICPA-CIMA published for the 21st century management accountant. Evidently, HEIs offering MAE should provide MA programmes that are aligned with the skills-set requirements for industry-readiness. Contextually, the discussed changes justify the significance for a WIL framework consistent with modern MA competency requirements.

3.3.4 Drivers of change in MA

The change in business operations has become a key driving force for the changing role of finance professionals, including management accountants. Huttunen et al (2019:15) are of the opinion that big data and analytical tools such as machine learning and data science are beneficial for the financial sector. The description of MA and its core competency requirements have been revised as an adjustment to the discussed changes (AICPA-CIMA 2019:1-4; IMA 2019:4-7). Table 3.4 below summarises research conducted on the changes that MA is undergoing:

Table 3.4: Key change drivers for the MA role: professional body and literature perspectives

#	Category*	Key change driver	Publications	Possible implications evident from literature
a)	Technology and management systems	i) Information technology	Andreassen 2020:209; AlAnsari et al 2022:512; Bhimani 2020:9-23; Möller et al 2020:1-8;	Industry-readiness for entry-level graduates; development of IT and data science skills; big data analytics; rapid change in MA profession; redundant/repetitive skills
		ii) Big data	Bhimani 2020:9-13; Krahel & William 2015:409-412; Warren, Moffitt & Byrnes 2015:397	
b)	Management and business position	iii) Business structure	Alsharari 2020:165; Azudin & Mansor 2018:222; Wickramasinghe, Cooper & Alawattage 2021:1	Business acumen development; strategic thinking, decision-making competencies; predictive skills; decentralisation of business organisations; management
		iv) Global competitiveness	Alsoboa & Aldehayyat 2013:526; Dent 1996:247; Hutahayan 2020:197	
c)	Regulatory reporting	v) Environment and sustainability	Gibassier & Alcouffe 2018:1-3; Maas, Schaltegger & Crutzen 2016:237; Soderstrom, Soderstrom & Stewart 2017:59-63;	Corporate social responsibility

			Schaltegger & Burritt 2018:241	
		vi) Rules and regulations	Ioannou & Serafeim 2019:11; Senn & Giordano-Spring 2020:1367)	

Source: Own compilation

3.3.4.1 Changes in technology and management systems

MA roles have been largely impacted by technology, which was cited to be the main change within the profession (Möller et al 2020:3). Earlier research indicated that firms become more competitive, requiring production technology that ascertained flexibility, mass production and satisfying clients (Foster & Gupta 1994:43). In agreement with the impact that technology has had on MA is the study by Xydias-Lobo, Tilt and Forsaith's (2004:56). In their study, Xydias-Lobo et al (2004:56) highlight that changes within business settings often lead to technological modification on how businesses operate and how they are managed. Owing to the rapid technological advancements and manufacturing within the 4IR era, big data has had a significant impact on management accountants' duties in organisations (Krahel & William 2015:409-412; Warren et al 2015:397). Halaweh and Massry (2015:21) described big data as bulky and incredibly volatile information assets that require innovative methods of processing for the purposes of enhanced decision making and process optimisation.

Traditionally, the notion of big data was specifically classified under the information technology (IT) field; however, the rapid integration of technology with various disciplines has led to a digital economy (Davenport, Barth & Bean (2012:23). In their research, Davenport et al (2012:26) echoed that professionals with data management skills coupled with business acumen and communication skills were highly demanded. Furthermore, a study conducted by Fahlevi, Irsyadillah, Indriani and Oktari (2022:325-336) investigated the changes in MA, stating that big data analytics accelerated the transformation of the profession. The previously mentioned authors concluded that management accountants with big data analytics skills managed cost accounting and control systems more effectively (Fahlevi et al 2022:344).

Contextually, big data analytics skills are believed to enhance the way MA professionals perform their roles within organisations. Presently, tertiary education for MA within South Africa offers little exposure to data management and analysis topics which are vital for the digital era (Botes & Sharma 2017:16). Consistent with prior studies (Barac 2009:19), the perception gap for IT is an aspect for which MAE has been critiqued. Botes and Sharma (2017:15-16) argue that MAE in South Africa poorly explains the influence that IT has on business operations. In addition, the identified IT gaps within MAE will affect the WIL curricula for MA at tertial levels. Similarly, WIL in the form of simulations for MAE needs to consider addressing IT education that relates to data management, big data processing and analysis.

3.3.4.2 Changes in management styles and business positioning

The two key aspects of this category lie within the changing organisational structures and global competitiveness in current business practices. This change in business structure and management has been explored in recent literature (Martinez 2022:2299; Moşteanu 2020:278; Ramdani, Binsaif & Boukrami 2019:93) and its impact on MA as a profession (Azudin & Mansor 2018:222; Wickramasinghe et al 2021:489). As argued by Langmann (2019:4), MA professionals ought to be comprehensive, covering management tasks as a business partner. The change in MA professionals moving from employees to business partners has led to management decentralisation within organisations (AICPA & CIMA 2022:3). Several researchers have pointed out that organisational aspects of business and governance have been a pivotal driver of MA change (Joshi & Bremser 2004:363; Karlsson et al 2019:185). Heinzelmann (2018:465) highlighted an “occupational identity change” for management accountants while Zainuddin and Sulaiman (2016:467) indicated that organisational factors such as the change in work patterns, management style, product quality, and organisational restructuring have had a significant impact on the role of MA professionals. The perception of MA roles has been investigated by Hopper (1980:401) under two indistinct management style systems, namely: a centralised function compared to a decentralised function. Figure 3.3 below illustrates the direct impact that management styles may have on management accountants:

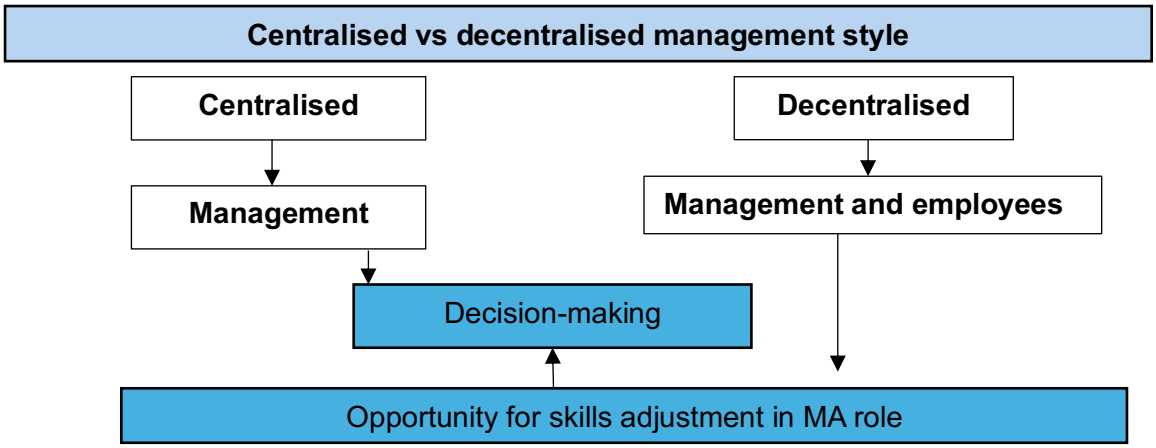


Figure 3. 3: Centralised vs decentralised management style

Source: Own compilation; based on Hopper (1980:401)

As observed in Figure 3.3 above, a centralised management style requires its decision-making and advisory activities to be practised by top management. In contrast, a decentralised system allows employees to participate in management decision activities (Čudanov, Jaško & Jevtić 2009:96). Moreover, a decentralised management style presents the management accountant with opportunities to develop their leadership and advisory skills (Goretzki & Messner 2019:1-3).

An earlier study conducted by Chia (1995:811) in Singapore examined the effects of combining MA systems and decentralisation on managerial performance. This study provided some insights into lucrative internal control subsystems that may improve managerial performance within an organisation. In a similar, more recent study, Fuzi, Habidin, Janudin and Ong (2018:4) explored comparable issues investigating critical success factors that may contribute to developing MA systems for decentralised companies in construction. This study concluded that MA systems contain classic target-performance comparisons related to certain critical success factors but not all success factors can be measured as they are qualitative in nature Nevertheless, Silawati, Ekawati, Putri, and Kurniawan's (2024:82) study revealed minimum influence pertaining to decentralisation and management accounting systems on managerial performance, possibly influenced by organisational policies that refrain from allowing or enabling lower management to be involved in decision-making activities. However, the change in management structure, style, and increased global competition has resulted in the role of MA to adjust towards decision-making and advisory roles (Wolf et al 2020:318).

These changes are driven by a central shift in economic and business activities which leads to an innovative function for management accountants (Merchant 2012:334). In agreement with the previous assertion Rautiainen, Scapens, Järvenpää, Auvinen, and Sajasalo (2024:2) echoed that the management accountant's role is becoming somewhat "fluid" due to the use of digital tools such as AI and other automations, requiring practitioners to constantly adjust for "accommodating the shifting role expectations and changing context-specific demands". This observation links with the AICPA-CIMA's (2025:18) observations that a surprising gap exists between AI's potential and its actual use for personal productivity. The previous study by the AICPA-CIMA conducted on 1000 SMEs highlighted that the vast majority of younger employees (between the ages of 18 and 34) used AI tools for research and learning, followed by creative tasks and communication, suggesting that while younger workers are willing to explore AI within MA practice, more guidance may be needed to unlock its full productivity potential (AICPA & CIMA 2025:18-19). Holistically, these new dimensions should be contextualised within HEIs offering an MAE curriculum in preparing graduates for industry.

3.3.4.3 Changes in regulatory reporting

MA professionals as business partners of organisations are expected to contribute towards comprehensive reporting that entails compiling data and information not limited only to investors, but also to relevant authorities as a necessary means to demonstrate compliance (AICPA & CIMA 2019:7). According to the AICPA-CIMA (2019:7-8), management accountants should take charge in tax policies and processes, while evaluating external effects from changes regarding government policies and new regulatory laws within the country of business operations. As pointed out by Senn and Giordano-Spring (2017:1367), regulatory reporting with regards to corporate sustainability reporting remains a disclosure concern due to poor guidance in regulations. As a cornerstone of environmental accounting, corporate sustainability reporting refers to an organisation's responsibility for the disclosure and communication of environmental, social, and governance objectives (Mitchell & Hill 2009:48). Reporting concerns were raised by Senn and Giordano-Spring (2017:1369) stating that regulatory disclosure research is still in its infancy and should be further explored.

Considering research conducted by Ioannou and Serafeim (2019:3) on the consequences of mandatory corporate sustainability reporting, the study revealed that companies in China, Denmark, Malaysia, and South Africa showed higher quality of disclosure and higher corporate value. In their investigation, Maas et al (2016:237) noted that performance assessment, management accounting, management control, and reporting were predominantly dealt with in isolation. Additionally, Maas et al (2016:237) suggested an integrated reporting framework that may assist in linking these various concepts for an integrated reporting approach. The diversity of services and the interests of the MA profession in modern years have been cumulative. It has become apparent that regulatory reporting has been incorporated in internal and external audits, financial reporting standards, and corporate governance (Amanamah 2024:36). MAE at tertial level must provide opportunities for students to practice corporate reporting skills that will provide graduates with the necessary knowledge and competence to achieve success in the MA profession. WIL for MA at higher education level should consider practical learning opportunities on how corporate sustainability reporting is conducted for work-readiness.

3.4 MA competency framework

As discussed in Section 3.3.4, the role of accountants, including management accountants, has gone through a wave of change due to the factors discussed. Technology appears to be eliminating redundant and repetitive routine tasks to allow for greater time spent on strategic and value-adding duties (IMA 2021:3). This section introduces the MA competency framework from a global perspective. While various professional bodies exist within the MA profession, this discussion will predominantly focus on the framework and literature associated with the IMA and the AICPA-CIMA. This framework allows for narrowing down competencies that HEIs should impart into MAE curriculums, including WIL components.

Entry level accountants are expected to possess competencies over and above technical knowledge to acquire dexterities in communication, analytical and technological skills (Barac 2009:19). Further observations by Spraakman, O'Grady, Askarany and Akroyd (2015:403) alluded to MA graduates being expected to hold strong IT knowledge and communication skills. Consistent with this are Tan and

Laswad (2018:404), Howcroft (2017:459), and Jiang and Alexakis (2017:32) who indicated that entry-level management accountants' required competencies are evolving towards attributes such as communication, problem solving, interpersonal, flexibility/adapt, leadership and data management skills. As this research study embarks on creating a framework aimed at developing graduate attributes for MAE relevant for current industry demands, it is therefore vital to outline the globally accepted competencies expected by professional bodies for MA. Figure 3.4 below illustrates entry-level professional competencies as suggested by the IMA:

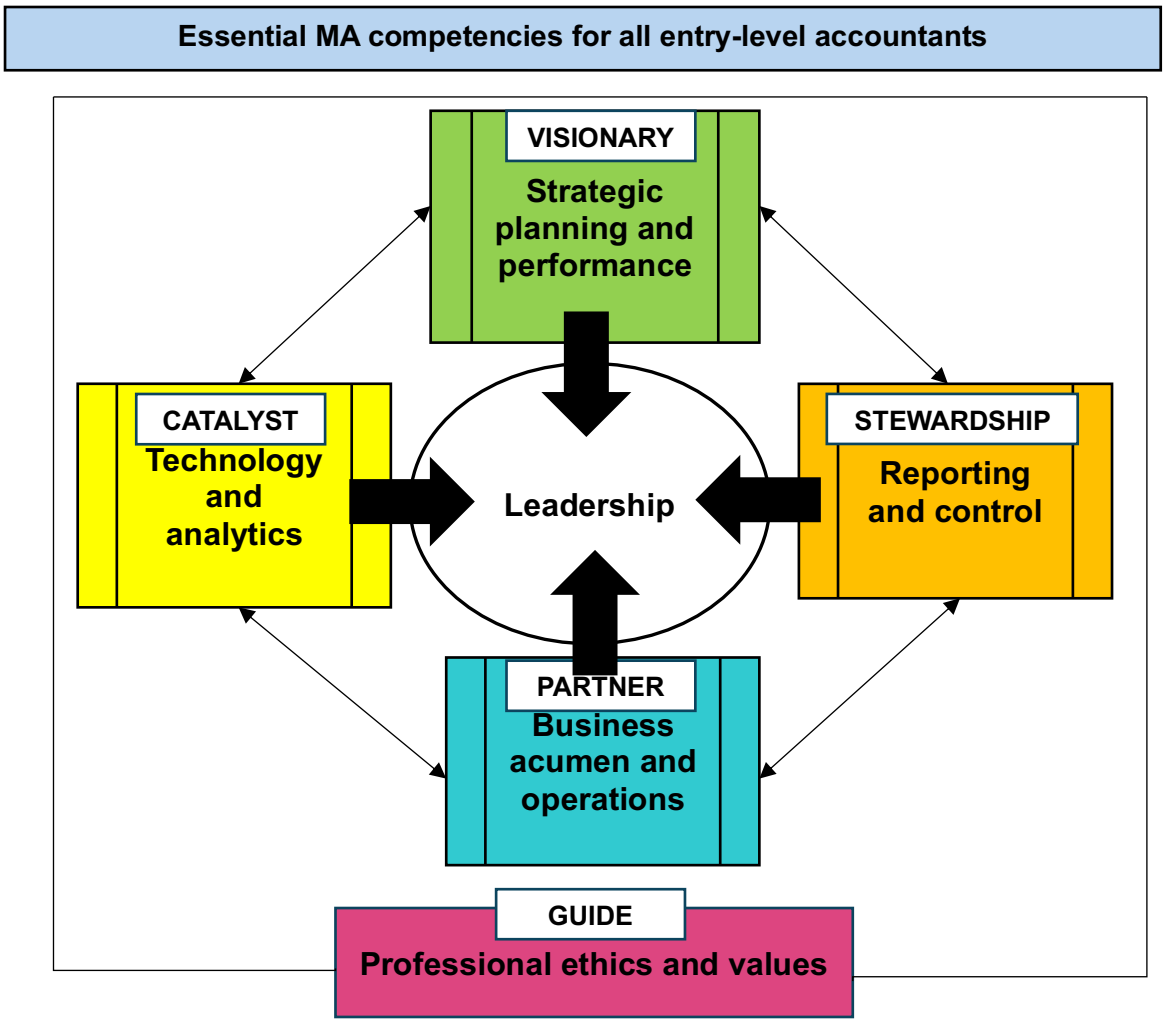


Figure 3. 4: IMA competencies for entry-level accountants

Source: IMA (2021:3-4)

MA at entry-level should build their profession towards becoming leaders by developing strategic planning skills, technical and advanced reporting skills, business acumen, and perform duties with the use of technology while guided by ethics (IMA

(2021:4). As illustrated in Figure 3.4 above, the four domains of competences focus on the following:

a) Visionary: MA at entry level should demonstrate the capability of performing strategy and performance planning. Simply stated, visionary skills are also believed to be forward-thinking capabilities where MA professionals proactively identify possible problems within business models and envisage effective solutions prior to those challenges arising.
b) Catalyst*:* The use of effective methods for performing tasks is considered a vital attribute for the MA graduate. At entry-level, management accountants should demonstrate the ability to use technology and data analysis software for the purposes of processing data efficiently.
c) Stewardship: MA graduates should exhibit financial stewardship by protecting an organisation's assets by being committed to moral, ethical and judicious financial decision-making.
d) Partner: MA should provide information require by management aimed at driving strategy, goals, and the vision of the organisation.

In creating the four domains of competence for entry-level management accountants, the IMA task force concluded the following: The territory of MA has been a crucial part of an accountant's competencies. MA, with its focus on strategy, analysis, decision-making and integration, is even more indispensable today. Nonetheless, the time constrictions of accounting programmes require HEIs to cautiously prioritise the important facets of MA for their students IMA (2021:3).

Contextually, the suggestion made by IMA (2021:3) to embed competencies within MA curricula resonates with the objective of this research. Competencies outlined in Table 3.5 below highlight skills to be developed at entry-level in accordance with IMA (2021:3-5):

Table 3. 5: IMA core competencies for entry-level management accountants

Domain	Competencies
Strategic MA and analysis	Strategic and tactical planning; decision analysis; budgeting and forecasting; performance management
Revenue, cost, and profitability management	Revenue management; managerial costing; profitability management
Technology, analytics, and data management	Management information systems; data analytics; technology-enabled finance transformation
Professional ethics	Personal ethics; organisational ethics

Source: IMA (2021:3-5)

Additionally, the IMA's (2021:3-5) report on entry-level competencies for management accountants suggested that soft skills such as communication, cross functional teamwork, self-management, and critical thinking, which are vital within business curriculum, are included in the curriculum. In section 3.5 that follows, the researcher will discuss higher education's role for developing MA skills, with special attention given to experiential learning in the form of WIL (Simulations). The significance of WIL activities for MA students lies with their effectiveness at developing pervasive skills required at entry-level. In this context, academic stakeholders, practitioners, and professional bodies should consider that teaching methods, strategies, technological services, and initiatives are evolving towards holistic education as echoed by the CHE (2011:4, 17, 51). The researcher will discuss professional knowledge systems at higher education, knowledge transfers and curriculum development in the field of MAE. Thereafter, the section will review WIL (Simulations) for MAE with close attention paid to objectives, offering modes, curriculum, assessment and monitoring practices.

3.5 Higher education's role in developing MA skills-set

The key to the development of graduate attributes and competencies at higher education level is the combination of theoretical and practical modes of learning through WIL (CHE 2011:17; Ferns et al 2024:371; Wait & Govender 2016:284). This is also valid for MA programmes (Fouchè & van der Merwe 2020:52; Leong & Kavanagh 2013:3; Ugrin, Odom, Honn & Rose 2021:43-44). In the interest of this research, the use of WIL (Simulations) delivered under MAE will be the central focus.

There is increased enthusiasm around tertiary institutions to produce industry-ready graduates who are not only employable but may contribute towards community and socio-economic development (CHE 2011:6; DHET 2024:14; Walker & Fongwa 2017:29). The Education, Training and Development Practices (ETDP) Sector Education and Training Authority (SETA), higher education sector, in collaboration with the private sector, provincial and local governments and global associates can play a pivotal role in social development through WIL partnerships between educational institutions and industries (ETDP 2019:13). Moreover, the research on HEIs to expand capacities aims at offering best practices for WIL through staff development (Smith & Hill 2019:384). While the justification of WIL for MAE was discussed in Chapter 2, this section aims to elaborate on higher education's role in developing MA skills by discussing the design, implementation, assessment, and monitoring practices for a WIL (Simulations) curriculum. In addition, this section aims to address the following research objectives and questions outlined in Chapter 1 under Section 4 which read as follows:

- Research Sub-objective 1 (RSO1): Investigate the administrative and delivery practices of a WIL (Simulations) curriculum for MAEas incorporated under the HEQSF (2013) concerning its design, implementation, assessment, and monitoring practices within South African UoTs. This in turn will answer the research sub-question 1 (RSQ1): What are the best practices for implementing WIL within management accounting education at HEIs with reference to guidelines set by the CHE (2011) and the HEQSF (2013) for South Africa UoTs?

- Research Sub-objective 2 (RSO2): obtain innovative methods to embed theory-practice integration within WIL (Simulations) curriculum in developing graduate skills and professional competencies for South African UoTs students. This in turn will answer the research sub-question 2 (RSQ2): How can WIL (Simulations) assist in the development of management accounting graduate skills and professional competencies demanded by the industry for South African UoTs, thereby narrowing the gap between those acquired through HEIs and those demanded by industry?

3.5.1 Professional knowledge systems for HEIs in South Africa

South Africa's higher education system has been largely influenced by expert authorities where various professional bodies contribute towards the development in curriculum designs, assessments, and management in various fields (CHE 2011:6). According to Mashile (2002:175), many academic institutions seek association with professional councils for guidelines aimed at achieving ideal practice in teaching, offering, learning, quality assurance and continuous development of staff skills. South African higher education programmes that are associated with professional bodies have always been highly regarded for keeping abreast with quality curricula, assessments, and experiential learning (Ballim et al 2014:1140-1142).

While a clear distinction of skills and knowledge acquired exists between various NQF exist levels, for instance, exit learning outcomes between a Diploma in MA and an Honours in MA, experiential learning in the form of WIL has continuously been an integral part of technical, vocational, and professional higher education and training (CHE 2011:7). CHE's model for knowledge transfer within higher education systems is of the notion that industry demands drive higher education institutions to create and offer programmes that address those demands through skills transfer modes such as WIL (CHE 2011:8). While WIL is not aimed at fast tracking real corporate experience for MA, it has been praised for embedding soft skills required by industry (Bishop 2019:25). In the context of this study, the researcher aims to apply CHE's knowledge transfer model for MAE. Envisioned by the researcher, knowledge transfer system within MAE is illustrated in Figure 3.5 below:



Figure 3. 5: Conceptual model for knowledge transfer

Source: Own compilation with partial adaptation from CHE's traditional professional knowledge system in a WIL approach (CHE 2011:8)

As economic climates, business trends, and operations change, the need for newer job descriptions within the field of MA is fast-tracked (Bishop 2019:20; Botes & Sharma 2017:107; IMA 2015:2), which often leads to new ideas and methods of practice. In their pivotal role as researchers, HEIs ought to keep abreast with trending and relevant skills shortages evident in industry. The concepts introduced in Figure 3.5 allow for HEIs to draw up curriculum programmes and designs geared to suit current industry demands. For instance, the recent curriculum re-design initiated by CHE (2013:1), where South Africa's higher education programmes had to be fully reviewed to comply with the new HEQSF (2013), revealed various concerns regarding old university programmes in general. These concerns were highlighted in Ziegler, Chipanga and Magoda's (2020:288) study where gaps between high-school leavers and UoTs studying towards mechanical engineering were addressed in new programmes aligned with the HEQSF (2013). Furthermore, this study also revealed a need from HEIs to expose students towards longer periods of practical training for work-readiness and industry absorption. The previous concerns align with Figure 3.5 above where industry demands within MA drive HEIs to offer programmes that address their specific skills shortages. Furthermore, CHE's national standards and reviews focus on re-accrediting existing programmes as part of quality assurance (CHE 2012:1). HEIs have the responsibility to review programmes in a three-year cycle as a form of updating offered curricula (CHE 2013a:16).

In synthesis, academic institutions customarily focus on research and academic issues which are not always relevant to changing industry demands for MAE (Jansen 2018:1486). Through CHE's national reviews for South African tertial programmes, an opportunity to restructure MA curricula aimed at equipping graduates with competencies and attributes needed in today's business environment. Gianetti et al (2021:484) investigated the learning change for MA students, concluding that experiential learning designed in accordance with industry demands increased MA skills. The researchers share the sentiment that experiential education in the form of WIL for MA should align with industry demands, modelled after CHE's knowledge transfer systems.

3.5.2 Curriculum development in South Africa's higher education system

WIL implementation in South Africa's HEIs has been investigated for various disciplines (Martin, Rees & Edwards 2011:7-8; Wait & Govender 2016:286). With the change-drivers of the MA profession being outlined, the need for MA graduates who meet current industry demands is urgent (Botes & Sharma 2017:108; Calabor, Mora & Moya 2019:43; Geddes 2020:152). By critically reviewing the MAE curriculum and adopting the professional knowledge system as illustrated in Figure 3.5, a change pertaining to its subject content, learning outcomes and teaching approaches is required for the development of skills and competencies required by employers in the world of work.

According to CHE (2013:16), formal qualifications in South Africa fall under three pathways, namely: vocational, professional or general. As most qualifications offered in UoTs are vocational, this research focuses on this pathway. Vocational qualifications place a significant emphasis on application of knowledge and skills in a genuine work-based perspective, relevant to a stipulated area of proficiency. Additionally, graduates who possess a vocational qualification must be able to apply knowledge and skills from the onset under or without direct guidance (CHE 2013b:36). Vocational qualifications need to place a higher emphasis on developing skills and attributes that are linked to practice within their curricula (McKenna & Gumbi 2020:98). Conversely, as defined in Chapter 1, a curriculum is a description of a qualification's learning outcomes, the body of knowledge that students should master along with the competencies, skills, values, and attitudes they are to develop, and the performance levels they are expected to demonstrate (DHET 2021:37).

Curriculum can further refer to a complete provision of a specific academic institution, programme, a module, or a single learning lecturer of educational experience (Gravett & Heyser 2004:147). Thus, a curriculum provides a methodological plan for instruction and learning to obtain stipulated learning outcomes (CHE 2011:13). Within South Africa, curricula are structured in two ways, namely: horizontal and vertical (Erasmus 2006:3). A horizontal structured curriculum places a high emphasis on scope and integration of curriculum elements and is typically used at UoTs (Ornstein & Hunkins 2017:183). Vertical structured curricula emphasise sequence and continuity along with longitudinal placements of curriculum elements, usually adopted in traditional

university settings (Erasmus 2006:3). The merging of various academic institutions in South Africa has contributed towards the increase in comprehensive universities. According to Arnolds, Lillah and Stofile (2013:2-5) comprehensive universities offer both horizontal and vertical structured curricula, beginning a change in curriculum development. SAQA and the CHE stated that a curriculum should include:

- Goals and objectives of the education system with explicit purposes of educational institutions;
- What will be taught. This should incorporate core values, selection of broad content, arrange of content into courses, programmes and syllabuses, as well as specific skills and processes to be included;
- Strategies and approaches for instruction and learning and the relationship between teachers and learners;
- Forms of assessments, evaluation and feedback methods to be utilised along with their social benefits;
- Planning on how the curriculum will be serviced and resourced with reference to organisation of learners, time allocation, space allocation, study materials and supplies; and
- How the curriculum reflects on the interests and needs of those it services, including learners, teachers, the community, the republic, employers, the general industry, and the economy.

Considering the above aspects, the South African educational curriculum is a comprehensive model that covers instructional aspects such as setting standards, learning programme development, programme delivery and quality assurance (SAQA 2000:6-7). Within South Africa, curriculum development for HEIs refers to technical characteristics of a programme with regards to planning, implementation and evaluation, as well as parties, procedures, and techniques for a specific course (CHE 2005:50; Ornstein & Hunkins 2017:30). South Africa's higher education system adopts an outcomes-based approach for each NQF level (CHE 2005:50; De Jager & Nieuwenhuis 2005:252). The CHE (2011:13) reiterated that developed curricula should place a significant emphasis on how professional knowledge is structured within modules inferring to subject content, instruction and learning strategies and assessment. This is consistent with CHE's (2005:50) curriculum alignment assertion

that the purpose of a higher education programme ought to be supported by the content choice, learning outcomes, methods and styles of training, and assessment practice to deliver it (du Plessis 2015:17).

In alignment with this research study, Bester and Scholtz (2012:282) argued that mapping out curriculum development practices at UoTs researchers were faced with challenges such as poor staff participation and a teacher-centred approach to curriculum design with minimum application of the constructivism framework. The authors maintained that curricula design at UoTs should consider five key questions: what to teach; why they teach what they teach; how to teach; what students learn; and how do students learn (Bester & Scholtz 2012:282). These questions aimed to build on three levels of curriculum design, namely, “the intended (planned), the taught (created) and the learned (experienced)” (Bester & Scholtz 2012:282). It is therefore imperative that the incorporation of WIL within higher education allows for real-life engagements from interactive and enthusiastically valued experiences (Ferns et al 2024:373; Fleming, Martin, Hughes & Zinn 2009:189).

In synthesis, it is important to note that WIL in higher education is a vital part of curriculum development, and its design should be informed by professional practice. In other words, HEIs that intend to incorporate WIL as a professional knowledge transfer to students need to form collaborative partnerships with employers for developing required and consistent skills (Jackson & Meek 2021:63; Maisiri, Darwish & Van Dyk 2019:90). This is especially true for the MA profession that has faced fast-paced changes caused by technology, business structure changes and increased competition.

3.5.3 The absence of an established framework in the delivery of WIL (Simulations) for MA

This section highlights the constituents of WIL practice for MAE within a higher education system. Furthermore, the knowledge and practical gaps pertaining to the delivery of WIL (Simulations) for MAE have been deliberated. While there is not a “one-size-fits-all” approach for WIL, the literature reveals that effectively implementing the integration of theoretical concepts into practice and hands-on-experiences lead to work-ready graduates (CHE 2013:14; Martin et al 2011:7; Wait & Govender 2016:286).

A thorough literature search revealed an apparent research gap on the delivery of WIL (Simulations) for MA incorporated under the HEQSF (2013) for South African UoTs. While Bishop (2019:20); Rudman and Kruger van Renen (2014:187) and Wolmaran's (2006:352) studies attempt to address the use of SBE for BCom students studying MA, accounting sciences, and financial management respectively, this study focuses on UoTs' undergraduate programmes that offer MAE qualifications aligned with the HEQSF (2013) and a credit bearing WIL (Simulations) component.

The creation of a WIL curriculum within higher education aims to provide students with the following opportunities: i) experience practical work prior to graduation; ii) obtain relevant skills, professional attributes, and mindsets and iii) apply knowledge and skills *in situ* (Smith 2012:247). While the guidelines in this section are for WIL in general, the research intends to draw these existing standards in creating a framework for WIL (Simulations) for MAE. In addition, the CHE (2013:18-20) echoed that, since 1994, South Africa's higher education system has witnessed large intakes of students resulting in sub-standard quality and graduation rates caused by resilient historical and systematic factors that were not in pace with the country's needs. This report highlighted that in order to meet the country's demands and embark on educational transformation, HEIs needed to reform curricula that produced graduates with desired skills and competencies. Additionally, Forbes (2006:3-4) implied that reformed curricula should be aligned with programme objectives appropriate for the applicable NQF level underpinned with principles of an outcome-based approach to teaching and learning. Table 3.6 illustrates research conducted in SBE within finance and accounting programmes:

Table 3.6: SBE within finance and accounting programmes literature

Author(s)	**Area of investigation**	**Main findings**
De Wet and Van Niekerk (2001:93)	Business innovations in lecturers	Participants suggested that real-life businesses should be visited, and case study assessments should be adopted
Du Preez et al (2023:139)	The use of audit simulations to mirror the South African Revenue Services	The findings highlighted that the students showed increased levels of confidence when applying

	(SARS) electronic-filing platform within Auditing postgraduate students	theoretical taxation knowledge to real-life scenarios
Hough (2012:973)	Business simulations in business strategy course	Simulations can be enhanced though information and communication technology (ICT) for students
Lightbody (1997:255)	Activity-based costing simulations for MA module	Simulation tools suggested for integrating theory and practice
Stainbank (2005:129)	Annual report project case study	Participants valued the practical approach to financial reporting and unfamiliar business environment
Van Niekerk and Delport (2022:567)	Flipped classroom design for cost and MA within rural campuses	Contextualising of flipped class can improve student engagements and academic performance
Wolmarans (2006:353)	Business simulations in financial management courses	Simulations enhanced student participations and performance

Source: Own compilation

As shown in Table 3.6, Wolmarans (2006:355), for instance, suggested the use of computer-based business simulations where financial management students are exposed to simulated companies to harness practical learning experiences. Offered as a short business simulations course, learners are exposed to corporate and financial management variables useful for practical engagements (Wolmarans 2006:359). In his final comments, Wolmarans (2006:362) urges for newer research in the use of business simulations in other commercial courses. A closely related study to this research is the one conducted by Rudman and Kruger (2014:187) who scrutinised the use of simulations within South African MAE. Rudman and Kruger (2014:196) suggest that traditional MA learning tools primary focus on theoretical exposure of a specific topic in lecturers, followed by an example usually requiring some calculation. The researchers argued that traditional MA learning tools tend to be abstract with poor reference to real-life circumstances (Rudman & Kruger 2014:196). As an alternative, the researchers suggest a management accounting simulation mode where students work on a case study towards creating a business plan,

requiring students to consult external parties and compile project plans. In addition, the use of Excel skills was demonstrated as students needed to compile financial information for their business plans (Rudman & Kruger 2014:196). While the study is relevant for MAE and SBE learning experiences, it primarily focuses on BCom (Accountancy) students.

Existing local studies as shown in Table 3.6 above pertaining to MA simulations frequently employ quantitative methods such as survey-based designs (Du Preez et al 2023:139; Rudman & Kruger 2014:196; Van Niekerk & Delport 2022:567). While these approaches contribute towards evaluative understandings of SBE design and delivery for MA, they are less suited for developing an integrative framework that considers WIL, SBE, and MA skills development within a UoT context. Furthermore, the mentioned studies above do not address the critical issues such as applicability in other commercial programmes, UoTs programmes, NQF level offering and alignments with new programmes that were developed under the HEQSF (2013). The researcher's consideration of the valuable studies conducted in simulated education for closely related programmes signifies the need for further investigations in WIL for MAE within South Africa. In line with the envisioned framework for WIL (Simulations) for MA, the researcher draws from previous studies to create an experiential learning model suitable for UoTs.

3.5.4 Curriculum alignment for WIL in higher education

The purpose of accounting education research is to assist students to learn how to become professional accountants (Littleton 2016:47). In a broader sense, accounting education is considered to be the experience and practice of accounting principles within business practices. As this study's focus is on MAE within higher education, the principles of curriculum alignment will apply. As a point of departure, an inference to educationalist Biggs' (2003:65) principles of curriculum alignment will be discussed. In his theory, Biggs (2003:65-67) states that teaching and learning activities along with assessments of tasks should directly address the intended outcomes in an approach that is not limited to conventional classroom lectures, tutorials, and examinations (CHE 2011:13). Where aligned curriculums are implemented, students are given well-defined objectives, teaching and learning activities that purposefully align with the intended outcome at the appropriate level (CHE 2011:13; Kandlbinder 2014:5-6;

Squires 2012:129). Similarly, curriculum alignment for WIL aims to match programme outcomes, pedagogy and assessments (CHE 2011:13; Ferns et al 2024:371; Rowe & Zegwaard 2017:87). Figure 3.6 below illustrates a framework for mapping curricular alignment for WIL at the higher education level:

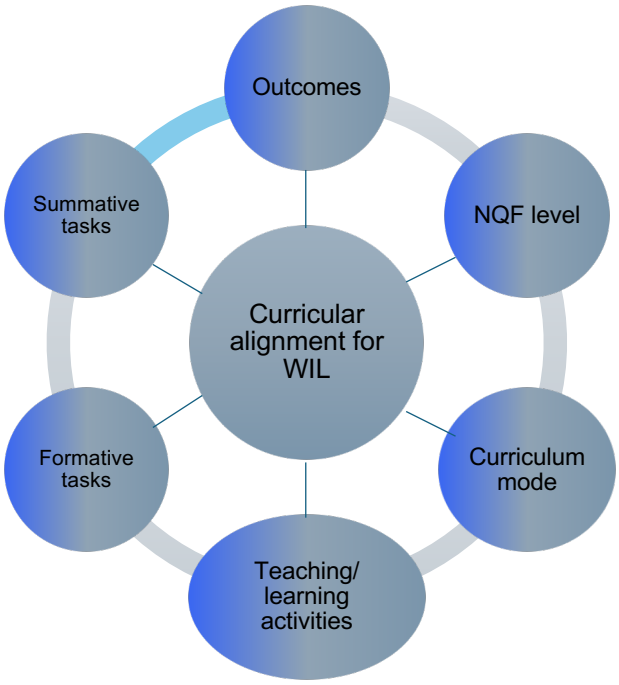


Figure 3. 6: Curricular alignment for WIL

Source: CHE (2011:13)

For curriculum alignment for WIL to be effectively implemented, its six elements need to be applied within a WIL curriculum. These elements include: i) learning outcomes; ii) NQF level; iii) offering mode; iv) teaching and learning activities; v) formative tasks, and vi) summative tasks. Applying these elements to WIL in MAE is not only necessary for consistency with CHE's requirements, but it also further provides alignment with MA learning outcomes. Moreover, as echoed by the CHE (2011:52), WIL, delivered in whichever modality, should involve external workplace partners to ensure consistent alignment with workplace practices.

3.5.4.1 Learning modes and NQF levels

Learning outcomes can be described as accounts of particular knowledge fields, skills, or proficiency that students gain from a learning activity (Ensor 2003:325). Within WIL for MAE, students may be required to demonstrate the ability to compile MA reports

and present information in such a manner that indicates deeper learning, understanding and enhanced work skills. The South African NQF is a higher educational system used to determine the qualification level that a student achieved. NQF levels are measured from five (lowest) to 10 (highest) (CHE 2011:12). WIL for MAE will have different learning outcomes that are based on NQF levels. In their research, Sathe and Yu (2021:195) applied Anderson and Krathwohl's (2001:23) taxonomy of learning approach for experiential learning in accounting programmes. The researchers suggested that experiential learning outcomes should match with programme levels:

i) First year level: Students should describe and explain business frameworks of the accounting cycle in a practical business simulation with realistic and abstract scopes;
ii) Second level: Students should reflect on previously-learning knowledge and apply accounting, MA, tax, and audit procedures for business activities in simulations and additional information stipulated by the lecturer in a factual, abstract and procedural manner; and
iii) Third year level and above: Students must practically analyse financial information prepared or provided in order to evaluate aspects such as organisational performance with the aim of making recommendations for future business activities.

3.5.4.2 Offering modes, teaching and learning activities

Offering modes are methods in which experiential learning is delivered. WIL in MAE can be offered as WBL, PjBL, PBL, WDTL and, importantly for this study, SBE. Within WIL, teaching and learning activities include actions that lead to learning such as practical sessions, tutorials, briefings, case study assignments, or self-study (CHE 2011:4-6). Additionally, Van der Vleuten, Schuwirth, Driessen, Dijkstra, Tigelaar, Baartman and van Tartwijk (2012:207) stated that teaching and learning activities should be arranged properly to provide comprehensible programme curriculum assembled in accordance with the principles of instructional design. Depending on the offering mode of WIL in MAE, learning activities for MA can include case study assignments, report writing, reflection, practical research, simulated business analysis, etc within relevant topics.

3.5.4.3 Formative and summative assessment strategy

As defined in Chapter 1, assessment strategy includes a combination of formative and summative assessments that comprise formal, non-formal, informal, and final evaluations (such as end of academic period examinations or projects) (DHET 2017:8). Formative assessments monitor student learning through tasks that provide continuous feedback used by academic instructors to improve teaching and learning activities (Van der Vleuten et al 2012:205). Moreover, formative assessments deployed within WIL may include practical case study assignments delivered on a weekly or monthly basis (CHE 2011:42). Summative assessments evaluate student learning at the end of an educational topic through standard benchmarking. Typical examples for summative assessments within experiential learning may include an integrated case study assessed at the end of a semester or year. As pointed out by Boud, Costley, Cranfield, Desai, Nikolou-Walker, Nottingham, and Wilson (2022:1323), designing WIL assessment strategies should map out how assessment frameworks support progressive learning, along with the varied responsibilities of academic and workplace partners in evaluating students, and the degree to which the assessment methods encourage students to view themselves as emerging practitioners.

It is important to distinguish between horizontal alignment, which focuses on teaching/learning and assessment activities (both summative and formative) and vertical alignment, which focuses on reaching the intended outcomes/goals (Alam & Roslan 2020:1315; CHE 2011:14). Described to be a blend of scopes that include “disciplinary development, student market and increased academic-employer debates”, curriculum alignment for WIL should be informed by professional knowledge, disciplinary knowledge, and industry needs (Barnett, Parry & Coate 2001:435).

The general belief is that the WIL curriculum requires a triple partnership between academic staff, students, and representatives of the industry in general (CHE 2011:4; Ferns et al 2024:373; Wait & Govender 2016:286;). However, concerning this study, the researcher is of the belief that a fourth party should form part of this partnership. Research reveals that professional bodies not only regulate and set competency standards required by the MA profession but also have a growing interest in how their members are trained and assessed. As WIL curricula in MA should directly reflect on

the skills and competencies compiled by MA professional bodies, there is a need for these councils to assist in the development of a WIL curriculum in MAE irrespective of the HEI type.

3.5.4.4 Level descriptors, outcomes, and credits for WIL in MAE

The framework of curriculum design is based on NQF levels that can determine the level of demand, complexity and depth of learning required by students on each study area within a programme. As a field of accountancy, MAE is offered at various NQF levels that are aligned with appropriate learning outcomes. A WIL for MAE curriculum should carefully consider level descriptors, learning outcomes and credits.

a) Level descriptors

Level descriptors are essential for educational purposes as they inform students what they are required to do in order to achieve different levels of achievement (Greatorex 2003:125). Within South Africa's education system, level descriptors in higher education are developed, facilitated through principles of practice, and include NQF levels that provide a teaching and learning platform aimed at achieving generic graduate attributes (Du Preez & Fossey 2012:346). Level descriptors are cumulative i.e.; progression is a set requirement from one level to the other (SAQA 2012:32) and their main functions entail the following:

i) defining and outlining the expected exit-level outcomes with their associated assessment criteria;
ii) embedding a qualification at a suitable NQF level;
iii) comparisons across all qualifications for various disciplines pegged at the same NQF level; and
iv) qualification programme quality and assurance management to ascertain alignment with purposes, outcomes and assessment criteria.

In creating an educational model for experiential learning, educators in MA need to ensure that the WIL curriculum adheres to the stipulated guidelines provided by SAQA (2012:32). Furthermore, curriculum alignment for WIL in MA needs to fulfil qualification purposes, outcomes, and assessment criteria requirements.

b) Learning outcomes for MAE

In constructing a WIL curriculum for MAE, it is pivotal to express the main learning outcomes that students are expected to achieve. While the formal definition of MA has been discussed under Section 3.3.1, the study aims to develop a comprehensive WIL framework that links industry objectives and MA tools. Subramaniam and Watson (2016:277) affirmed that MA is an industry practice aimed at maximising profits while minimising losses. MAE should concentrate on producing students with skills in financial planning, cost control, decision-making and problem solving (Quinn, Flood & Lynch 2013:25; Van nie Kerk & Delport 2022:567). Such students are trained to become strategic partners with firms by utilising business sense, accounting principles and financial information to assist management make sound decisions (Van Niekerk & Delport 2022:568).

Within South Africa, MAE at tertial level is offered at various qualification levels that range from NQF level five to ten (SAQA 2012:13). A field offered at different NQF levels will have different learning outcomes per learning level coupled with distinct qualification purposes (CHE 2013b:59). As a field of study, MA programmes will provide varied learning outcomes as per qualification level. In the interest of this study, the researcher echoes Bishop's (2019:23) and the SAICA's (2021:43-53) Management Accounting and Finance (MAF) learning outcomes and competencies for students. Bishop (2019:23) cited MA as a field that encompasses two sets of competencies, namely: financial management and management decision-making competencies. In addition, the SAICA's (2022:43-53) "Competencies of an Associate General Accountant (AGA)(SA) at the point of the entry into the profession" stated that all MAF acumen should encompass the following broad aspects:

i) Evaluate an organisation's costing systems, identify the financial data relevant to pricing and capacity-utilisation decisions, and critically assess the financial impact of those decisions;
ii) Perform sensitivity and scenario analyses on the key variables that affect financial outcomes; interpret the results and integrate different possible outcomes, turning probabilities and expected values into decision making;
iii) Appraise the effectiveness and suitability of an organisation's evaluation methods, including its reward structures and incentive measures; develop strategies to

manage and monitor working capital; and apply appropriate modelling techniques to calculate the organisation's cost of capital;

iv) Understand the cost of asset-specific financing options (e.g., loans, instalment sales, leases) as alternatives to the organisation's usual acquisition financing, and analyse the risk-return trade-offs involved;

v) Prepare and discuss business plans or financial proposals, adapting content and presentation to their intended purpose and audience; and

vi) Demonstrate knowledge of basic corporate funding arrangements on how capital and money markets operate and apply various methods to analyse a business's financial performance and valuation.

As alluded to earlier, the need for practical exposure for developing the above skills and competencies for students is central to this study. The suggested WIL (Simulations) for MA framework aims to address the limited practical exposure faced by students within South Africa UoTs. Additionally, the HEQSF (2013:4) indicated that qualifications offered at UoTs need to incorporate a form of WIL as part of their curriculums to ascertain skills development as stated in the CHE (2011:3) WIL guidelines. Additionally, the WIL guidelines aimed at assisting academic staff to develop appropriate forms of WIL at different NQF levels (CHE 2011:3-5) should be incorporated.

c) Graduate attributes through WIL for MA

Qualification standards are determined by the purpose of a programme along with its characteristics, learning domains, level of achievement and graduate attributes required (CHE 2013a:6). Graduate attributes refer to the knowledge, skills and competences that have been demonstrated by students through formal assessments and encompass values, attitudes, critical thinking, ethical conduct, professional behaviour, and lifelong learning (CHE 2013a:19; Keevy 2020:142). Graduate attributes development is a trending topic in MAE with the importance placed on the integration thereof in academic qualifications to enhance industry readiness (Van der Merwe 2013:1138; Viviers, Fouché & Reitsma 2016:387). A call for more research on newer and relevant graduate attribute requirements is evident (Bishop 2019:21; Jackson & Meek 2021:63-64; Van Romburgh & van der Merwe 2015:141). Other studies exploring readiness for entry-level management accountants cited the

difficulties graduates face when contextualising academic knowledge into work practice (Keevy 2020:140; Shivoro, Shalyefu & Kadhila 2017:219). Additionally, Malan and van Dyk (2020:3) stated that accounting qualifications should closely reflect on ethical awareness and communication skills for students. In their study, Dolce, Emanuel, Cisi and Ghislieri (2020:57-59) found that accounting graduates valued macro-areas of skills such as task orientation, motivation, self-awareness, and interpersonal relationships. Interestingly, the previously mentioned study reported that the same graduates undervalued other soft skills. Contextually, the development of graduate attributes has also been attributed to the use of SBE within MAE (Bishop 2020:21; Calabor et al 2019:43; Zeigler 2015:45).

3.5.5 WIL (Simulations) modality in higher education

Simulations under SBE within higher education have garnered mixed reviews with regards to their challenges and perceived benefits. Within higher education and training, simulations have been described as a learning system that recreates complex learning phenomena and/or learning experiences (Kincaid & Westerlund 2009:274). The general theory is that participants of SBE learn about specific real-world settings or procedures in order to gain cognitive skills and behaviours that can be applied in unpredictable situations (Duchatelet & Donche (2022:4-6).

Considering simulations for business education, McIntosh (2019:1) echoed that they were good for testing whether students have learned rules and regulations, but fail in teaching business acumen, strategic thinking, and leadership. The reason is that ‘training’ and ‘education’ are two distinct learning strategies where the former is aimed at practising a set of skills needed to execute specific tasks, and the latter assists in approaching unfamiliar situations where answers are needed (McIntosh (2019:1). A review of Seaton and Boyd’s (2008:107) study suggested that business simulations’ educators should use a form of “contingency approach” when choosing a teaching methodology, where the needs of students are a priority compared to those of academic staff. Perhaps this thought necessitates the need for higher education to offer simulations with the aim of developing a “specific skills-set” as suggested by McIntosh (2019:1). However, Torres and Augusto (2017:11) elaborated that, although SBE alone does affect business decision-making styles of students, it remains fruitful as an add-on to build strategic competencies within business courses. Additionally, the

previous authors concluded that business simulations are valuable in quantitative-oriented courses such as finance, accounting and investment.

3.5.5.1 Simulations modes and approaches

As an experiential learning tool, simulations-based learning in South Africa's higher education is categorised as WIL (CHE 2011:4; HEQSF 2013:11). Section 1.3.5 from Chapter 1 outlined the various WIL modalities within South Africa's higher education known as: (i) WBL, (ii) PBL, (iii) PjBL, (iv) WDTL and (v) Simulations (S) (CHE 2011:4; HEQSF 2013:11). While these are outlined as modalities, they can be presented with various approaches. For the purpose of this study, the researcher made a distinction between 'WIL (Simulations) mode' and 'WIL (Simulations) approach' as follows: WIL (Simulations) mode refers to a form of WIL where the practical learning environment is replicated from real-life situations as classified by the CHE (2011:4). A WIL (Simulations) approach is the way SBE is delivered within the academic environment. Additionally, the WIL (Simulations) mode can be presented using a single approach or a combination of approaches. The acknowledged simulated WIL approaches are: i) live simulations, ii) virtual simulations iii) constructive simulations and iv) immerse simulations (Simulation Powered Learning 2025:1) as depicted in Figure 3.7 below:

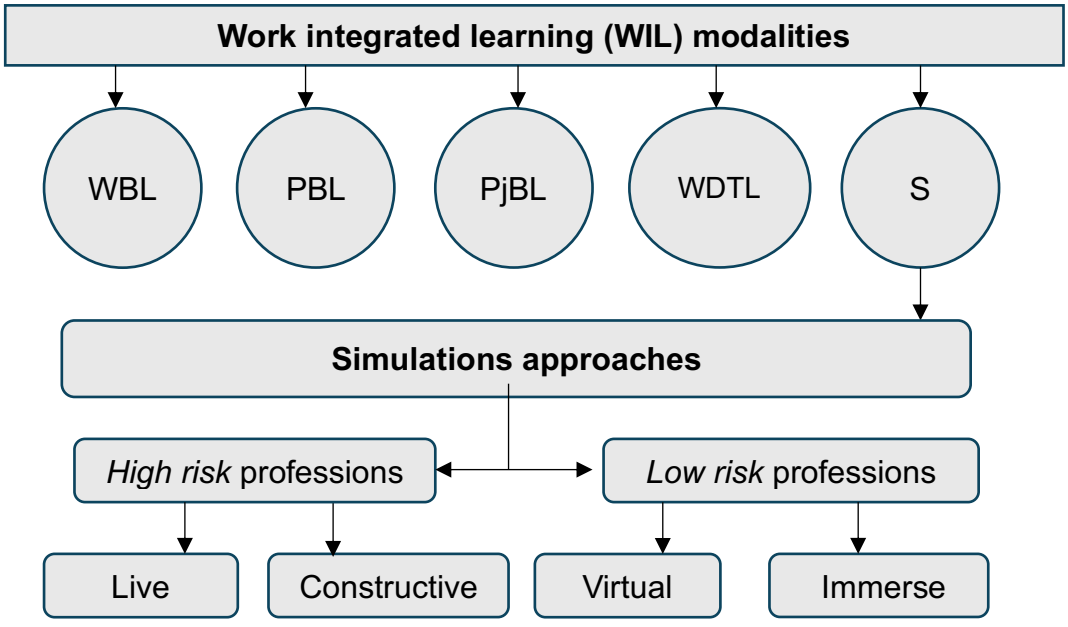


Figure 3. 7: WIL modalities and approaches

Source: Own compilation; based on Simulation Powered Learning (2025:1)

Simulations offered in higher education require selecting an appropriate approach based on the study field, programme outcomes, characteristics and assessment strategy. The simulation approaches have been categorised between high-risk professions and low risk professions. In the context of this study, simulations for a high-risk profession are defined as simulated experiential learning for occupations that pose: i) a high chance of human injury or illnesses and ii) high risk of damage to property and equipment. On the other hand, simulations for low-risk professions pose a low risk to human injury or illnesses as well as a lower risk to damages on property and equipment. These definitions have been adapted from the American Psychological Association (APA) (2011:1) and adjusted in context of the study. With the purpose of being concise, the researcher's literature on simulations under WIL approaches will focus on simulations for low-risk professions as accounting and finance occupations are considered to pose low risks to humans and property (Gaskins 2010:37).

a) Simulations approach to high-risk professions: Live and constructive simulations

Live simulation approaches focus on real individuals utilising actual equipment used in the real work environment (Wijkmark & Heldal 2020:1154). More often than not, live simulations require participants to be placed within a natural world or an almost replica of such, since they are best suited for professions that require extensive life-like point-of-care learning experiences (Jones, Wilkins, Caird, Kaba, Cheng, & Ma 2017:1-2). This approach in simulated education has been successfully practised in high-risk professions such as aviation, medicine, social work, and psychology where point-of-care is key (Jones et al 2017:2).

While very few studies exist on the use of a live simulations approach within the finance and accounting field, Eutsler, Norris and Trompeter (2018:145) investigated the effectiveness of live-based simulations for developing professional judgments on accounting and auditing students when interacting with real clients. These authors concluded that using live simulations increased students' understanding of professional scepticism through a simulated audit environment (Eutsler et al 2018:159). As live simulations run in real time within a natural environment, they are often costly to implement and require resources that are not easily accessible

(Wijkmark & Heldal 2020:1155). In the same vein, simulations that are constructed refer to a learning environment where simulated people learn within a simulated environment and often incorporate real-life modelling of procedures within various real-world activities or processes (Kincaid & Westerlund 2009:276). While individual skills development is believed to be limited within a constrictive simulated setting, more emphasis is placed on strategy and relation development skills (Simulation Powered Learning 2025:1).

b) Simulations approach to low-risk professions: Virtual and immerse simulations

Within a virtual simulated environment, real people use simulated equipment and a replicated real-life environment (Foronda 2021:2). Learning environments are virtually simulated, often using computer-simulated settings, allowing for flexibility, cost-effectiveness, and ease of practice for specific tasks (Kincaid & Westerlund 2009:276). Particularly useful for low-risk professions, virtual simulations offer students a learning environment that allows for repeated practice, reflection and improvement during the academic period. In immerse simulations, real people interact with simulated 'individuals' within a replicated environment for the development of discipline-specific skills such as project management, leadership, and relationship skills (Lovelace, Eggers & Dyc 2016:100).

As a learning platform, immerse simulations remove focus from hosting and tracking simple learning systems to supporting complex learning situations with the aim of addressing various learning goals at once (Simulation Powered Learning 2025:1). The use of technology for virtual reality allows HEIs to focus on learning outcomes and performance, alongside with the benefits and challenges of using this form of learning environment (Pellas, Mystakidis, & Kazanidis 2021:835). Researchers signified the ambiguity between virtual simulations and immerse simulations as they are often considered the same because they are both considered to be virtual reality learning (D'Errico 2021:1). Depending on the programme outcomes, expectations and learning requirements, educators are likely to use these approaches concurrently.

Within MAE, Zhang, Chen and Han (2021:103) designed a comprehensive MA teaching system through the use of virtual/immerse simulation technology. The study

attests to virtual simulations being effective when offered through a combination of online classrooms, video management and course management systems. Earlier studies concur that virtual simulations in MAE met the anticipated results for effectiveness as an experiential learning approach (Gruntz 1995:54; Springer & Borthick 2004:277). In driving the use of simulations for MA, various authors of prescribed textbooks for MAE have augmented learning strategies where students can access online resources for a variety of topics through case studies and test banks (Drury 2010; Seal, Rohde, Garisson & Noreen 2018).

A trending tool for virtual simulations within MA are educational games aimed at stimulating critical thinking and strategy among students (Kujawski & Januszewski 2017:894; Moron, Reynolds & Gannon 2018:4). The use of educational games for MAE has also been acknowledged by Coetzee, van der Merwe and Fouché (2020:83) who stated that game-based education is a practice of competitive activity aimed at engaging student for amusement and enthusiasm. Game-based learning requires defined objectives, rules, resources, conflict, parameters and overall outcomes (Moron et al 2018:6). Furthermore, Coetzee et al (2020:83) encouraged educators to understand the benefits of using media landscapes as an educational tool. Viviers, Fouché and Reitsma (2016:368) highlighted the effectiveness of educational games at enabling accounting sciences students to apply the full spectrum of pervasive skills such as teamwork, communication, professionalism and ethical awareness. Educational games are flexible tools as they can be offered as board games, real-life games, or digital games (Juan, Loch, Daradoumis & Ventura 2017:1-3; Plass, Homer & Kinzer 2015:258). Flexible learning strategies are key in South Africa where the higher education system has faced drastic challenges pertaining to curriculum reviews, increased student numbers, and limited resources. In this regard, educational games, in whatever format present opportunities in simulations that may enhance pervasive skills suitable for industry.

While various virtual simulation tools exist, the use of Microsoft® suite (Microsoft Word, Microsoft® Excel, Microsoft® Powerpoint and Microsoft® Teams) has been paramount within finance and accounting education (Kelly, Hall & Connolly 2023:2-3). In MA, the use of spreadsheets and power point presentations remain key in developing technical and pervasive skills among students (Bradbard, Alvis & Morris

2014:24). For MA practitioners, spreadsheets are basic tools for customary responsibilities such as financial planning, budgeting and forecasting as well as newer decision-making duties (Bradbard et al 2014:24). Within virtual simulations, students can be assessed through a variety of assessment opportunities such as case studies, projects, assignments, portfolios, practical activities, and presentations (Häfner, Häfner & Ovtcharova 2013:251; Iipinge et al 2020:543). As noted by Sangster, Stoner and Flood (2020:431), online assessment opportunities require a combination of information technology proficiencies in Microsoft® for students to execute finance and accounting tasks.

On deliberation, a simulations approach, particularly offered in a virtual and/or immerse mode, is key for the research study in WIL for MAE as it presents an experiential learning strategy based on evidence.

3.5.6 WIL assessment in higher education

This section highlights the considerations of validity and reliability in the assessment of experiential learning outcomes of a WIL curriculum. Key to WIL assessment is the question on how skills development in students is proven through WIL. Discussions on WIL assessment for validity and reliability; principles; tools; forms and rubrics will follow.

3.5.6.1 Assessment validity and reliability

Assessment strategies within higher education environments have been researched and developed over time (Smith 2014:209). According to Biggs (2003:140-143), assessment practices have two main purposes, namely: learning and testing. In support of learning activities within HEIs, assessment strategies provide feedback to students revealing strengths and weaknesses with regards to knowledge acquired and understanding or skills attained (Smith 2014:210). The CHE (2005:14) defined assessment as a process of identifying, collecting and interpreting information about a learner's success with the aim of assisting the learner's development and improving teaching and learning practices. Assessment strategies should be aligned with learning goals and outcomes within curriculums (Beets 2009a:183-202; Beets 2009b:1174).

In line with Biggs' (2003:157) theories, the underlying principles of assessment strategies should be based on validity and reliability. The American Educational Research Association (AERA) (2014:11) defined assessment validity as the level to which evidence and theory support the understandings of assessment scores obtained by students. Assessment validity becomes valid when correlated with a validity criterion. Assessment reliability refers to whether the assessment instrument utilised gives similar outcomes when assessing the same types of subjects (Sullivan 2011:446). These mentioned principles of assessment aim to ensure quality and consistency within educational programmes. Noted by Zegwaard et al (2023:30-32), assessment for WIL is complex due to uncontrollable and unpredictable social constructs. This concern often lies with WIL facilitators who possess limited understandings in the theoretical underpinnings of assessment and design applications (Ferns & Zegwaard 2014:181). For instance, academic staff with a commercial qualification and experience in HEIs facilitating WIL within a MA course may not be familiar with educational pedagogies associated with sound teaching and learning principles. Moreso, McNamara (2013:183) singles out the concern over higher education expecting academic supervisors to directly assess professional competencies for many students, which may interfere with validity.

These validity issues were addressed in a variety of research regarding the assessment of WIL (Bosco & Ferns 2014:281; Gravett & Geyser 2004:90; Jackson & Meek 2021:63). While research on assessment validity and reliability is an on-going debate, Jackson and Meek (2021:63) as well as Jackling and Natoli (2015:757) pointed out the need for consistency in WIL assessment, particularly for accounting programmes by incorporating clear goals, objectives, and assessment standards.

In reasoning, assessment for WIL proves to be a significant part of pedagogy, requiring much attention to the design process, purpose and objectives clarification and alignment with programme outcomes. Based on this understanding, Smith (2014:210) further points out that validity and reliability of assessment tools require clarity on what is to be measured and how it should be measured for determining students' performances based on intended outcomes.

3.5.6.2 Assessment principles

In higher education, assessment principles in WIL are incorporated as a parameter for validity, reliability, and effectiveness of assessment activities. South Africa's CHE (2004:119) stated that an assessment is valid when: a) its procedures are successful at measuring students' achievements of learning outcomes; b) a variety of assessment tasks, methods and activities are deployed to ensure that learning outcomes are assessed validly and c) there is an integrated assessment activity to validly test the purpose of the programme. Depicted in Table 3.7 below are the principles that govern WIL for higher education in South Africa and include appropriateness; fairness; transparency; validity and authenticity as well as consistent CHEs (2011:41). In addition, WIL assessment should consist of formative and summative assessment opportunities.

Table 3.7: CHE's (2011:41) guidelines for assessing WIL

Principle	**Description/examples**
Appropriate	An appropriate WIL assessment task would include work-orientated report writing and simulations relating to workplace specifications. For example, MA students assigned to a group activity to compile monthly profit and losses statements for a simulated company.
Fair	Assessment tools should be unbiased and be based on a fair criterion for what is requested from students. In addition, the assessment tool should be accessible to all participating students. For instance, the use of a standardised rubric when assessing simulated activities.
Transparent	Participants should be timely provided with clear instructions with regards to dates, venue, time, and durations of the assessment activities.
Formative and summative	Complex performances require methodological understandings which may require prior technical practices. Students should be afforded opportunities for formative assessments as a method of gaining experience prior to summative assessment. For instance, MA students given formative assessments for presenting MA reports during the semester prior to presenting an integrated case study at the end of a semester.
Valid and authentic	All tasks and activities should be authentically designed to mimic workplace practices and should produce evidence that learning

	outcomes have been met through demonstrations. For example, simulation, role-plays, and on-the-job MA activities can be used to simulate the actual job practices.
Consistent	All assessment tasks, activities and tools should be piloted and moderated for consistency by more than one assessor.

Source: CHE (2011:41)

Construction of quality assessment items fundamentally ensures that assessment tools reflect the programme outcomes. Integrating assessment principles for broader impact within WIL curriculum safeguards a rich and diverse experiential learning grounded on student learning improvement.

3.5.6.3 Assessment tools

Simulated environments are unique and require closer preparation and inspections when compared to WIL placements. Within a simulated educational setting, students are immersed in a "controlled representation of reality" differentiated between low, moderate, and high degrees of authenticity (Cant & Cooper 2010:3-4; Reeve 2008:219). SBE activities are predominately used in health education (Brenner 2009:114); however, there have been investigations on their feasibility for business and accounting courses (Bishop 2019:20; Chen & Downing 2006:27; Rudman & Kruger-van Renen 2014:187). Within MAE, simulations are powerful tools for evaluating operational and financial risks by determining estimate errors, what-if analysis, and sensitivity approaches (Pellizzari & Wall 2015:95-97).

According to Urbina and Monks (2023:33) assessment tools in WIL in the form of simulations are authenticated using the following criteria:

i. confirmation of "content validity" where the correlation between assessment content and the construct it intends to measure is validated. In addition, Urbina and Monks (2023:34) urge that previously used assessments cannot be re-used as this promotes development of new assessment tools based on established educational theories;
ii. "response process" where attempts and responses regarding the assessment are analysed among students for comparisons, variances and inconsistencies (Cook & Hatala 2016:5);

iii. the “internal structure” of the assessment tool with regards to the relationship between assessment items and components should conform to the assessment construct on which the proposed score interpretations are based;
iv. verification of “interrelations between variables” through statistical measuring tools of assessment scores should be confirmed (Dunn 1989:153); and
v. consequences and aftermath effects of the assessment tool use must be documented for future references and assessment opportunities.

Evidently, the criteria serve as principles that underpin developing assessment tools for simulated education. Schumann, Anderson and Lawton’s (2009:215) framework on evaluating experiential learning simulations in a business qualification suggests that assessment tools should measure: a) reactions of students; b) level of learning acquired by students; c) the degree to which the behaviour of students is impacted by simulated activities in other experiential scenarios and; d) the extent to which results are improved. A key point raised by Leong and Kavanagh (2013:2) when designing a WIL framework within accounting programmes infers that assessment tools should determine students’ development in discipline, expertise, professionalism, global citizenship, scholarship and lifelong learning. Additionally, the previously mentioned authors recommended that HEIs should commit to develop graduate attributes and improve employability by rethinking WIL curriculum, pedagogy, and assessment matters.

3.5.6.4 Assessment types

A comprehensively designed assessment strategy allows students to be engaging and reflective while providing them with opportunities to be active in the assessment process (Young & Baker 2004:22-24) and promotes student learning (Webber 2012:201). The higher education system in South Africa recognises two forms of assessment types, namely, formative assessment, and summative assessment. The latter refers to assessments aimed at formative stages of learning, which are frequent and interactive to determine students’ progress, while identifying underlying strengths and weaknesses regarding a specific subject matter (Lowbridge & Price 2005:34). In contrast, summative assessments are deployed with students as a once off measurement to gauge the knowledge acquired at the end of a study unit (Einig 2013:431). Formative assessments have been praised for identifying students’

learning needs while improving adaptations and differentiation of teachings to achieve a greater equity for students of learning outcomes (Organisation for Economic Co-operation and Development (OECD) 2008:2). Moreso, the CHE (2011:42) stresses that formative assessment feedback should be continuous and interactive between academic staff and students.

Debates over the applicability of formative and summative assessment for WIL at higher education are not unheard of. The Higher Education Quality Council of Ontario (HEQCO) (2016:43) emphasised that WIL learning assessments should be aligned to educational outcomes and industry experience for discipline-specific skills and competencies. The HEQCO's (2016:43) guidelines for assessment of WIL stress that Miller's (1990:63-67) "triangle of competence" is a commonly used model for experiential education assessment that identifies four principles: knowledge (knows), competence (know how), performance (demonstrate) and action (does). Integrative assessments that combine both formative and summative tools for WIL may apply Miller's (1990:63) model for various assessment activities recommended by the HEQCO (2016:44) and Montrose (2002:1-3). Figure 3.9 and Table 3.7 illustrate suggested activities and applicability of Miller's triangle of competence:

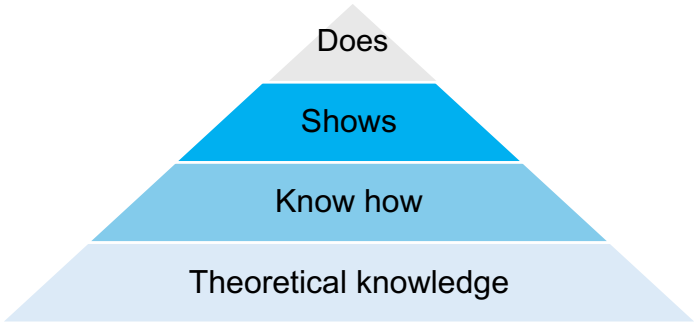


Figure 3.8: Miller's (1990) Triangle/model of clinical competence

Source: Miller (1990:63)

In the above framework, Miller (1990:63) distinguished between "action" and the lower levels. Additionally, Witheridge, Ferns and Scott-Smith (2019:191) echoed that Miller's (1990:63) model fails to determine whether students are achieving the intended learning outcomes within the set learning environment. This rationale underpins the concept of assessment in the workplace and the several methods and styles that have

developed. Table 3.8 below illustrates the applicability of Miller's (1990:63) framework for various assessment tools and the associated learning activities:

Table 3.8: Assessment tools, activities, and Miller's (1990:63) theory

Assessment tool	Learning activities	Miller's model
Examinations	Written	Knowledge; Competence
	WIL-based	Competence; Performance; Action
Written assignments	• Portfolios (written) • Reflective writing • Case study analysis • Journals • Article reviews	Knowledge
Verbal presentations	• PowerPoint presentations • Individual/group interviews • Online discussion forums	Knowledge; Competence
Direct observations	• Workplace performance assessments (placements) • Peer-to-peer reviews and assessments • Simulations and demonstrations	Knowledge; Competence; Performance; Action

Sources: HEQCO (2016:44); Miller (1990:63-67) and Montrose (2002:1-3)

Assessing WIL can be a tedious task as it is often complex, involving external parties and settings outside the higher education environment (Ajjawi, Tai, Huu Nghia, Boud, Johnson & Patrick 2020:305). One major concern raised by Ajjawi et al (2020:304) is the misalignment between students' perceptions and those of HEIs and industry. This concern is important for this research study because it aims to narrow the expectations gap between industry and graduates through the application of appropriate assessment types for WIL in MAE. In highlighting Elmholdt, Elmholdt, Tanggaard and Mersh's (2016:306) concern that HEIs' assessment process for WIL tends to be driven by accreditation can often lead to cynicism where assessment procedures are simply followed as "ticking boxes" by students and supervisors without producing real

evidence of programme outcomes. In conclusion, Elmholdt et al (2016:301) urge HEIs to involve industry partners and students in periodic reviews of intended learning outcomes, authenticity of assessment activities as well as moderation.

3.5.6.5 Assessment rubrics

Suitable measures of assessment performance are pivotal for quality reflection by students and attainment of learning outcomes for the specific teaching and learning experiences (Ash & Clayton 2009:27). As discussed in Chapter 1, reflection on experiential learning refers to a rational process where students learn from experiences (Moon 2004:22-27) through inquiry and collaboration with others (Dewey 1933:40). According to Brookhart (2013:4), a rubric is a set of articulated criteria for students' work with an explanation of performance quality on the standards. Rubrics can be either "analytic" or "holistic" (Brookhart & Nikto 2008:201) as illustrated in Table 3.9 below:

Table 3. 9: Assessment rubrics

Rubric	**Description**	**Assessment type**
Analytic	Separate evaluation of criterion. Students' work is scored per criterion	Suitable for formative assessments
Holistic	All criteria are evaluated simultaneously to produce a single score.	Suitable for summative assessments

Source: Brookhart (2013:4)

Table 3.9 above distinguishes between the mentioned rubric types described by Brookhart (2013:4). Analytical, which involves separate evaluation of students per set criteria, is typically suitable for formative assessments. Moreover, holistic rubrics evaluate all criteria simultaneously, which is a common practice for summative assessments. Conversely, analytical rubrics can be implemented when WIL academics, for instance, wish to assess an individual criterion for MA aspects such as budgeting, cost allocation, or professional communication within WIL. In contrast, a holistic rubric, in the same context, combines all criteria into a single holistic judgement to certify industry readiness or competence for MA students. Distinguishing between various rubric types will ensure alignment with overall learning outcomes and improved

quality of measuring and assessing students' performance for a given WIL task (Reeves & Standford 2009:24-27).

According to Allen and Tanner (2006:197), analytical rubrics are used to assess multiple integrated outcomes simultaneously while each dimension is judged exclusively. Moreso, various judgements may result due to a single object or performance. Additionally, Allen and Tanner (2006:199) indicated that analytical rubrics follow a two-dimension fold where the set "level of achievement" is in columns (example: "Below expectations", "Meets expectations" or "Exceeds expectations") while the assessment criteria is set in rows. In a study conducted by Jackson (2018:555), the researcher pointed out that WIL assessment tends to be objective when analytically assessed as students' attempts are evaluated through portfolios and performance appraisals. Objectively, analytical rubrics produce conducive data as each assessment criteria stipulates both strengths and weaknesses of the candidate's performance.

At the other end of the assessment spectrum lies holistic rubrics, which are described to be one-dimensional, assessing overall achievement of an activity constructed on distinctive achievement levels (Allen & Tanner 2006:198). Rowe and Zegwaard (2017:337) signify using integrated and holistic approaches to assess WIL in addressing scaffolding WIL through curriculum, staff and student preparedness and development of quality measurements.

Evidently, constructing rubrics for WIL assessment tasks is not without challenges. WIL assessment rubrics are designed to ensure that graduates can demonstrate the capacities required in broad careers such as graduate programmes within business, banks, and government (Jones, Miller & Chuck 2019:360). In addition, WIL rubric designs should facilitate identification and mapping of associated experiential activities across units in curricula with the aim of being used to progress students' individual experiences to a higher level. Smith (2014:220) highlights that for validity and authenticity qualitative criterion-referenced assessment rubrics should be used. Their study urges WIL assessments (both summative and formative) to include criteria that illustrate dimensions of learning and standards when determining students with regards to performance. These criteria are heavily dependent on clarity and

interpretive stability and standards of rubric descriptors (Smith, Worsfold, Davies, Fisher, & McPhail 2013:2-3). In this process, Stevens and Levi (2013:6) suggested the following stages when creating rubrics:

- Stage 1: Reflection (beginning). This stage of rubric construction requires a careful reflection on what learning objective should be attained by students with alignment of the programme goals. This stage should provide clarity on what students ought to know once learning tasks and activities have been completed along with teacher-student expectations.
- Stage 2: Listing**.** In identifying, defining, and describing specific details regarding the assessment task, various levels of achievement are recognised. In this manner, the rubric form "grading standards" that describe each level of achievement, for an example, the use of "poor", "good" or "excellent".
- Stage 3: Grouping**.** Dimensions of the rubric that will be assessed using the grading standards will need to be categorised. For instance, when evaluating a student's exhibition of MA reports, grouping "speaks clearly" and "maintains good eye-contact with audience" can be groups under "presentation skills" as a dimension.
- Stage 4: Reflection (ending). This phase of assessment requires post-assessment reflections from both teacher and student for future evaluation purposes.

Overall, rubrics need to reflect on WIL outcomes and should align with the desired graduate attributes to be developed within academic programmes. As such this study, through the envisioned WIL (Simulations) framework, aims to contribute towards assessment strategies in reflective practice of simulated MAE. The ensuing section outlines the study's conceptual framework drawn from South Africa's SAQA competency framework, MA entry level skills-set, and WIL as an intervening mechanism to develop MA industry readiness within HEI.

3.6 Conceptual framework of the study

Conceptual frameworks are frequently used in a qualitative study because an individual theory cannot fully address the phenomenon being investigated. Within research, a conceptual framework aims to include formal theories, ideas, and empirical findings from the literature. In reference to Chapter 2, Kolb's (1984:38) ELT sees education and experience as profound ideas that should run simultaneously within

pedagogy to create meaningful learning experiences. Kolb's (1984:38-39) theories were not denying the significance of traditional education but insisted on "being actively involved in an experience, reflecting on the experience, conceptualising the experience and using what one has learned to make decision and problem solve in order to apply new ideas gained from the experience" (Kolb 1984:41). This can be aligned with the views of Dewey (1938:40) who insisted that learning through experience takes place when students are actively involved in an activity and reflects on it to determine key learning outcomes that can be applied in a different setting.

Furthermore, the study considers the principles of constructivism learning theory that stipulates the need for students to construct new knowledge and ideas rather than passively take in information. The theoretical framework of the study is interdisciplinary and draws important experiential learning ideas from educational philosophers and current WIL trends in order to investigate perceptions of simulated WIL for MAE within South Africa. In developing the conceptual framework for the study, the literature demonstrated the qualified evidence of three distinct dimensions in order to frame the overall Research Objective (RO): "develop a simulations-based work-integrated learning framework to bridge theory and practice in management accounting education at universities of technology" as displayed in Figure 3.9 below:

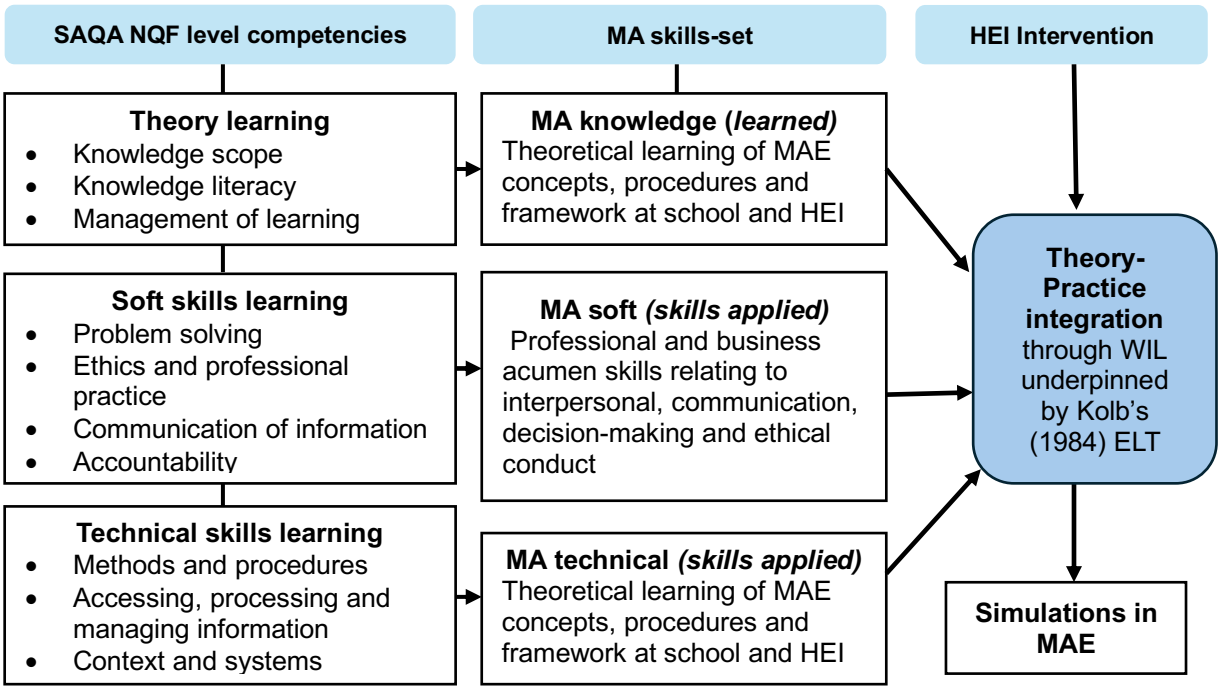


Figure 3.9: Conceptual framing of study

Source: Own observation

The first dimension is the function of SAQA's level of competencies within South Africa's higher education systems; the second is MA entry-level skills-set and the third higher education institutions' roles in developing MA skills and these are discussed in reference to the development of WIL for MAE and are illustrated to frame the investigation for alternative experiential learning opportunities.

3.6.1 SAQA competencies for higher education dimension

Given the research for equitable access to WIL and better student engagement in disciplines less conventionally linked with experiential learning (Universities Australia 2015), there has been growing consideration to embed substitutions beyond work-place based models (Jackson & Meek 2020:4). In developing the qualification framework, SAQA's (2012:3) ten categories of competencies have been applied across all NQF levels, including: "knowledge scope; knowledge literacy; methods and procedures; problem solving; ethics and professional practice; accessing, processing and managing information; producing and commutating of information; context and systems; management of learning and accountability". In the context of this study, these categories will be organised in three themes: a) theory learning, b) soft skills learning, or c) technical skills learning. In developing the envisioned framework for WIL in MAE, an alignment of competencies as set by the country's qualifications authority and the globally accepted skills-set for the profession needs to be considered.

3.6.2 Entry-level MA skills-set and higher education dimensions

The motivation for the study stems from the need to increase MA proficiency levels amongst its graduates as attested by Bishop (2019:20), AICPA-CIMA (2019:6) and Ferns and Zegwaard (2014:179-181). Furthermore, as discussed in Chapter 2, the scarcity levels of finance and accounting professionals coupled with the rapid change in MA competency skills requirements for entry-level graduates necessitates an improvement in South Africa's MAE at the higher education level. This dimension emphasises the alignment between academic and industry competency requirements for guiding WIL for MAE programmes within UoTs. Equally, this is not to deny the importance of literature uncovered in WIL studies for MA, but to close the research gap on the under-researched area of simulations as a WIL alternative within South Africa's UoTs.

3.6.3 HEI intervention in developing MA skills-set

The incorporation of a WIL (Simulations) curriculum for certain MA programmes designed under the HEQSF (2013) remains as a paramount intervention in bridging theory and practice for UoTs (HEQSF 2013:11). Contextually, theory-practice integration within MA programmes as shown in Figure 3.9 above aims to address the "disconnects between education, skills and jobs" as echoed by the AICPA-CIMA's (2015:2) CGMA report on youth unemployment and underemployment. Equally, WIL, delivered under the SBE modality for MA students can be seamlessly designed to incorporate Kolb's (1984:38) ELT through an iterative process of experience and reflection (CHE 2011:7, Mesuwini et al 2023:83). Positioning Kolb's (1984:38) ELT for WIL in accounting education within HEIs has been investigated in literature as discussed below:

- Jackson and Meek (2021:63) used Kolb's (1984:38) ELT to address several key considerations in the designing and executing of quality WIL programmes, along with recommended approaches for enhancing WIL for accounting disciplines.
- Sathe and Yu (2021:193), for instance, developed an "accounting cycle simulations project" in which students used virtual business simulations to incorporate all of Kolb's (1984:38) ELT learning modes. Within the previously mentioned project, students were required to create and run simulated business activities (Concrete Experience), observe and apply accounting records (Reflective Observation), perform financial analysis of records (Abstract Conceptualisation) and demonstrate decision-making principles (Active Experimentation). This links with Eickmann, Kolb and Kolb's (2004:242) reflective "thinking and doing" as part of active experiential learning when students apply previously learned ideas in new scenarios (Bergsteiner, Avery & Neuman 2010:29-32).
- More significantly is Picard and Courtois' (2023:163) development of "Experiential simulations of ethical dilemmas" educational tool in accounting practice to encourage students to consider how their actions as an accountant "may affect others". In their study, Picard and Courtois (2023:166) situated ethical thinking within Kolb's (1984:38) experiential learning cycle so as to encourage students to reflect on values through the Reflective Observation and Abstract Conceptualisation modes, and to experiment with ethical decisions in the Active

Experimentation mode. This aspect of reflective learning links with Carter's (2021:463) suggestions that WIL programmes can include gauging students' learning trajectory through electronic portfolios.

The conceptual framework depicted in Figure 3.9 above emphasises that theory-practice integrative tasks and activities within SBE for MA could be designed to reflect Kolb's (1984:38) learning cycles of concrete experience, reflective observation, abstract conceptualisation, and active experimentation. By first considering CHE's (2011:13) WIL planning and mapping guidelines as discussed in Chapter 2, Section 2.6.5, WIL academics could design simulations that provide concrete experiences by immersing students in simulated MA roles that translate MA knowledge to applied MA skills such as financial data analysis, performance analysis, and strategic decision-making. Moreover, reflective observation can be enabled through debriefing and feedback sessions post concrete experiences (Picard & Courtois 2023:166). The integration of varied MA concepts to assess simulations outcomes after reflective observation allows students to engage in abstract conceptualisation, similar to Sathe and Yu's (2021:193) findings where knowledge is recontextualised in light of a simulated experience. Subsequent rounds of simulated activities embed active experimentation which allow students to apply their prior knowledge and experiences to new simulated MA activities.

In summary, this study's unique approach towards WIL for MAE aims to continue the research on alternative skills transfer and development, with special focus on UoTs where there is limited practical exposure within the curriculum. As a qualitative study, the researcher introduced unique methods for simulated MAE with the purpose of narrowing higher education and industry's expectation gap while considering ELT from Kolb (1984:38), CHE (2011) WIL guidelines and MA competency frameworks (AICPA & CIMA 2019:6-8; IMA 2020:4). The conceptual framework gravitates towards UoTs' intervention towards preparing graduates for industry as per the higher education category.

3.7 Chapter summary

Chapter 3 provided a clear, literature-based overview for redesigning MAE in order to prepare MA graduates to become competent and industry ready practitioners. The chapter commenced with setting the scene on the progression of the MA profession, focusing on its characteristics, professionalisation within governing bodies, and the drivers of change pertaining to modern MA practices. Moreover, the chapter highlighted the awareness gaps pertaining to MA as a distinct profession among accounting education students within South Africa, further alluding to the changing role of MA practitioners pertaining to new technical and digital advancements, and the ability to operate in varied management styles. Subsequently, the modern MA competency framework, which detailed entry-level requirements for MA practitioners, was introduced which paves a way for HEIs to develop the mentioned proficiencies for MA students within their curriculum.

The chapter, thereafter, detailed SBE delivered under WIL for MA within HEIs, where varied simulations modalities and approaches were discussed for the development of MA skills-set and competencies as demanded by modern practices. This, in turn, resulted in the introduction of the study's conceptual framework which focused on the SAQA's competency framework, MA skills-set requirements, and HEIs' intervention using WIL (Simulations), illustrating how graduate competency targets, WIL curriculums, and WIL assessment practices work together to produce work-ready MA graduates. As outlined in the literature, offering programmes with WIL components require alignment with programme purpose, outcomes, and qualification level with the aim to improve teaching and learning strategies that are critical for developing an experiential learning framework for MA within UoTs. Drawing from the literature from Chapters 2 and 3, the next chapter, Chapter 4: Research methodology, will discuss the study's methodology pertaining to gathering and analysis of primary and secondary data.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Chapter 4 layout

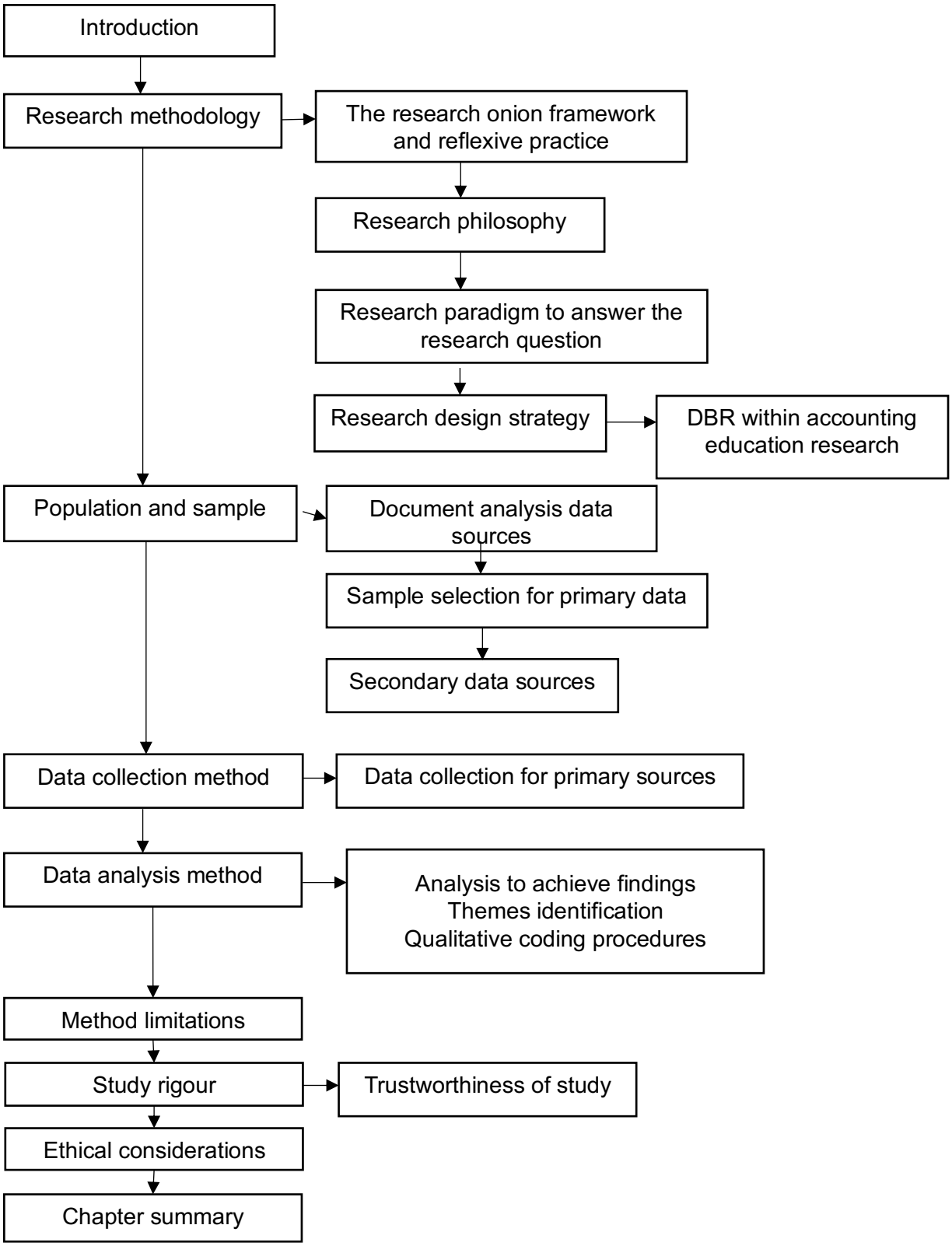


Figure 4. 1: Chapter layout
Source: own compilation

4.2 Introduction

Research studies are based on underlying philosophical principles to establish an investigation's validity and appropriateness for the selected methodology for the purpose of creating new knowledge (Kaushik & Walsh 2019:1). As discussed in the preceding literature review (Chapters 2 and 3), this study aimed to develop an experiential education framework drawn from Kolb's (1984:38) ELT and to enhance the design, delivery, and implementation of a WIL curriculum within South African UoTs for MAE. The specific focus of the investigation is on simulations-based education (SBE) delivered under WIL, i.e. WIL (Simulations) with the purpose of imparting suitable MA graduate attributes to enhance industry readiness. Additionally, as reiterated, research in teaching and learning of accounting (often referred to as accounting education research) aims to explore processes, methods, and outcomes of accounting education with the purpose of improving instructional quality by identifying areas that require improvement and innovative teaching strategies, and finding systems in which educational practices can be tailored to the needs of dissimilar students (University of Cape Town 2023:1).

The precise justification for this study was to address the widening expectations gap between MA graduates and the MA industry attributable to the skills-set change for entry-level professionals as reaffirmed by the IMA (2021:6). In like manner, Briones, Apat, Lorica, and Valenzuela (2021:65) cited that the acquisition of formal business management and accounting skills was a least preferred attribute amongst graduates as opposed to technology skills, problem-solving skills, and the capacity to be innovative. The disconnect between higher education, skills and jobs was cited to be an active contributor to the MA employability crisis owing to poor prioritisation of employable skills development in academia (Bishop 2019:20; Botes & Sharma 2017:108; IMA 2021:4). This disconnect may be mitigated through WIL approaches that develop trending skills-sets and attributes suitable for novice management accountants at entry-level. In particular to this study, the special attention given to WIL (Simulations) stemmed from the need to advance research in the use of alternative methods for developing and enhancing graduate attributes suitable for current MA roles.

Examining the constituents of WIL (Simulations) for MAE and the possible contribution of these constituents to the improvement of graduate skills and attributes calls for a dynamic approach firmly rooted in qualitative research. The motive underpinning the selected approach was to ensure the researcher objectively gains in-depth understandings of perceptions, sentiments, experiences and attitudes that participants express regarding the phenomenon being studied (Hennik, Hutter & Bailey 2020:30). This chapter outlines the philosophical traditions and research design strategies underpinning the study.

Common qualitative research philosophies and theories were considered and discussed. Following an interpretative and pragmatism philosophy (interpretivism-to-pragmatic) as the study's research framework, the chapter demarcated the investigation's research philosophy, approach, design, and methodology. Furthermore, the data collection methods and analysis techniques are outlined, followed by potential research methodology limitations, study rigour, ethical considerations and conclusions.

4.3 Research methodology

Research methodology entails a systematic approach on how an investigation should proceed towards theory development (Schwardt 2015:197). According to Leedy and Ormrod (2020:93-96), research methodology includes the process, procedures and techniques researchers use to collect and analyse data pertaining to the problem being investigated. Framing the methodology for an inquiry requires the researcher to explicate researchable problems, outline objectives or questions and substantiate appropriate means for data collection and analysis techniques (Creswell & Creswell 2018:49). To adequately reach a scientific conclusion for a doctoral investigation, the researcher further needs to outline the methodological paradigm, philosophy and processes that actively demonstrate an original contribution towards scholarly knowledge (Baptista, Frick, Holley, Remmik, Tesch & Akerlind 2015:55).

The research methodology process is pivotal for seeking answers to a previously under-researched phenomenon that may contribute towards the body of knowledge within a discipline (Baptista et al 2015:57). While extensive research has been

conducted in the use of WIL in general within higher education (Ajjawi, Tai, Dollinger, Dawson, Boud & Bearman 2023:499; Crawford, Brimble & Freudenberg 2024: 1062; Wait & Govender 2016:281), the researcher's literature review revealed research gaps in the use of WIL (Simulations), specifically for HEQSF (2013)-aligned MA programmes offered in South African UoTs. As an anchor for an investigation's trustworthiness, the research methodology process should include collective methods or rules applied to a research study that are based on principles, theories and values supporting the elected approach (Somekh & Lewin 2005:4-5).

4.3.1 The research onion framework and reflexive practice

As a directing point, Saunders, Thornhill, and Lewis' (2023:124) research onion framework, as illustrated in Figure 4.2 below, was mapped across the investigation:

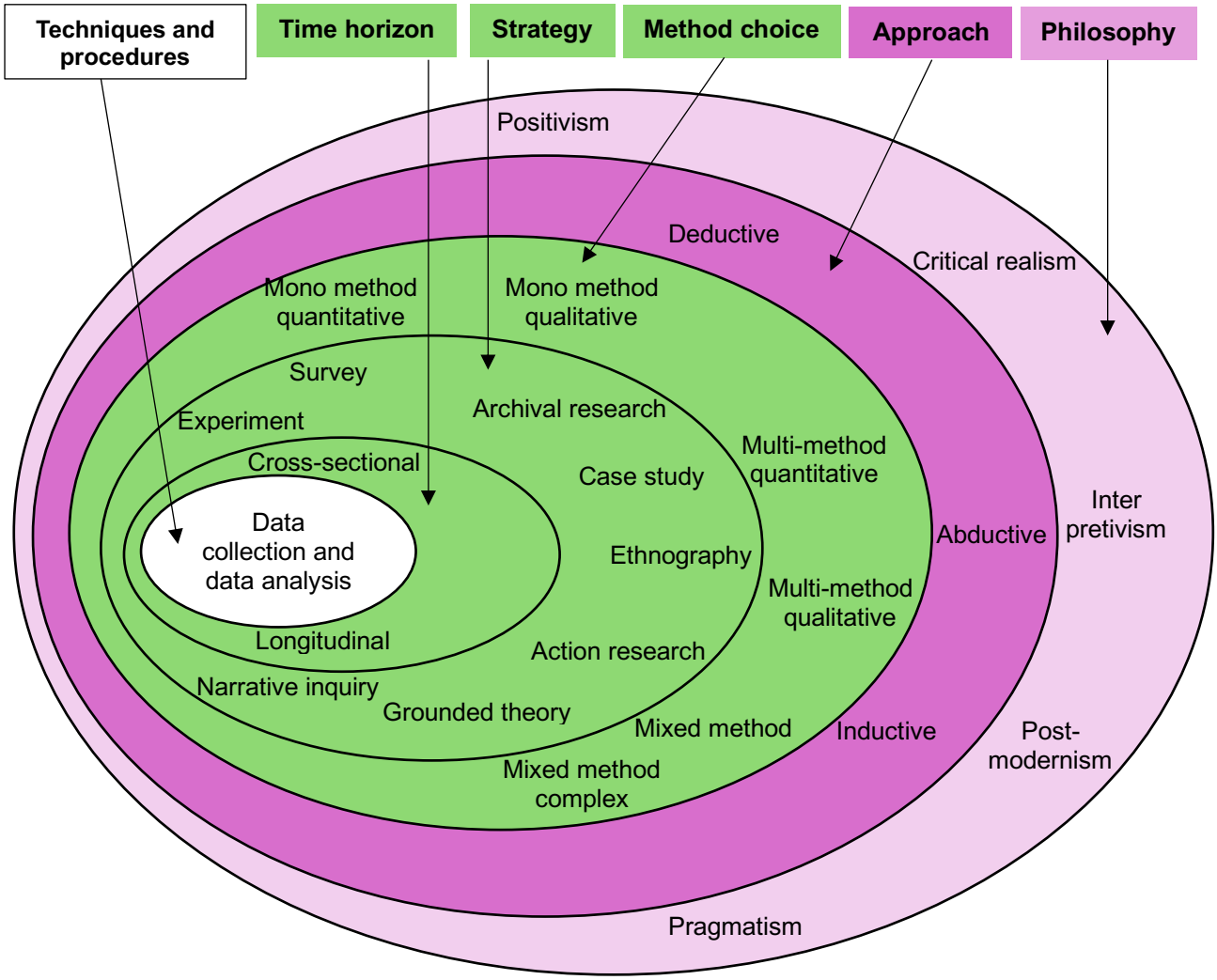


Figure 4.2: The research onion

Source: Saunders et al (2023:124)

The purpose of the research onion is to systematically illustrate the necessary series of choices, paradigms, philosophies, strategies, and steps followed by researchers throughout the research process (Saunders et al 2023:124). In applying the research onion framework to the study, the sections that follow will describe each of the previously outlined layers followed by the selection and justification of the appropriate choices in answering the research questions for this research. Saunders et al (2023:133) suggest that selecting an appropriate research philosophy should be a "reflexive process" informed by the relationship between beliefs and assumptions; research philosophies and research design, as illustrated in Figure 4.3 below. Olmos-Vega, Stalmeijer, Varpio and Kahlk (2022:2) frame reflexivity in research as a combination of unceasing, collaborative and multi-dimensional practices in which a researcher self-consciously critique, appraise and gauge how their subjectivity may influence the research process. In addition, Finlay (1998:453) stated that the practice of reflexibility positions researchers to determine whether they have the capability to draw conclusions from their own data.

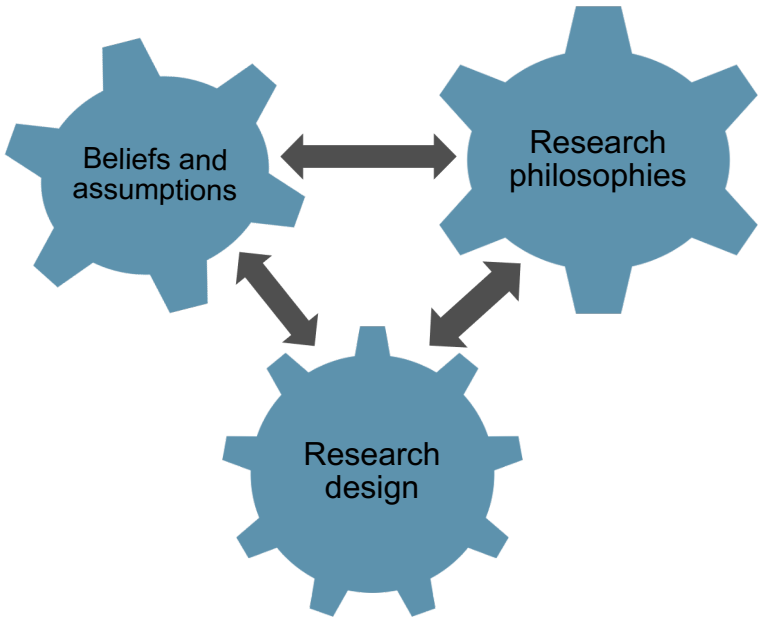


Figure 4.3: Developing your research philosophy: a reflexive process

Source: Saunders et al (2023:133)

In conducting research, the philosophy informs the researcher on the assumptions about the sources and the nature of knowledge within the research process (Kaushik & Walsh 2019:2). Additionally, the research philosophy informs the researcher on

critical assumptions about a phenomenon that serves as a basis for the research strategy. In reference to Figure 4.2 above, Saunders et al's (2023:124) research onion identified five research philosophical worldviews, which are: a) positivism, b) critical realism, c) interpretivism, d) post-modernism and e) pragmatism. As the choice of a specific research philosophy is mainly guided by the practical implications of a research study (Creswell & Creswell 2018:45), a short discussion on each of the previously stated philosophies will follow concluded by the researcher's choice.

Conducting research within economics, business and management disciplines often requires researchers to draw existing knowledge from natural sciences, social sciences, arts and humanities (Niglas 2010:215; Saunders et al 2023:135). With the previously mentioned enlightenment, this research study drew knowledge from both natural (i.e. accounting education focused on MA), and social sciences (i.e. the teaching and learning with a focus on higher education). Although categorically classified as a natural science field, accounting follows systematic recording and presenting of financial data through observations, detections, investigations and analysis to produce financial findings in a structured manner which requires both natural (quantitative) and soft (qualitative) skills (Dobija & Renkas 2021:9; Sterling 1975:28).

Taking the above into consideration, the researcher acknowledged that selecting an appropriate research philosophy, assumptions and strategy to answer the research question required a discussion on what they are based. As reiterated above, research in the field of accounting education draws knowledge from both natural and social sciences, requiring the researcher to consider a balance between both objectivism (natural sciences) and subjectivism (social sciences). In summary, the research process requires researchers to develop research questions and objectives, collecting and analysing data with the purpose of drawing conclusions based on the outcomes of the analysis.

4.3.2 Research philosophy

The research philosophy layer entails a belief or a combination of research principles and ideas that structure a researcher's approach to knowledge and inquiry (Saunders et al 2023:124). According to Guba (1990:97), a research philosophy provides a

"worldview" formed by a fundamental set of beliefs and ideas that guide a researcher's actions. Core aspects of a research philosophy require the researcher to understand the nature of knowledge, reality (worldview) as well as the assumptions about the originality and intention of such knowledge (Creswell 2018:25-26). As a basis of a study, the research philosophy determines the researcher's thought process in selecting the research strategy, formulation of a research problem, data collection, processing and analysis based on reliable knowledge (Creswell 2018:26). According to Tsang (2016:14), research philosophy has three main purposes, which are: i) to "demystify" the theories related to the phenomenon being investigated by exposing, critiquing and explaining unsustainable assumptions, inconsistencies and confusions; ii) to "inform the researcher's position" in the broader field of knowledge-producing activities aimed at assisting the investigator to be aware of potentialities that may be explored and; iii) to "facilitate the method of conducting research" within the field being researched. In applying the research onion framework, the researcher summarised the important layers of research philosophies that are significant for the research investigation in Table 4.1 below:

Table 4.1: Research philosophies and their objectives

	Research philosophy	**Objectives**	**Applicability to current study**
a)	Positivism	• Verification of theories and ideas • Determination • Reductionism • Empirical reflection and measurement	Not applicable as study is qualitative
b)	Critical realism	• Concerned with nature of causation • Considers multiple realities with some common features • Exploring relationship between structure and agency	Some applicability, however, the philosophy's objectives are not in line with the current study's aims
c)	Post-modernism	• Political orientated • Power and justice driven	Low applicability because philosophy's

		• Collaborative • Focused on change	objectives are not in line with the study's aims
d)	Interpretivism	• Understanding a phenomenon • Multiple participant meanings • Historical and social construction • Generating of theory	High applicability as the study aims to gain in-depth understandings of WIL (Simulations) in MA
e)	Pragmatism	• Effects of actions • Problem-centred • Pluralistic • Real-world practice orientated	High applicability as the study aims to solve practical problems uncovered in offering WIL (Simulations) in MA

Sources: Creswell (2018:45); Saunders et al (2023:124)

In reference to Table 4.1 above, the researcher first outlines the least applicable philosophies below, i.e., positivism, critical realism, and post-modernism in general. In-depth discussions and motivations on the most appropriate philosophies, namely: interpretivism and pragmatism philosophy follow thereafter.

a) Positivism

Researchers who seek to understand reality of a phenomenon through objective observation follow a positivism philosophy (Rahi 2017:2; Riley 2007:115). The philosophy proposes that scientific techniques are the main methods of attaining objective knowledge that is independent from biases and personal viewpoints (Riley 2007:117). Central to positivism theory is its deductive approach that informs researchers on key aspects such as hypotheses formulation, hypotheses testing using empirical evidence and ultimately forming generalisations that can be applied universally (Collins 2010:38; Creswell & Creswell 2022:8). Positivist researchers utilise scientifically based methods to observe and collect numerical data, which is then analysed through statistical means (Røge 2022:55). In addition, the quality of data used is largely determined using quantitative instruments such as surveys, experiments and questionnaires (Creswell & Creswell 2018:44). To achieve high standard conclusions, positivist research thus requires large sample sizes, controlled

environments and objective methods for measurements (Park, Konge & Artin 2020:691-692).

Conclusively, a positivism research theory places a higher emphasis on the use of science-based methods to gather evidence and make objective conclusions that can be generalised. Its impact in modern day research has seen its value and use in various fields such as economics, sociology, medicine, psychology, and politics (Buddharaksa 2010:1-2). By establishing a common language and a set of standards for scientific inquiry, researchers from the previously mentioned and varied disciplines can work collectively with a common goal of addressing complex investigations through innovative solutions.

b) Critical realism

Within critical realism philosophy, reality is seen as complex and multi-dimensional with numerous levels of causation and influence that cannot be expressed numerically (Lawani 2021:321). The argument that critical realism brings within research is that there is an in-depth configuration to the world that is neutral of human perception which can only be understood through systematic inquiry involving both empirical observation and theoretical analysis (Fletcher 2016:2-3). In essence, critical realism philosophy is based on the principle that reality is not structured or unalterable, but rather dynamic and progressive, fashioned by relations between natural and social systems over a period of time (Saunders et al 2023:146). The practical implications of applying critical realism within research have been observed in a series of conditions, including: i) studies that involve analysing complex social systems (Modell 2017:21; Sturgiss & Clark 2020:143; Syed, Mingers & Murray 2010:71); ii) developing theoretical models (Cochran-Smith 2009:458; Covaleski 2020:17; Saunders et al 2023:149; Vatanparast 2016:41); iii) engagement with policy and practice (Aspinall, Jacobs & Frey 2019:290) and iv) integration of qualitative and quantitative research strategies (Mukumbang 2023:93). Overall, critical realism philosophy is a useful research tool that allows researchers to deeply reflect on reality as its practical applications may assist scholars to generate more robust findings that can inform policies, practices, and theoretical frameworks.

c) Post-modernism

Post-modernism philosophy rejects the notion of a single objective reality and emphasises instead subjective experiences and construction of meanings (Creswell 2018:46). Patton (2015:684) stated that the philosophy posed a radical ontological challenge to modern research as it overlapped with other philosophies such as postmodernity, poststructuralism, and pragmatism. Within the scope of research, post-modernism emphasises the significance of context, language and power dynamics in fashioning knowledge construction (Saunders et al 2023:151). In practice, post-modernism researchers often utilise qualitative methods such as focus groups, interviews and ethnography as means of exploring how individual experiences and understandings are created for a specific phenomenon (Bowden 2019:481). In challenging dominant narratives, post-modernism philosophy is praised for allowing marginalised opinions to be "heard" and understood by acknowledging the subjective nature of reality (Bowden 2019:483). Several authors, on the other hand, have pointed out that post-modernism promotes a sceptical attitude due to its hostility towards the objective truth, which may obscure broader social structures and power dynamics (Dawkins 2007:141; Yilmaz 2010:779). Additionally, post-modernism philosophy findings tend to be purely descriptive resulting in vagueness which can be epistemically and ethically debilitating (Dawkins 2007:143). Overall, post-modernism philosophy presents value-adding perspectives in gaining understanding of complex social phenomena (Saunders et al 2023:151). Researchers who follow this philosophy ought to carefully consider its potential limitations, subjectiveness, and biasness.

d) Interpretivism

In contrast to positivism, interpretivism is of the notion that social reality is complex and content-dependent because it cannot be reduced to cause-effect relationships (Chowdhury 2014:433). A researcher following an interpretivism philosophy is of the belief that social phenomena are constructed by the meaning and interpretations that people give to them. As echoed by Creswell and Creswell (2022:9), interpretivism aims to obtain an in-depth understanding of the standpoints, experiences and interpretations of individuals and groups and can be used in ethnography, discourse analysis, rhetorical analysis, and phenomenological analysis investigations. As a subjective paradigm, interpretivism seeks to understand human experiences and the

world around them through qualitative methods such as observations, in-depth interviews and document analysis (Saunders et al(2023:151).

Contextually, the researcher aimed to focus on the environment (UoTs) in which individuals operate to gain insight on how WIL (Simulations) for MA aspects influence behaviour and meaning making. Additionally, interpretivism has gained popularity in the fields of social sciences and anthropology where the understandings of lived experiences of individuals and groups are critical for gaining subjective perspectives of social phenomena (Chowdhury 2014:432). The philosophy suited this investigation as it presented the researcher with the opportunity to uncover rich and in-depth information about individuals or groups that can be often overlooked by quantitative methods (Creswell & Creswell 2022:9). However, due to its strong emphasis on subjectivity, interpretivism research findings tend to be difficult to generalise across populations or social environments while being time-consuming (Balamurugan 2021:4). As a qualitative study, the collaborative approach between researcher and participants within the selected UoTs allowed for a deeper understanding of the WIL (Simulations) in MA offerings to ensure that the findings were relevant to the current practices. Furthermore, the philosophy further supported the investigation due to its practical applications in understanding complex social phenomena (Chowdhury 2014:433; Porpora & Morgan 2020:523).

As emphasised by Saunders et al (2023:151), interpretivism philosophy offers a wide range of qualitative methods that may be applied in practice for multifaceted social phenomena; however, it often has its practical limitations which may include: i) poor objectivity and limited generalisability due to high emphasis on subjective interpretations, meaning-making and uniqueness which often face the risk of biasness (Williams 2000:209); ii) interpretivism is often criticised for being inefficient with regards to research methods being time-consuming and resource intensive when compared to quantitative methods (Robinson 2016:127; Williams 2000:211); and iii) probable ethical concerns as the nature and method of interpretivism involves close relationships between researchers, participants and the environments, which poses a risk of ethical concerns (Creswell & Creswell 2018:45). According to Ryan (2018:41), ethical disputes that may be realised when following an interpretivism philosophy may include imbalances of power, privacy invasion or coercion. Nevertheless, the

researcher was of the opinion that an interpretivism philosophy assisted in providing understandings of the complex problems and processes associated with WIL (Simulations) delivery for MA within South African UoTs. In addition, interpretivism's appropriateness for investigating a unique phenomenon of WIL (Simulations) for MA was rooted in the special attention given to complexity, richness, multiple interpretations, and meaning making (Saunders et al 2023:151) that was gained from the participants involved.

e) Pragmatism

Pragmatism is seen as a philosophy that emphasises practical outcomes and problem-solving research as a meaningful contribution to the body of knowledge (Saunders et al 2023:152). Researchers who embark on a pragmatic investigation are often driven by the desire to investigate and solve real-world problems that make practical contributions to society, as opposed to purely seeking knowledge (Saunders et al 2023:153). As a movement that was influenced by the likes of John Dewey (1938:31) and William James (1907:28) in the late 19th-century, pragmatism strives to reconcile both objectivism and subjectivism by challenging traditional philosophical approaches that emphasise abstract reasoning over concrete experience (Saunders et al 2019:143). For a pragmatist, investigations are often problem-orientated with the aim of contributing practical resolutions that enlighten future practices (Saunders et al 2019:143). As noted by Morgan (2014:1045), pragmatists are of the opinion that empirical observations should be a basis for theory development rather than abstract speculations without scientific evidence and experience.

As a challenge to traditional theory philosophies, pragmatism considers words, thoughts and beliefs as instrumental for problem-solving, predictions and actions (Morgan 2014:1048). The strong emphasis of pragmatism philosophy on practical outcomes has resulted in some scholars critiquing it for being overly utilitarian and focus on immediate results as opposed to long-term theory development as pragmatic trials are not reliable tools (Ernst & Canter 2005:81). In addition, critics of pragmatism theory contend that the philosophy occasionally leads to a narrow focus on individual experiences at the expense of wider social configurations and power dynamics by being too one-dimensional (Boin & Lodge 2021:9).

In modern-day research, pragmatism alludes to the belief that the truthfulness of an assertion is rooted in its consequences and usefulness (Higgs 2021:4). As opposed to beginning an investigation through abstract theories or hypotheses, pragmatists usually embark on their research through problem identification, developing theories founded on empirical evidence with the aim of testing these theories through experimentation and data analysis (Kelly & Cordeiro 2020:2-4). Consequently, researchers adopting pragmatism to solve educational problems should view education as a method of experimentation (Higgs 2021:4).

Within accounting education, pragmatic philosophy may be beneficial to ensure that students learn practical skills and knowledge that are relevant for work readiness (Bhatt 2015:25; Laughlin 2010:759; Nørreklit, Nørreklit & Mitchell 2010:764). Moreso, Lubbe (2016:61) emphasised that South Africa's higher education institutions offering commercial degrees specialising in business studies, accounting, and finance confront various challenges, including deprived schooling and underprepared students coupled with sizeable classes with students from diverse social and ethnic upbringings. In considering these challenges, research embedded in a pragmatic philosophy for accounting education may assist higher education institutions to offer curricula that develop a deeper understanding of accounting principles aimed at solving real problems in the business environment (Smuts & Hattingh 2019:124; Zolkifli, Azhar & Jalaludin 2022:1307-1308).

Jakobsen, Falconer, Nørreklit and Trenca (2019:517) investigated the use of pragmatic constructivism as a pedagogical model for teaching MAE at master's level. The previously mentioned authors outlined that pragmatism is valuable within MAE research as it has an important impact on students and their capabilities to act as business partners (Jakobsen et al 2019:519). Moreso, Jakobsen et al's (2019:517) study is convincing based on Kubu, Ford, Wilt, Merner, Montpetite, Zeigler and Racine's (2019:95) reasoning that pragmatism philosophy has a "collaborative and interdisciplinary" approach to research as the former study focused on business studies (MA) and higher education. Collaborative efforts between higher education and industry professionals have long been cited as vital for ensuring that curricula align with current and industry trends within MA (Bishop 2019:20; Botes & Sharma 2017:107-108; Dumalisile 2019:8). Contextually, the researcher acknowledges that

research in MA required an interdisciplinary approach between the education field and MA practices for developing the framework for simulated learning. Similarly, Kubu et al (2019:97) stated that modern-day research practices within pragmatism often include collaborations within various fields as a solution to solve complex phenomena.

Building from the discussions above, the research philosophy for this study was informed by research methodology literature within the field of accounting education following an interpretivism philosophy constructed under a pragmatic intervention (i.e. interpretivism-to-pragmatic). According to Goldkuhl (2012:136), Dewey (1931) emphasised that pragmatism and interpretivism share a common objective towards "understanding" a phenomenon. Within interpretivism, the 'understanding' is seen as contribution, while pragmatism sees the 'understanding' as instrumental towards solving practical problems and initiating a change (Goldkuhl 2012:137-138). The combination of both philosophies has been endorsed by some scholars based on the scope and nature of the phenomenon being investigated (Collis & Hussey 2014:54; Ramberg 2004:3).

As an intervening study aimed at solving a practical problem relating to the expectations gap between higher education and industry within the MA field, the researcher intended to investigate methods that may possibly enhance MA programmes with a WIL (Simulations) curriculum for the purpose of enhancing graduate attributes and industry skills. The researcher observed "interpretivist understandings" of WIL (Simulations) delivery from participants as instrumental towards initiating a "pragmatic change" in its design, implementation, assessment, and monitoring practices of MA offered at South African UoTs. Correspondingly, the University of Cape Town's (UCT) Accounting Education Research and Scholarship Unit indicated two research areas to explore within South Africa's accounting education informing the current study, which include (UCT 2023:1):

i) Innovative instructional approaches and suggestions that are technologically based.
ii) Changing the nature of accounting education with its progressing traits of accountability for graduate outcomes that include graduate attributes, pervasive skills, work-readiness, leadership skills, ethical conduct and soft skills. Conducting a study of this magnitude required the selection of an

appropriate research paradigm that enabled the researcher to answer the research question and address the research problem.

4.3.3 Research paradigm to achieve the research objectives

Research designs are categorised into three paradigms, namely: qualitative, quantitative or mixed-method (Creswell 2018:23-24). Bloomfield and Fisher (2019:28) highlighted that the main factors that affect a researcher's design include theoretical approach, practical factors and ethical considerations. Additionally, De Vos, Strydom, Fouché and Delport (2011:269) stated that the researcher's choice of action for a quantitative study is driven by the design, while the researcher's actions and choices will drive the design qualitatively. Quantitative research is underpinned by a positivism philosophy and tests objective theory by investigating the relationship between variables (Creswell 2018:24). Quantitative research involves numerical data that the researcher scrutinises for patterns and themes in the responses (Nayak & Singh 2015:142). The main purpose of quantitative research is to seek enlightenments and predictions that may be generalised to other persons or situations (Leedy & Ormand 2018:98; Saunders et al 2023:651). Researchers who engage in quantitative research base their inquiries on assumptions about testing existing theories deductively to avoid biasness, allow for alternative interpretations, maintain the study's generalisation to different persons or situations and the replicability of findings (Creswell 2018:24).

Qualitative research, on the other hand, is a form of social inquiry that aims to explore and gain understandings of the meaning that individuals or groups accredit to a social or a human problem through a flexible and data-driven design (Cohen, Manion & Morrison 2018:287; Hammersley 2013:13). A qualitative paradigm honours an inductive style as the focus of the inquiry is based on understanding human meaning and the significance of rendering the intricacy of a situation (Creswell 2018:23). According to Clenand (2017:61), qualitative research is pivotal in educational research as it enables the researcher to address the "how" and "why" research questions for the purpose of gaining a deeper understanding of human experiences, phenomena and context. Pertaining to this study, the researcher selected the qualitative paradigm as an appropriate method to conduct the investigation based on the following aspects:

i) The problem being investigated was heavily dependent on qualitative principles which may include the views, experiences and interpretations of individuals (Kiger & Varpio 2020:846) on WIL (Simulations) for MA.

ii) Certainties are socially constructed and not objectively framed (Creswell 2018:23), which directly applies to accounting education research.

iii) The researcher aimed to obtain a deeper understanding in teaching WIL (Simulations) experiences within UoTs as the problem could not be addressed quantitatively.

iv) Human behaviours arise rom the multi-faceted reality of social phenomena (Rashid, Rashid, Warraich, Sabir & Waseem 2019:2).

vi) The qualitative paradigm is deemed fruitful for explaining linkages and mechanisms (Saunders et al 2023:639) such as experiential education studies that may be difficult to quantify.

In gaining insightful understandings and nuances of the phenomena being investigated, the researcher aimed to analyse the phenomena to understand the problem by analysing how specific people understand and interpret it (Maree 2019:59). Sutton and Austin (2015:226) reiterated that qualitative work requires reflection on the researcher's part in a way that provides contextual understandings for concerned parties. In reference to this study, the perspectives, understandings, and needs of the stakeholders in UoTs offering MAE and other equivalent qualifications with a WIL (Simulations) component were essential to develop the framework in South Africa. Thus, the qualitative research paradigm was a suitable method for answering the research question. Moreover, as stated in Chapter 1, Section 9.2.1, the study was conducted following Cochrane's (2022:4) Design-Based Research (DBR) framework to guide curriculum design principles strategy, as discussed in the following section.

4.3.4 Research design strategy

This section offers an overview on the investigation's research strategy to gain empirical evidence based on a social sciences perspective. According to Clark and Causer (2020:164), a research strategy involves a detailed plan of action for conducting a research study. In reference to Saunders et al's (2023:632) research onion framework, research strategies include: experiments, surveys, archival (documentary) research, case studies, ethnography, action research, grounded theory

and narrative inquiry. Additionally, DBR as a strategy has gained popularity in being fundamental towards making changes in quality and applicability for various studies within educational investigations aimed at enhancing and improving the quality of instruction (Vaezi, Moonaghi & Golbaf 2019:26). Additionally, the mentioned strategies can be applied quantitively, qualitatively or a mixed mode (Clark & Causer 2020:166). In some instances, researchers may use a combination of research strategies to obtain compelling evidence to further support findings (Roshni, Kamal & Sushanta 2018:141). In maintaining the investigation's qualitative nature, the discussion primarily outlined common qualitative strategies and their key features as shown in Table 4.2 below:

Table 4.2: Common qualitative research strategies

Strategy	**Features**
Archival/ documentary	• Content analysis of credible secondary sources • Findings and meanings are derived from documents • Contribution is the researcher's construct novel conclusions and findings based on historical document analysis (Roshni et al 2018:138)
Case study	• Researcher aims to understand complex facets operating within a single social element as an integrated entirety. • Mostly qualitive and deductive in nature • Contribution is drawn from researcher's findings to make accurate inferences (Saunders et al 2023:148).
Action research (pragmatic)	• Action-orientated investigations aimed at solving practical problems focused on participants. • Typically, qualitative and inductive, because the researcher starts at a particular theoretical position to open reflective actions. • As intervening research, the contribution lies with the researcher's findings and conclusions to solve the problem being investigated. (Coghlan & Holian 2021:13; Saunders et al 2023:148)
DBR	• Research is orientated towards developing solutions (interventions) to practical problems. • Typically, experimental with a qualitative nature.

	• Contribution is the researcher's ability to contribute new theoretical models or frameworks that link theory and practice. (Vaezi et al 2019:29-30)
Grounded theory	• Research aims to break ground on novel or under researched phenomena. • Mostly qualitive and inductive in nature. • Contribution is the researcher's ability to contribute towards new theory, model or framework. (Saunders et al 2023:148)
Narrative inquiry	• Study aims to understand multifaceted, complex and diverse social phenomena through subjective human experiences. • Mostly qualitive and deductive in nature. • Useful for theory generation, informing policy, and practice in subjective in nature. • Contribution is drawn from researcher's findings to make accurate inferences from contextualisation and interpretations. (Fletcher 2016:3)
Ethnography research	• Study involves direct observations of *collective* individuals or groups within their natural settings as a method to identify subjective experiences. • As an interpretivist, the researcher follows an inductive approach within a qualitative paradigm. • Contribution is the researcher's multiple interpretations and findings of collective individuals/groups' human experiences. (Lambert, Glacken & McCarron 2011:17)

Sources: Fletcher (2016:3; Lambert et al (2011:17); Roshni et al (2018:138); Saunders et al (2023:148); Vaezi et al (2019:26-30)

As an intervening investigation towards the development of WIL (Simulations), the problem was centred on the practical real-world context for MAE within UoTs, which required a design strategy from a pragmatic stance. Central to the research was to embrace the principles of DBR in designing a WIL educational framework informed by action (pragmatism) that created a link (i.e. SBE) between MA theory and practice. As the study focused on the design, implementation, assessment, and monitoring practices of WIL (Simulations) curriculum for an MA framework to address possible misalignment between higher education graduates and industry requirements, the key feature was its collaborative efforts to address SBE experiential learning challenges

delivered in South African UoTs with the end goal of identifying and implementing solutions. Therefore, as shown in Table 4.2 above, the appropriate research strategy was DBR constructed on an interpretivism-to-pragmatic epistemology.

4.3.5 DBR within accounting education research

This section discusses the use of DBR as a research strategy for an accounting education research inquiry, focused on MAE, that may be utilised within a qualitative, problem-orientated research framework. As an iterative method that combines both theory and practice for the development and refinement of educational interventions, DBR focuses on systematic design and evaluation of innovative mediations that can address multifaceted educational problems (Barab 2006:156; Design-Based Research collective 2003:5). Tracing the development of DBR has revealed two approaches in its adaptability within PhD studies, namely, action research and formative evaluation (Abdallah & Wegerif 2017:11; Karsten & van Zyl 2022:19-21). Previous debates over DBR questions whether it is the same as action research (Abdallah & Wegerif 2017:12; Anderson & Shattuck 2012:16; Andriessen 2008:126). While both previously mentioned strategies focus on problems in practice (Pereira & Pereira 2020:336), action research involves improving practice through reflection while DBR is more flexible. Conversely, one of the objectives of DBR is producing new theory or reflecting on existing theories that support practice in managing practical issues (Abdallah & Wegerif 2017:12; Buhl, Hanghøj & Henriksen 2022:207).

Contextually, as the incorporation of WIL (Simulations) curriculum for HEQSF (2013)-aligned programmes within South African UoTs offering MA is still in its infancy, a theory-based framework may serve as a design intervention towards theory development on its own. Majgaard, Misfeldt and Nielsen (2011:15) alluded to the significance of Cobb, Stephan, McClain and Gravemeijer's (2001:113) design cycle framework, which focuses on two aspects of DBR - the "design of an intervention" and the "empirical study" of the design in use. More aligned with the investigation was the design of an intervention which should be considered together with theoretical-based concepts about how the intervention will be implemented within a classroom setting (Majgaard et al 2011:15). Correspondingly, Kopcha, Schmidt, and McKenney (2015:1) highlighted three forms of educational design research studies, which include:

- Analytical and explorative studies: Investigations focus on understanding educational challenges by analysing and contextualising existing literature, stakeholders and settings.
- Design and construction studies: These forms of studies aim to present design frameworks grounded in theory and empirical evidence to give them shape.
- Evaluation and reflection studies: Investigations aim to describe the practical and scientific implications of previously constructed design frameworks.

Contextually, the researcher was of the belief that the WIL (Simulations) for MA framework fell between analytical and design study as it was informed by Kolb's (1984:38) ELT, literacies on WIL, and opinions of individuals who currently practise the teaching of WIL (Simulations) within UoTs. Historically, Reeves' (2006:59) DBR framework involves four phases, namely: problem analysis, development of possible solutions, iterative cycles of testing and refining solutions, and reflection and production of design principles. As the study focused on WIL (Simulations) curriculum within higher education for MA, the researcher initially saw McKenney and Reeves' (2019:67) DBR version as an appropriate strategy to follow as it aims to develop transferable design principles that can be applied to various studies investigating pedagogical problems. McKenney and Reeves' (2019:67) DBR framework provides a four-phased version which includes: Phase 1 - analysis, Phase 2 - design, Phase 3 - evaluation, and Phase 4 - maturing intervention. However, to engage in higher education research, Cochrane (2022:4) considered Kopcha et al's (2015:1) descriptions of the forms of educational design research and adapted McKenney and Reeves' (2019:67) DBR framework for theoretical development in curriculum design to reflect scholarly principles of teaching and learning enhanced by technology. Cochrane's (2022:4) version highlights the four phases of DBR as: Phase 1 - exploration (analysis); Phase 2 - construction (design); Phase 3 - reflection (evaluation) and Phase 4 - theory development as illustrated in Figure 4.4 below:

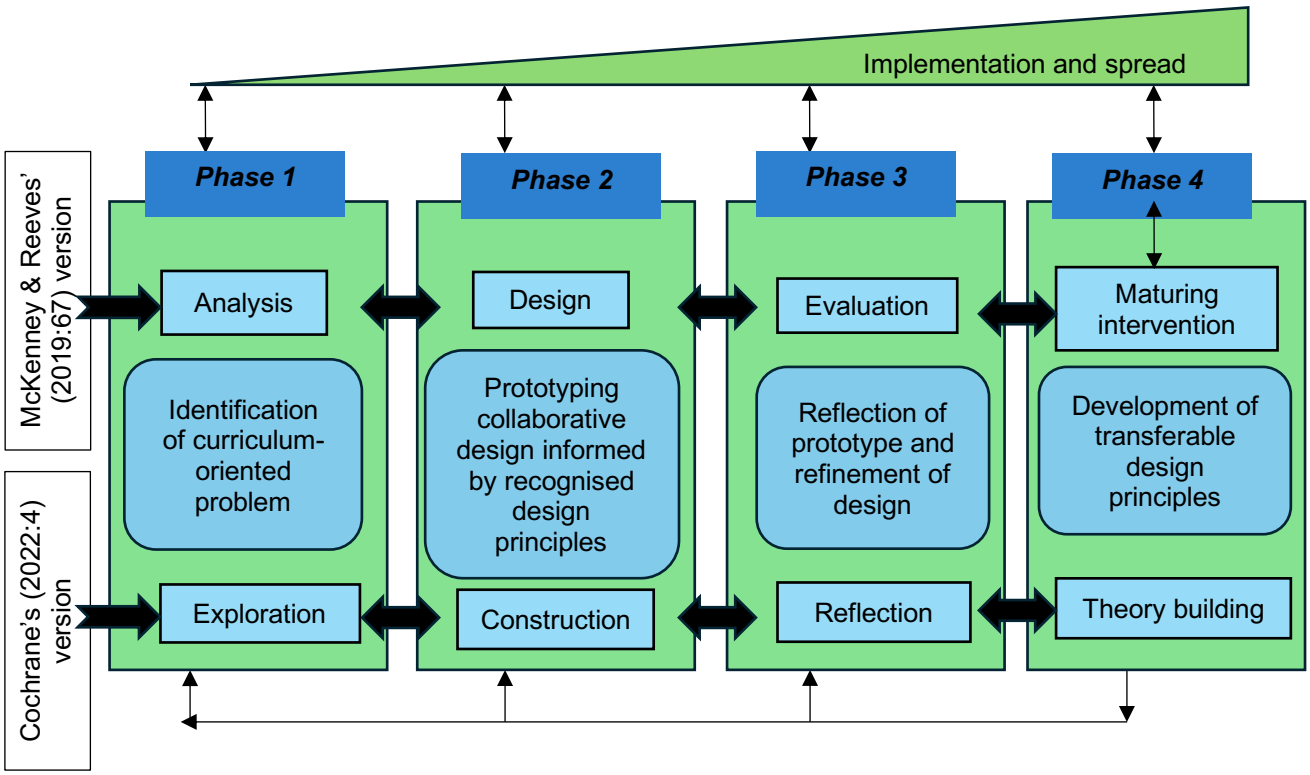


Figure 4.4: Four phases of Design-Based Research (DBR)

Sources: Adapted from McKenney & Reeves (2019:77); Cochrane (2022:4)

As indicated by Karsten & van Zyl (2022:17), the DBR strategy can be flexibly adapted to the specific context and needs of the study and, as such, the current investigation adapted Cochrane's (2022:4) version of the DBR focusing on its three phases as shown in Table 4.3:

Table 4.3: Design-Based Research phases

Phase	Adapted description
Phase 1: Preliminary analysis and problem exploration	Problem identification of curriculum design challenges informed by authentic dire issues surrounding the specific learning setting. Additionally, researchers should possess a collection of literacies in support of the identified problem as a tool for identifying preliminary design principles to address the specified issues.
Phase 2: Framework design and construction	As a collaborative act, this phase involves prototyping curriculum design as informed by scholarship of teaching and learning (SOTL) underpinned by the recognised principles of design.

Phase 3: Framework finalisation-reflective evaluation	Revision of designed framework through constructive feedback from end-users and project peers as well as the refinement of overall design.

Source: Adapted from Cochrane (2022:4)

While conducting the study, the researcher acknowledged that the selected research strategy could be flexibly adapted to allow for the design of a WIL (Simulations) within MAE. In a similar context, Cochrane, Cook, Aiello, Christie, Sinfield, Steagall, and Aguayo (2017:54) reiterated on the use of DBR framework flexibly by applying its first two phases to develop valid educational experiences and learner-focused pedagogies in higher education. Considering the above, the researcher's strategy supported DBR for theory extension around accounting education with a special focus on WIL (Simulations) for MA within higher education. Thus, the DBR strategy for this study involved a flexible three-phased framework (see Figure 4.5), namely: Phase 1 - exploration of the SBE delivered under the WIL research problem which acted as the theoretical basis for WIL (Simulations) practices informed by existing literacies, document review, and the conceptual WIL (Simulations) framework; Phase 2 - construction and design of a WIL (Simulations) framework which involved a first round of semi-structured interviews with academics involved in MA programmes with a WIL (Simulations) curriculum from the selected UoTs; and Phase 3 - reflection on the WIL framework which involved reflective evaluation and finalising the designed WIL (Simulations) framework through a second round of semi-structured interviews with WIL (Simulations) academics from the selected UoTs.

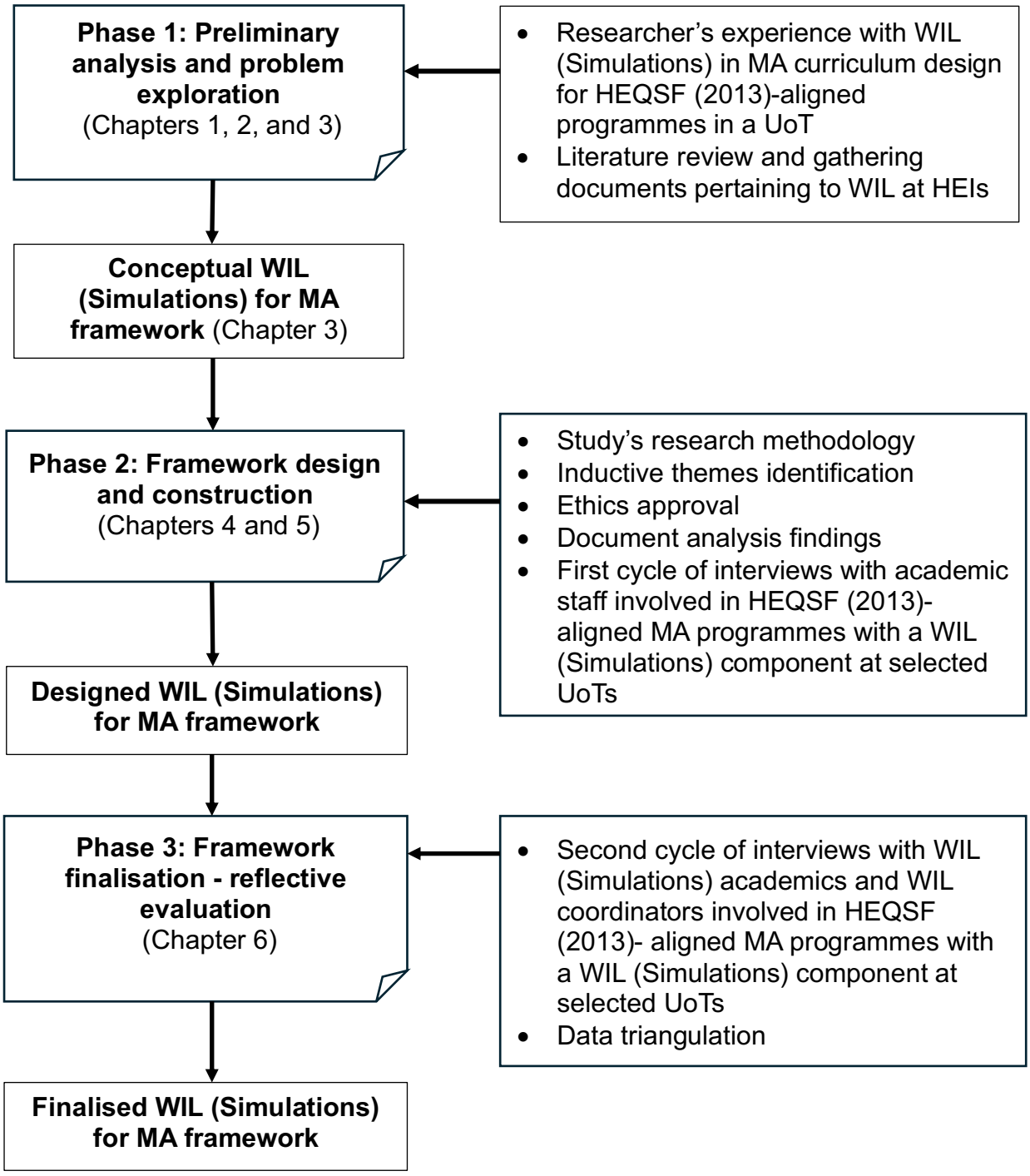


Figure 4.5: DBR strategy framework for this study

Sources: Adapted from Cochrane (2022:4); McKenney & Reeves (2019:67)

As noted in Figure 4.5 above, the study's DBR framework only included the following phases: Phase 1: Preliminary analysis and problem exploration; Phase 2: Framework design and construction; and Phase 3: Framework finalisation-reflective evaluation which have been contextualised below:

- Phase 1 - Preliminary analysis and problem exploration

Phase 1 of the DBR, documented in Chapters 1, 2, and 3, mainly acted as the theoretical and empirical foundation for the investigation. The development of the HEQSF (2013) resulted in a national review of curricula within higher education institutions which led to some UoTs introducing WIL (Simulations) into their commercial programmes. The specific theoretical and knowledge gaps that were investigated related to the lack of an established WIL (Simulations) for MA framework pertaining to its design, implementation, assessment, and monitoring practices within South African UoTs. Key features of this phase included the exploration of the problem that was investigated strengthened by uncovering existing WIL literacies and the researcher's conceptual framework.

Exploring the research problem involving a WIL (Simulations) curriculum has been conducted in the preceding chapters based on existing literature, and industry skills-set requirements for MA graduates at entry level, which subsequently led to the study's conceptual framework. The use of SBE within higher education in South Africa has resulted in newer learning literacies emerging (Bishop 2019:21; Du Preez, Hill, Coetzee, Motsamai, & Stark 2023:139; Rudman & Kruger-van Renen 2014:187; Van der Merwe 2013:1137), motivating the researcher to integrate such literacies into MAE programmes within UoTs. Conversely, literacies available uncovered limited frameworks for South African UoTs offering WIL (Simulations), and none for HEQSF (2013)-aligned programmes with MAE. The literature review in Chapters 2 and 3 provided a broad overview on Kolb's (1984:38) Experiential Learning Theory (ELT), current WIL practices within South African higher education, SBE, and critical MA attributes required for entry-level graduates. These previously mentioned aspects of the uncovered literature informed the research's preliminary designs which were: SBE delivered under WIL as an educational approach (Chapter 3, Section 3.5.5.1 - Figure 3.8) and a conceptual framework for WIL (Simulations) for MA (See Chapter 3, Section 3.6 - Figure 3.9).

In shaping the conceptual WIL framework from Chapter 3, the researcher aimed to conduct a manual document analysis related to WIL practices and SBE delivery within South African higher education prior to engaging in Phase 2, which has been detailed under data analysis. As stated by Morgan (2022:64), document analysis refers to analysing varied forms of documents that include books, news articles, scholarly journal articles, and institutional reports that relate to the phenomenon being investigated using reflexive Thematic Analysis (TA). Additionally, the literature review, preliminary designs, and the document analysis further shaped the collection instrument (interview questions) that was used during the study's Phases 2 and 3 within the DBR strategy.

- Phase 2 - Framework design and construction

The framework design and construction phase centred on the opinions from academic staff involved in HEQSF (2013)-aligned programmes with a WIL (Simulations) curriculum delivered for MA within the selected UoTs, which, in turn, was guided by the study's main Research Objective (RO) and Research Question (RQ), which stated:

RO: The research study's primary objective is to develop a simulations-based WIL framework to bridge theory and practice in management accounting education at South African UoTs; and

RQ: How can a simulation-based WIL framework be developed for MA programmes at South African UoTs aimed at preparing students for industry?

The study's Phase 2 commenced with the findings from the document analysis and the study's conceptual framework from Phase 2 to construct the research instrument for collecting data using semi-structured interviews. Thereafter, the researcher obtained ethics approval from Unisa and from the selected UoTs to conduct research involving university staff. Subsequently, a pilot study was administered with a single representative from one of the selected UoTs. Pilot studies assist researchers to reflect on all procedures to be followed for the main study by validating feasibility through assessing the inclusion and exclusion criteria of participants, testing the research instrument and modifying the envisioned data collection strategy where applicable (Williams-McBean 2019:1058).

Upon finalising the research instrument, the researcher recruited the participants from the selected UoTs via email sent with the study's participation information sheet and consent forms. The participants interviewed for this study were selected to ensure a diverse scope of opinions, experiences, and expertise significant to the teaching and learning of MA at a HEI. To gain an overview about WIL (Simulations) delivery, the researcher included professionals and practitioners who possessed both academic and industry expertise within the broad fields of accounting, auditing, and finance. A total of 18 semi-structured interviews were conducted, independently transcribed and anonymously labelled as P0 to P18 where P0 represents the pilot interview from Group 1 and P1 to P18 represent all participants from both groups. In addition, the data from the pilot study did not form part of the findings. The data was analysed using a computer-assisted qualitative data analysis software (CAQDAS), namely, ATLAS.ti version 24. In addition, the documents that were manually analysed from Phase 1 were also analysed using ATLAS.ti to develop a comprehensive qualitative codebook. All findings from Phases 1 and 2 were used to design the WIL (Simulations) for MA framework.

- Phase 3 - Framework finalisation-reflective evaluation

Phase 3 of the current study's DBR framework focused on reflective evaluation of the designed WIL (Simulations) for MA framework from Phase 2 as a means of validating the designed WIL model with participants in practice of teaching WIL (Simulations) for MA from the selected UoTs. A second round of semi-structured interviews was conducted to reflect on the designed WIL (Simulations) framework design from Phase 2. Reflective practice was required for validating the designed WIL (Simulations) framework towards sustaining quality practices in teaching and learning frameworks as a hallmark for professional education (Huntely 2008:19). Conversely, Roberts, Barblett, Boylan and Knaus (2021:331) uttered that placing reflective practice within educational research allows for improvement of future practices for higher education programmes. The investigation applied Mohamed, Rashid and Alqaryouti's (2022:5) cyclical reflective practice model which emphasises problem-solving and action-oriented critical reflection. The cyclical reflective practice model features reflective practices on technicalities, situational settings (environment), sensitive aspects (moral) and problem-orientation traits of a phenomenon. Additionally, the previously

mentioned model is based on continuous modification and action to refine desired outcomes as illustrated in Figure 4.6 below:

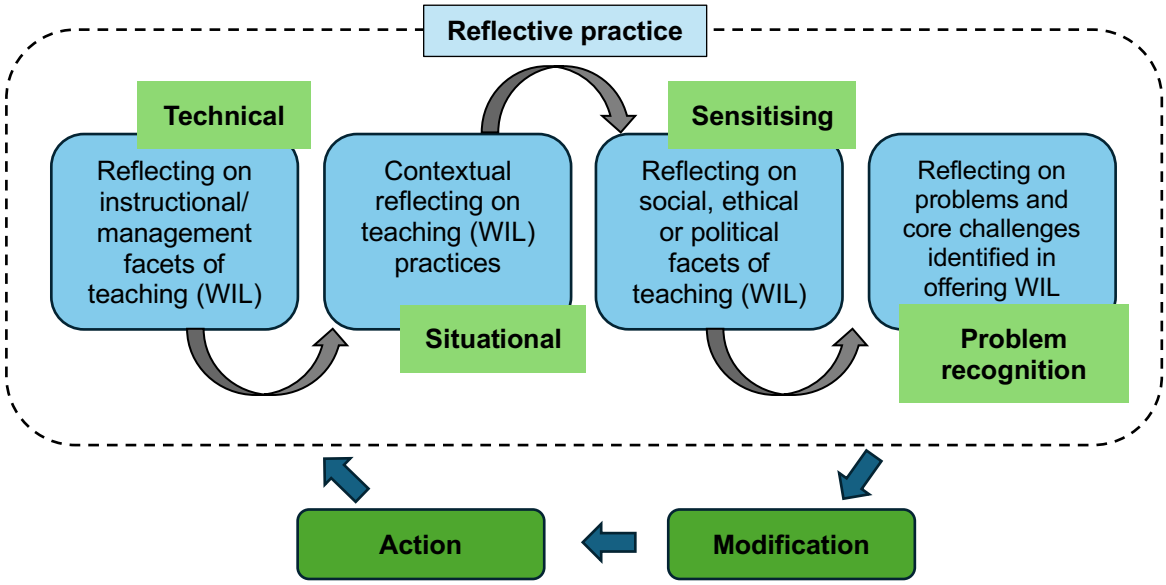


Figure 4.6: Cyclical reflective practice model

Source: Adapted from Mohamed et al (2022:5)

As an effort to reflect on the designed WIL (Simulations) framework for MA, participants engaged with the researcher to finalise the model by reflecting on its technicalities, situational settings (environment), sensitive aspects (moral), and possible limitations. As a means of reflective practice, the second round of interviews shed light on valuable insights to identify possible gaps and weaknesses in the WIL (Simulations) framework design. The following actions were undertaken by the researcher post the second round of interviews and data analysis in finalising the WIL (Simulations) framework:

- Reviewing the designed framework to identify its main components, theories and limitations based on the triangulation of interactions with participants during the initial interviews, literature review and document analysis.
- Practice self-reflection to gain an overall understanding of the designed WIL (Simulations) framework to avoid biasness in the validation process.
- Comparing the framework with existing literacies and models designed for similar fields within accounting education to seek support evidence or conflicting findings.
- Iterate and refine the designed WIL (Simulations) framework to form insights gained through reflective interactions with participants by making the necessary

adjustments or modifications to better align with overall research findings and interpretations.

In conducting Phase 3, the researcher recruited the participants from the initial sample pool focusing on WIL (Simulations) academics and WIL coordinators from Group 1 and Group 2. A total of five participants was available to reflectively evaluate the designed WIL (Simulations) for MA framework of which two were from Group 1, and three were from Group 2. The interviews were then scheduled on Microsoft 365 Copilot's ® Microsoft Teams ®, recorded, and transcribed using the software's Artificial Intelligence (AI) recap feature, which automated meeting notes and transcribed spoken words in real time (Microsoft 365 2025:1). The reflective findings were documented and used to finalise the WIL (Simulations) for MA framework. The following section provides detail of the study's population and sampling procedures.

4.4 Population and sampling steps

This section outlines the study's population, sample selection procedures, and pilot study. The investigation comprises of two data sources, namely: secondary data sources obtained through documents and primary data collected through semi-structured interviews.

4.4.1 Document analysis data sources and sampling procedures

Research in WIL for MA has been explored by various scholars to identify key aspects such as its benefits, challenges and best practices within a higher education environment (Bishop 2020:21; Rudman & Kruger-van Renen 2014:187; Van der Merwe 2013:1137). The uniqueness of the investigation stemmed from its focus on the delivery of WIL (Simulations) as informed by higher education practices within the Republic of South Africa. As such, the researcher drew from previous studies conducted on WIL delivery, SBE practices, and MA competency frameworks to purposely select the appropriate documents suitable for analysing best practices on experiential learning within South Africa's higher education environment. Moreover, secondary data used for the document analysis was pivotal for the investigating because it offered the researcher cost-effectiveness, ease of access, and the ability to analyse large datasets. The researcher's qualitative document analysis process was reflexively adapted from Atheide's 'Process of Document Analysis' (1996:25-41) which

entails six fundamental steps, namely: Step 1: Defining a clear inclusion criterion for documents; Step 2: Gathering documents; Step 3: Conveying central areas of analysis; Step 4: Coding of documents; Step 5: Verification of codes and themes and; Step 6: Analysing. These steps are discussed below:

- Step 1: Inclusion criteria for documents to be analysed. The documents that were included were based on Wach and Ward's (2013:2-4) guidelines for inclusion which centre on: i) relevance; ii) document type; iii) publication date; iv) accessibility and v) credibility. Thus, the inclusion criteria pertaining to this study were stated as follows: Documents were considered based on their relevancy to MAE, WIL practices, policies and guidelines that originated from credible public domains and sources such as academic literature databases, public HEIs' and government departments' documents published within the past two decades and which were written in English. The databases used to source academic literature included Scopus, Web of Science, Eric, ScienceDirect, and Google Scholar to obtain peer-reviewed journal articles and scholarly conference publications. In addition, the exclusion criteria for academic literature were non-peer-reviewed sources and publications that lacked explicit discussions of applied learning, experiential learning, or WIL.

- Step 2: Document collection. The documents collected for this study were categorised into six groups, namely: i) WIL policies and guidelines; ii) Syllabi and programme manuals; iii) WIL guidelines for higher education; iv) National Qualifications Framework; v) Key scholarly literacies, and vi) MA professional competency frameworks as outlined in Table 4.4 below:

Table 4.4: Documents collected for document analysis

Documents	Details	Source(s)	Units
WIL policies and guidelines	Policies and documents that specify WIL objectives, requirements and learning outcomes from UoTs	Current WIL policies from Group 1	1
		Current WIL policies from Group 2	1
	Documents relating to programmes with MA as a major	Current prospectuses from Group 1	2

Syllabi and programme manuals	module and a WIL (Simulations) component	Current prospectuses from Group 2	1
WIL guidelines for higher education	International publication on WIL and South Africa's higher education official guidelines on WIL delivery at higher education	Ferns, Zegwaard, Pretti, and Rowe (2024:1); The Council on Higher Education's (CHE) WIL: good practice guide (2011);	2
National qualifications framework	Qualification structure documents specifying programme outcomes, level outcomes and qualifiers	Higher Education Quality Committee (HEQC) (2004)	1
		Higher Education Qualifications Sub-Framework (HEQSF) (2013)	1
		SAQA documents pertaining to programmes with a major in MA from Group 1	1
		SAQA documents pertaining to programmes with a major in MA from Group 2	1
Local publications articles	Articles featuring SBE practices within a Higher Education Institute (HEI) setting	Bishop (2019:20); de Villiers (2015:485); Du Preez et al (2023:139); Hough (2012:973); Iipinge, Batholmeus, and Pop (2020:531); Malan (2021:1); Mhlanga, Denhere, and Moloi (2022:464); Rudman and van Renen (2014:187); Wolmarans (2006:252)	9
MA competency frameworks	Competency frameworks as suggested by MA professional bodies	American Institute of Certified Public Accountants & Chartered Institute of Management Accountants (AICPA-CIMA (2019); Chartered Institute of Business Accountants (CIBA) (2023); South African Institute of Chartered Accountants (SAICA) (2021); South African Institute of Public Accountants (SAIPA) (2021)	4

Source: Own compilation

The majority of the documents were collected electronically, sorted manually based on the study's progress since 2021 and were stored in the researcher's password-protected computer. The following methods were used to collect the secondary data outlined in Table 4.4 above:

- The document collection commenced with a comprehensive literature search that included terms such as: “Work-Integrated Learning”; “simulations-based education”; “management accounting education”; “accounting education”; “experiential learning theory”; Universities of Technology” ; “vocational education”, etc. which were iteratively adjusted across databases to identify key concepts for SBE delivery. In addition, the researcher utilised Unisa’s online literature search to uncover existing experiential learning practices, WIL frameworks and models for analysis and comparison with the study’s designed (Phase 2 of DBR), and finalised WIL (Simulations) for MA framework (after Phase 3 of DBR).
- Comprehensive literature searches on MA competency frameworks obtained from professional bodies’ websites and official publications.
- South Africa’s government and institutional websites that provided information on WIL higher education practices including: CHE, SAQA ,HEQC, DHET ,and Universities South Africa (USAf); and
- Group 1 and Group 2’s websites that provide information on programmes with MA as a major and a WIL (Simulations) curriculum.

- Step 3: Areas of analysis - In line with the study’s research questions and objectives, Phase 1’s areas of analysis for documents centred on MAE, WIL objectives and outcomes; MA theory-and-practice integration; SBE; work-readiness; technology; implementation challenges; assessment practices; and quality assurance and monitoring and industry involvement as outlined in Table 4.7. The previously outlined areas of analysis were assembled based on literature from Chapters 2 and 3 as well as the researcher’s experience as an academic within a UoT setting. Additionally, these inductively derived areas of analysis formed the study’s themes (See Table 4.7) which were synthesised from the literature.
- Step 4: Coding of documents - The documents included under Table 4.4 above were coded using ATLAS.ti (Version 24) in which each document was coded based on the selected areas of analysis (themes) aimed at verifying the degree to which each unit of analysis addressed or considered the identified areas descriptively. Moreover, the interview questions were provisionally developed from the themes identified in Step 3 and were further refined concurrently with the documents

coding in ATLAS.ti. The iterative alignment between the emerging codes and question development continued until the interview schedule (See Annexures D and E) was finalised after the pilot study. Further details are discussed under this chapter's Section 4.6: Data analysis.

- Step 5: Verification of codes - Codes generated using ATLAS.ti were verified through iterative cycles of coding in which the researcher merged similar or redundant codes, renamed or removed unclear codes, and created subcodes for broad concepts . In addition, ATLAS.ti was then used to systematise codes into code categories, descriptively as recommended by Williamson et al (2025:4) (See Chapter 5, Table 5.10 and Annexure L).
- Step 6: Analysis - Once the documents were coded in ATLAS.ti, the researcher analysed the codes to identify patterns, relationships, and insights. In using the "Code Manager" function in ATLAS.ti, the researcher refined all codes and codes categories, grouped codes into themes and downloaded the codes list into Microsoft Excel (Version 2021) to build findings which were thematically documented for the purpose of developing a DBR Phase 1 codebook (See Annexure L).

4.4.2 Primary data sources

Researchers need to consider the population in its entirety, the targeted population and the sample size from the targeted population (Watters & Biernacki 1989:417). As the study pertained to experiential learning for MA within the public higher education environment in South Africa, the population consisted of the UoTs operating in the country. As mentioned in Chapter 1, at the time of the investigation the researcher identified seven UoTs operating within the Republic of South Africa as listed by the National Government of South Africa (2023:1) which represent the study's population. Moreover, the mentioned UoTs were deidentified as Groups (Group 1, Group 2, Group 3, Group 4, Group 5, Group 6, and Group 7). At the time of data collection, only five UoT groups (Group 1, Group 2, Group 3, Group 4, and Group 5) offered programmes with MA as a major constituent of the qualification at undergraduate level, serving as the study's targeted population.

4.4.3 Sampling procedures for interviews

As a crucial aspect of research methodology, sampling involves selecting a portion of the population with the purpose of gathering raw data, analysing the data to draw interpretations and conclusions about the entire population (Saunders et al 2023:294). According to Vasileiou, Barnett, Thorpe and Young (2018:1-2), samples for qualitative studies tend to be small as a means of supporting the depth of case-orientated analysis which is a crucial aspect of this mode of investigation. Conversely, Lincon and Guba (1985:202) proposed that within qualitative research, the sample size should be guided by the condition of information redundancy. Furthermore, Saunders and Townsend (2016:837) advocate that sampling is a better alternative to conducting a census if it is impractical to survey/interview an entire population and if budget and time constraints pose difficulties in conducting research with the entire population. According to Cooper and Schindler (2008:168), a sampling guideline for qualitative research is to ensure that the sample size is adequate to generate new understandings, nuances and knowledge. Additionally, qualitative sampling involves non-probability methods, which include quota sampling, purposive sampling, volunteer sampling (self-selection or snowball), and convenience sampling (Saunders et al 2023:352). Non-probability sampling uses non-random standards such as availability, geographical immediacy, or expert knowledge of the participants being investigated to answer a research question (Flick, Von Kardorff & Steinke 2004:184-186). In context of the investigation, the study's sample was purposely selected to obtain rich data by virtue of the participants' capacity to provide in-depth perspectives (Vasileiou et al 2018:3). Purposive sampling is an appropriate method when the researcher works with small samples (Campbell, Greenwood, Prior, Shearer, Walkem, Young & Walker 2020:652-653). Furthermore, the researcher considered Maree's (2010:78) advice on selecting participants based on a pre-set criterion. The following sampling selection steps were followed:

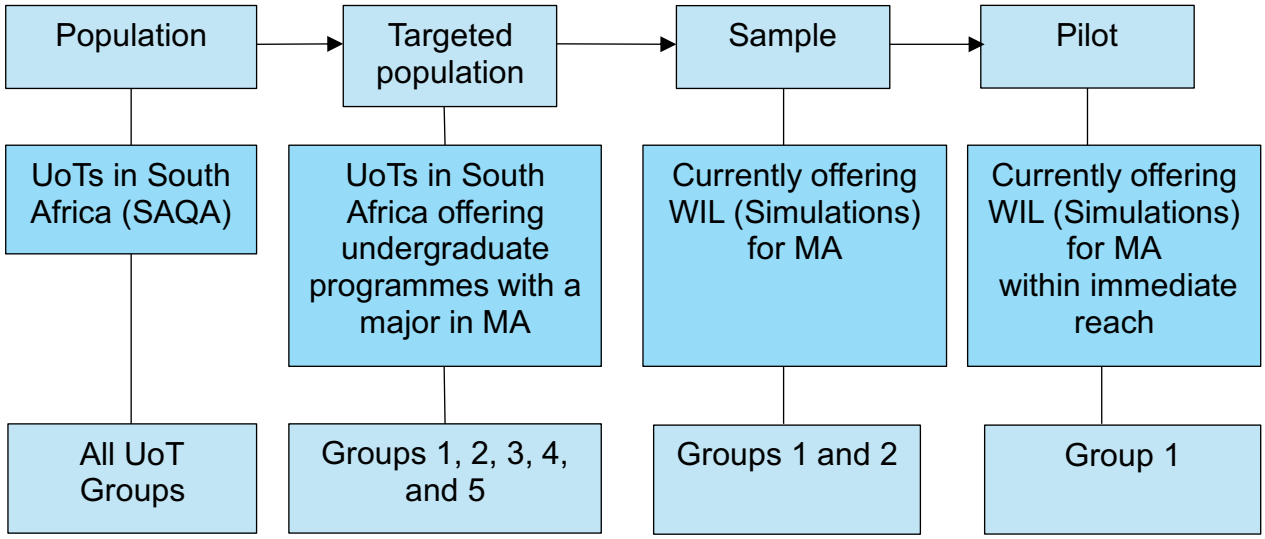


Figure 4.7: Population and sampling steps

Source: Own compilation

As shown in Figure 4.7, only SAQA accredited UoTs operating within South Africa represented the entire population, while the targeted population only includes those offering undergraduate programmes with MA as a major and a WIL (Simulations) component. UoTs currently offering programmes with MA as a major and a WIL (Simulations) component were selected to represent the study's sample, namely: Group1 and Group 2. In addition, the pilot study was conducted with Group 1 since it had the largest student number in the country, representing a diverse demographic set of potential participants. The units of sample in research refers to specific elements that the sample comprises of and may vary based on the nature of population and the research problem being investigated (Johnson, Reynolds & Mycoff 2020:102). As shown in Table 4.5 below, the study's sample units were comprised of academic staff members who were involved with programmes with MA as a major module and a WIL (Simulations) curriculum.

Table 4.5: Sample units for interviews

UoT	Programmes	Core modules and credits	Credits	Phase 2 interview units	Phase 3 interview units
Group 1	Diploma in Financial Management	WIL in Financial Management I (Simulations)	12	1	1
		Introduction to Finance and Business I	12	1	
		WIL in Financial Management II (Simulations)	24	2	2
		Management Accounting II	24	2	
		WIL in Financial Management III (Simulations)	24	2	2
		Management Accounting III	24	2	
	Advanced Diploma in Financial Management	Financial Management IV	24	2	
		WIL in Financial Management IV (Simulations)	12	1	1
		Financial Operations IV	12	1	
		Performance Operations and Management IV	24	2	
Group 2	Management Sciences in Accountancy	WIL (Simulations)	30	2	2
		Cost and Financial Management I	25	2	
		Cost and Financial Management II	25	2	
		Cost and Financial Management III	13	1	

Sources: Own compilation; based on public prospectuses from Group 1 and Group 2 UoTs

The inclusion and exclusion criteria for the sample units for both sample groups were as follows:

Inclusion criteria:

- Academic staff currently responsible for programmes with a WIL (Simulations) component and a major in MA.
- Academic staff lecturing WIL (Simulations modules).
- Academic staff lecturing core modules of programme related to MA concepts.

Exclusion criteria:

- Academic staff members responsible for programmes with limited MA credits

As a rule of thumb, the number of participants was derived using the following guidelines:

- For modules bearing less than 20 credits, a single participant was required for an interview; and
- For modules bearing between 20 and 30 credits, a minimum of two participants were required for interviews.

Thus, the total number of interviews varied between the two groups due to the differences in the number of programmes offered. As primary step of data collection, Phase 2 afforded the researcher the insight to design a WIL (Simulations) framework for MA based on informed practical inputs and knowledge. The semi-structured interview questions in Phase 2 (See Annexure D) were informed by the inductively generated codes and themes which were designed to validate, refine, and extend the WIL (Simulations) framework for MA components.

4.5 Data collection method

Gathering information relevant to the WIL (Simulations) delivery practices from UoTs for MA programmes was a central aspect of the investigation. Molin (2019:11) stated that data collection serves as the first natural step towards data analysis and involves gathering information to answer the research questions. WIL practices along with educators who were actively involved in the practical delivery of WIL (Simulations) curriculum for programmes with MA as a major within South African UoTs served as the primary variables of interest for the investigation. While the data collection method pertaining to document analysis was outlined in Section 4.4.1 above, this section highlights the data collection protocol followed in gathering primary sources through interviews.

4.5.1 Data collection method for interviews (DBR Phase 2 and Phase 3)

As described by Hox and Boejie (2005:593), primary data refers to information collected for the specific research problem being investigated. Within qualitative research, primary data should be descriptive information that outlines context from people's perceptive (Creswell & Creswell 2018:260). Saunders et al (2019:438) outlined five forms of qualitative interviews, which include structured, in-depth, semi-structured, dialogic or convergent**.** As a qualitative data collection instrument, semi-structured interviews were deemed appropriate for the current investigation. The

flexibility of semi-structured interviews allows researchers to combine structured and in-depth interview approaches in a non-standardised manner when asking questions to respondents. Semi-structured interviews aim to gain explorative insights on the problem being investigated, while providing limited guidance geared towards the themes being explored (Saunders et al 2019:439).

Researchers who derive their question themes from existing theories will collect data deductively aimed at testing the theory and produce comparable and valid data. As the interviewer, the researcher plays a role in asking pre-set questions and driving the interview to explore novel discussions (Cooper & Schindler 2008:171). Moreso, to ensure the participants' comfortability, the researcher conducted interviews in the participants' natural working environment, i.e., within the UoT environment. Additionally, the researcher catered for flexibility and convenience for participants who faced geographical challenges when requested to participate in the research study by providing alternatives for interviews through online third-party tools and platforms such as Microsoft Teams ® (Version 1.6.0.20074). As stated by both Microsoft ® (2023:1), settings are available to ensure that participants remain anonymous.

As mentioned in Section 4.3.5 above, obtaining ethics approval to conduct research in the selected sample (UoTs) was the starting point of the data collection process followed by the distribution of consent forms to the appropriate individuals as advised by Edwards and Holland (2013:68). The primary data obtained from DBR Phase 2 and Phase 3 was collected using the developed interview schedule (See Annexure D and E) which was informed by the findings from DBR Phase 1. Moreover, the interviews were conducted in line with the following guidelines: Questions pertaining to Phase 2 consisted of open-ended questions that served as a guiding point and numerous semi-structured questions (see to Annexure D) that allowed participants to freely express their views, perceptions, and opinions. Moreover, the interview questions pertaining to DBR Phases 2 and 3 were thematically framed.

The use of technology to record interviews through audios or visuals plays a crucial role in ensuring that the data collection process consumes minimum time and efforts as emphasised by Maree (2019:89). The recording of interviews means that qualitative interviewers can focus on listening, probing and following up questions, while keeping

eye contact with their participant (Edwards & Holland 2013:69). As a caution, interview recordings may lead to disruptions or uncomfortableness felt by the interviewees, which may compromise the quality and trustworthiness of data gathered (Rosalind & Holland 2013:70). In following the previously mentioned guidelines, interviews conducted in the study's Phase 2 were audio recorded, transcribed, and were made available for participants to verify if the information was accurately captured (member check). Furthermore, within the reflective interview (Phase 3), all participants were invited for a member check; however, only WIL (Simulations) academics and WIL coordinators were requested to participate in the reflective evaluation of the designed WIL (Simulations) framework for MA. Additionally, Phase 3 interviews, although recorded, were transcribed using Microsoft Teams Artificial Intelligence (AI) tool to capture the essential suggestions echoed by the WIL (Simulations) academics and WIL coordinators.

4.6 Data analysis method

This section highlights the interactive nature of qualitative data analysis as an interconnected process. The data analysis method outlines the processing and analysis of both primary and secondary data sources. With the research objective in mind, the appropriate qualitative analysis technique in the form of Thematic Analysis (TA) was outlined as an interactive and iterative process. The TA approach is a useful method to identify common themes from data collected through interviews and texts (Saunders et al 2023:684). Within qualitative research, data collection and analysis are interactive where an inductive or a deductive approach can be followed (Saunders et al 2023:640). Willson (2019:384) described data analysis as condensing and interpreting collected data using logical, consistent and methodical reasoning to identify relationships, patterns or trends. As stated, the research study involved primary data as interviews and secondary data as documents. Due to the complexity of the data, the research followed the qualitative data analysis frameworks as indicated in Table 4.6 below:

Table 4.6: Study's qualitative data analysis frameworks

	Procedure	**Informed by**
DBR Phase 1 (Problem exploration)	Literature review and conceptual framework	Literature chapters 2 and 3
	Inductive identification of themes	Braun and Clarke (2006:77); Nowell, Norris, White and Moules' (2017:4) Thematic Analysis (TA) frameworks
	Interview schedule design	Literature chapters
	Secondary data analysis on the document databased collected, consisting of: i) WIL policies and guidelines; ii) Syllabi and programme manuals; iii) WIL guidelines for higher education; iv) National qualifications framework; v) Key scholarly WIL literacies; and vi) MA competency frameworks from professional bodies	Fife and Gossner's (2024:3) Deductive Qualitative Analysis (DQA); Williamson, van Rooyen and Dry's (2025:4,11) coding in ATLAS.ti frameworks.
	DBR Phase 1 codebook development	Saldaña's (2016:14) codes-to-theory framework
DBR Phase 2 (Framework design)	Cycle 1 of semi-structured interviews	Interview schedule
	Primary data analysis from the transcribed semi-structured interviews with academics involved in programmes with WIL (Simulations)	Fife and Gossner's (2024:3) Deductive Qualitative Analysis (DQA); Williamson, van Rooyen and Dry's (2025:4,11) Coding in ATLAS.ti frameworks
	DBR Phase 2 codebook development	Saldaña's (2016:14) codes-to-theory;
	WIL (Simulations) in MA framework design	Merged DBR Phase 1 and Phase 2 codebook

Source: Own compilation, based on Braun and Clarke (2006:77); Fife and Gossner (2024:3); Nowell, Norris, White and Moules (2017:4); Saldaña (2016:14); Williamson, van Rooyen and Dry's (2025:4,11) frameworks

4.6.1 Data analysis process followed to achieve the research findings

This section details the analytical process pertaining to coding procedures for DBR Phase 1 and Phase 2 towards finalising the study's qualitative codebook. For DBR, Phase 1 - problem exploration is also an essential part of the inherent process of DBR in terms of the rigour of the design (see Figure 4.5). At a general level, DBR Phase 1 works incrementally towards a culmination response to the overall research problem. It assisted with clarifying the study's problem for a fuller, onward investigation in Phase 2, and therefore creates foundational knowledge towards refined insights that are presented in the final analysis and interpretation. Phase 2 also worked specifically, following the principle of incrementalism, which is fitting for DBR Phase 1, and therefore it also set out to respond to the study's research objectives and research questions. A structured process for developing the qualitative codebook was implemented, which commenced with initial coding of secondary data sources and culminating in the synthesis of primary and secondary data codebooks.

4.6.1.1 Themes identified

The qualitative literature findings on WIL within a South African context uncovered key themes that reflected on its purpose, which aimed to bridge the gap between theoretical learning and real-life professional practice. According to Saldanã (2016:15), themes are a "collection of abstract and subtle expressions/patterns/processes that explain a phenomenon". Six themes were pre-identified from the literature review chapters. As advised by Fife and Gossner (2024:6-7), themes can be identified prior to, during and after data collection and analysis. A comprehensive breakdown of each identified theme was outlined to afford a rationale on the categorisation of the themes and connected analysis. Thereafter, the themes were clustered to address the research objectives and questions, to illustrate the nuanced ways in which WIL (Simulations) for MA programmes have revealed areas where industry alignment, support and innovation may further enhance the teaching and learning strategies within UoTs.

An overview of the data coding process employed for this part of the study was outlined in Table 4.6 above where inductive and deductive reasoning were applied and documented thematically. In situating the research problem identified in Chapter 1, the researcher commenced the DBR Phase 1 with a comprehensive literature review to

establish a conceptual WIL (Simulations) for an MA framework drawn from the foundational literature chapters and identified by key concepts outlined in Chapter 3. Thereafter, the thematic analysis, guided by Braun and Clarke (2006:77) and Nowell et al's (2017:4) frameworks, was conducted to inductively identify the significant themes within the uncovered literature which informed the design of the study's semi-structured interview schedule as outlined in Chapter 4, Section 4.4.3.

a) Inductively identified themes for DBR Phase 1 and Phase 2

As indicated in the Section 4.4.3, the initial themes pertaining to the delivery of WIL in higher education were derived by inductively examining a body of literature to identify recurring concepts, theories and patterns as recommended by Braun and Clarke (2006:77), and Nowell et al (2017:4) against the study's research objectives and questions mentioned in Chapter 1. In exploring the literature pertaining to the delivery of WIL, six core themes emerged, each capturing a unique facet of bridging academic knowledge and professional practice within higher education. These themes are outlined in Table 4.7 below with sampled interview questions (See Annexures D and E) from the study's DBR Phase 2 (Framework design and construction):

Table 4.7: Inductively identified themes

Theme	**Details**
Theme 1: Core objectives, impact and influence of WIL (Simulations) on skills development	***Description:*** In line with the CHE's (2011:9,29) and the HEQSF's (2013:11) guidelines on WIL implementation, the theme centres on experiential learning expectations and outcomes when the WIL (Simulations) approach is used in HEIs towards narrowing the gap between theoretical learning of MA and industry-readiness. Moreover, the theme further focused on the impact and influence that WIL (Simulations) has on students when used to replicate work scenarios within a controlled educational environment to develop skills based on mimicking real-world experiences from academics' perspective. The theme was essential for uncovering academic the staff's knowledge and practical ability to deliver WIL (Simulations) for MA.
	Sampled interview questions: • *"Please share your understanding of the core objectives of simulated WIL for financial management programmes?"*

	• *"In your opinion, what impact does simulated WIL have on developing soft-skills for students towards enhancing work-readiness and overall quality of the programme?"*
Theme 2: Theory-Practice integration through WIL (Simulations)	***Description:*** The theme examined the interplay between formal simulated activities conducted during simulation classes and perceived skills development outcomes, highlighting their relative contributions towards MA industry-readiness. As echoed by Du Preez et al (2023:142), Malan and van Dyk (2021:3), and Van Der Merwe (2020:84), the authenticity of using SBE for skills-set development remains a concern within South African HEIs. Additionally, the theme aimed to uncover the academic staff's knowledge over the varied methods to simulate MA tasks and activities while examining their abilities to design MA simulations.
	Sampled interview questions: • *"Can you describe your understanding and significance of integrating theoretical learning and practice for financial management at UoTs"* • *"In the current teaching framework, what tasks and activities are done by students to integrate theoretical concepts into your practical simulations for soft-skills development?"*
Theme 3: Technology in WIL (Simulations)	***Description:*** Centres on the role that technology plays in the creation of an authentic WIL (Simulations) learning environment. Consistent with the CHE's (2011:29) recommendations on resource requirements for WIL delivery, technology serves as valuable resource for theory-practice integration within SBE (Bishop 2019:22; Du Preez et al 2023:141; Hough 2012:978). The theme aims to uncover the academic staff's knowledge of digital resources that can be used in MA simulations. Moreover, The theme further examines the academic staff's proficiency in using digital tools aimed at creating authentic simulations for MA.
	Sampled interview question:

	• *"In your experience, what technological resources or software are vital when offering simulations specifically for financial management industry?"*
Theme 4: Implementation challenges of WIL (Simulations) programmes	***Description:*** The theme focused on pragmatic challenges when implementing WIL (Simulations) within a higher education environment. The significance of this theme aims to uncover feasibility concerns for UoT qualifications that were recently developed and offered under the revised HEQSF (2013) in South Africa.
	Sampled interview questions: • *"Briefly discuss your experience when implementing simulated WIL compared to traditional lectures for financial management."* • *"Describe the resources provided to academics to ensure that simulated WIL for financial management is successfully implemented"*
Theme 5: Assessment and evaluation practices in WIL (Simulations) programmes	***Description:*** Assessment for WIL activities should be consistent with the intended learning outcomes per HEQSF (2013) level and should comprise of both formative and summative tasks (CHE 2011:42-43). The theme focuses on assessment and evaluation practices for WIL (Simulations) programmes within higher education.
	Sampled interview question: • *"What are the current assessment strategies for the simulated WIL in financial management to ensure that students apply theoretical knowledge and skills to real-world scenarios and industry expectations?"*
Theme 6: Reflection and monitoring practices of WIL (Simulations) programmes	***Description:*** As echoed in the CHE (2011:60), WIL academics are responsible for monitoring and evaluating the effectiveness of WIL programmes. Theme centres on the monitoring practices implemented within WIL (Simulations) curricula where continuous monitoring is conducted to determine the progress towards the intended experiential learning outcomes.
	Sampled interview questions: • *"Can you describe the current reflective and monitoring practices for simulated WIL in financial management?"*

	• *"Are there regular reviews and/or evaluations after each cycle of students to gauge progress and formal feedback on the running of simulated WIL in financial management? If so, please elaborate."*

Source: Own compilation

The inductively identified themes above provided the researcher with foundational areas of investigation pertaining to the study's qualitative inquiry on the delivery of WIL (Simulations) within a higher education context.

b) Reflective evaluation themes identified for DBR Phase 3

In accordance with Cochrane's (2022:4) DBR framework for curriculum innovation, Phase 3 signifies a crucial step focused on reflective "refinement, evaluation, and finalisation". The study's DBR Phase 3 comprised of the following reflexive themes, namely: Theme 1: Theoretical underpinnings; Theme 2: Feasibility of framework; Theme 3: Stakeholder perspectives; and Theme 4: WIL policy implications and improvement, as described in Table 4.8 below:

Table 4.8: Reflective evaluation themes under DBR Phase 3

Theme	**Details**
Theme 1: Theoretical underpinnings	***Description:*** Consistent with the study's positioning of the theoretical framework, this theme aims to gauge the extent to which the designed WIL (Simulations) framework is underpinned by Kolb's (1984:38) ELT for MA theory-practice integration and skills development. In addition, the theme aims to uncover how WIL academics understand the integration of theory-practice using Kolb's (1984) ELT principles within SBE.
	Sampled interview question: • *"Theoretically, how well does the constructed simulated WIL framework align with the experiential teaching and learning objectives for financial management programmes?"*
	Description: The theme aims to uncover how WIL academics perceive the implementation considerations on the

Theme 2: Feasibility of framework	pedagogical and operational viability of the designed WIL (Simulations) framework for MA.
	Sampled interview questions: • *"Practically, how well does the constructed simulated WIL framework align with the experiential teaching and learning objectives for financial management programmes?"* • *"What inconsistencies, gaps or practical limitations have you identified in the constructed simulated WIL framework for financial management? If noted, please elaborate."*
Theme 3: Stakeholder perspectives	***Description:*** Reflections on how the designed WIL (Simulations) framework will be perceived for contextual appropriateness by stakeholders involved in the delivery of WIL programmes.
	Sampled interview question: • *"In your opinion, in what way will potential employers and industry partners find the constructed simulated WIL framework for financial management useful for entry-level graduates?"*
Theme 4: WIL policy implications and improvement	***Description:*** The theme aimed to uncover the possible implications that may arise from implementing the designed WIL (Simulations) on institutional WIL policies and regulations.
	Sampled interview question: • *"Do you perceive that the constructed simulated WIL framework for financial management could pose any challenges for WIL policies at your university? If there are, do you have suggestions on how they can be mitigated?"* • *"Do you believe that the constructed simulated WIL framework for financial management could be valuable to enhance WIL policy at your university? Please elaborate."*

Source: Own compilation

4.6.2 Qualitative coding procedures

This section highlights the steps taken by the researcher in finalising the study's codebook comprising of DBR Phases 1 and 2 which is the foundational basis of the

analysis towards achieving the outcomes of the investigation. Building on the procedures indicated in Table 4.7 above, the initial and second round of coding were structured in accordance with Saldaña's (2016:14) codes-to-theory framework as illustrated in Figure 4.8 below:

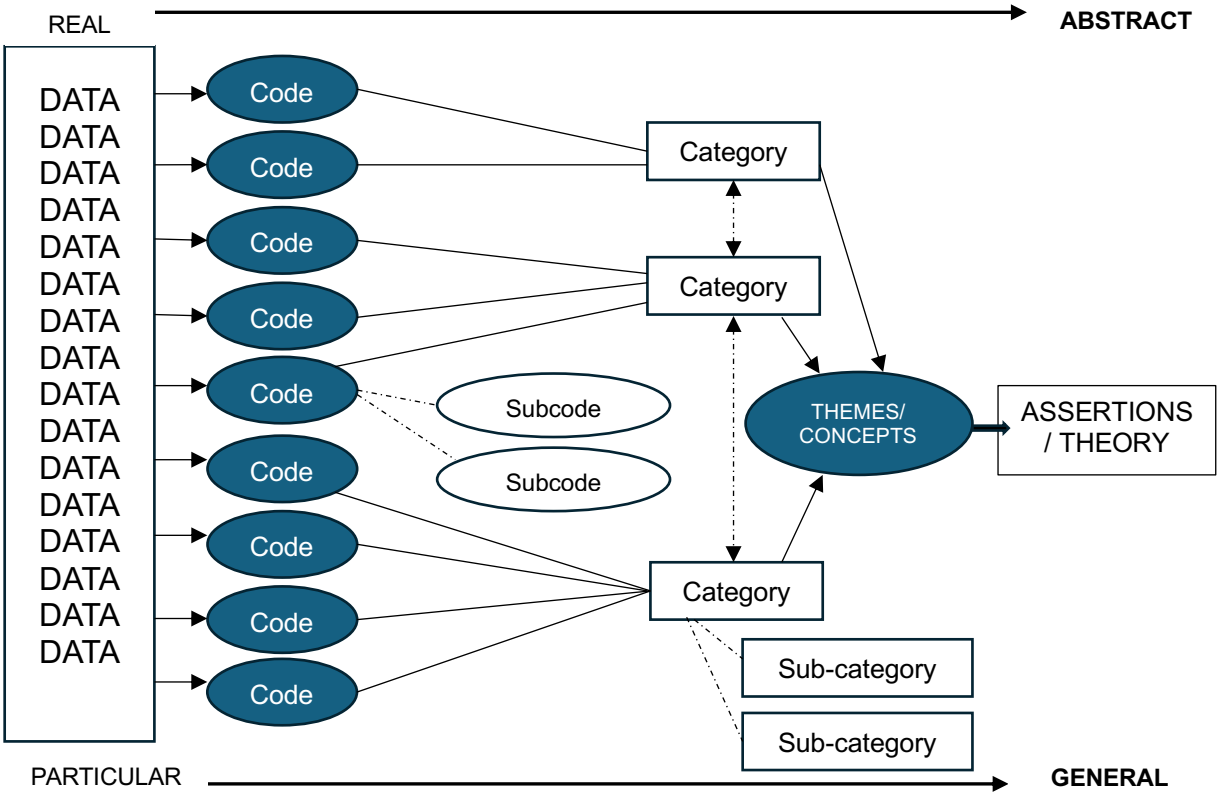


Figure 4.8: Streamlined codes-to-theory model for qualitative enquiry

Source: Saldana (2016:14)

With reference to Figure 4.8 above, the coding procedures followed in the study's codebook development included a combination of manual and computer-assisted coding. This means coding was also achieved through attending to the transcripts manually and making notes in the margins while also using the functions of ATLAS.ti and Excel programmes supported by computer processing capabilities.

4.6.2.1 DBR Phase 1 coding

DBR Phase 1 was the initial, yet noted, incremental step taken in identifying applicable themes and categories for WIL and WIL (Simulations) practices within higher education programmes. Saldaña (2016:67-71) characterises an "eclectic coding approach" in which a pragmatic combination of varied coding methods is used to address a study's research question. Moreover, the previously mentioned approach

comprises of “first cycle coding” methods, which centre on initial data coding procedures, and “second cycle coding” methods, which aim to refine and link categories analytically (Saldaña 2016:68-69). Building on this knowledge, the main data sources for Phase 1 are secondary data in the form of key scholarly literacies and official documents that were manually analysed for open coding. Open-coding method was used as an initial step to create the initial codes. Open coding involves a process of reading segments of texts for open-ended meaning and then coding the notions through linking, defining and developing codes that essentialise the characteristics of a textual quotation (Charmaz 2006:43; Saldaña 2016:115).

The attributes and dimensions of quotations are comprehensively captured in inductively reasoned codes (Nowell et al 2017:4-5). To establish the interaction between concepts and categories developed during open coding, the researcher then conducted axial coding followed by selective coding where the former has been described as a second phase of constant comparative analysis technique for inductive theory development (Scott & Medaugh 2017:1). Thereafter, an additional cycle of coding, in which the documents were further analysed in ATLAS.ti, was conducted as a step to affirm the identified themes and categories. Concurrently, the secondary data was further analysed through document analysis, following Fife and Gossner’s (2024:3) Deductive Qualitative Analysis framework alongside Williamson, van Rooyen and Dry’s (2025:11) ATLAS.ti coding guidelines, enabling Saldaña’s (2016:14) process of codes-to-theory approach towards the initial codebook development under DBR Phase 1.

4.6.2.2 DBR Phase 2 coding

The DQA followed Fife and Gossner’s (2024:3) framework where the six components are applied across the whole study. As indicated in Chapter 1, the study’s research objectives and questions were developed from the identified research gaps in which: a) Chapters 2 and 3 outlined the literature review towards seeking the guiding theory; b) The conceptual framework operationalises the theory; and c) the methodology chapter discussed the gathering of a purposive sample. The study’s DBR Phase 1 of the data analysis uncovered the WIL practices and the feasibility of WIL (Simulations) for MA, which addressed the Research Sub-Objective 1 (RSO1) and the corresponding Research Sub-Question 1 (RSQ1). Additionally, the DBR Phase 2

addressed a further iteration of d) coding and analysing data to address RSO2, RSO3 and their corresponding RSQ2 and RSQ3. DBR Phase 1 and Phase 2 triangulate towards the combined findings which e) theorise the existing gaps through interpretation and to present the contribution. The adapted model is illustrated in Figure 4.9 below:

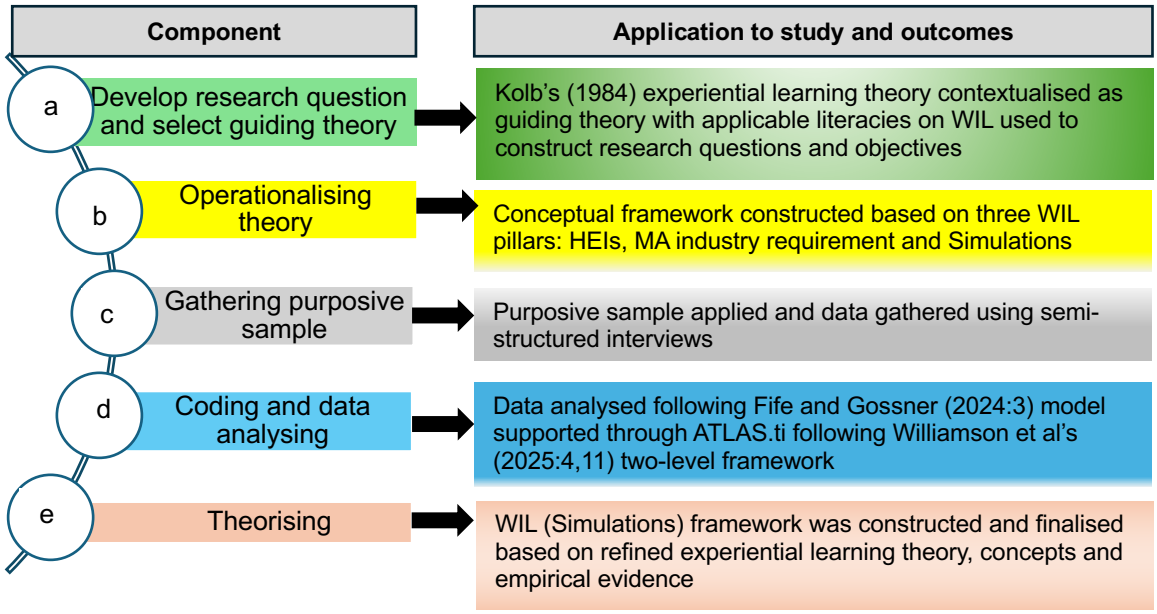


Figure 4.9: Deductive data analysis

Sources: Adapted from Fife and Gossner (2024:3) and Williamson et al (2025:4,11)

Furthermore, the researcher's data analysis was enhanced following Williamson et al's (2025:4,11) two-level coding framework using ATLAS.ti where the first level comprised of human pre-coding and ATLAS.ti AI coding in which a final codebook was constructed through human-centric coding and refining cycles. The second level of Williamson et al's (2025:4) coding framework focuses on codebook trustworthiness in which the researcher used a qualitative advisor to review and ascertain coding consistency. The study's DBR Phase 2 applied and refined the findings from DBR Phase 1 through the empirical data collection and analysis. The first cycle of semi-structured interviews was conducted using the validated interview schedule, and the resulting transcripts were analysed, coded and categorised using the same Deductive Qualitative Analysis (DQA) and ATLAS.ti frameworks under the DBR Phase 1 to develop the DBR Phase 2 codebook.

Through an iterative process of codebook refinement which again was informed by Saldaña's (2016:14) codes-to-theory guidelines (see Figure 4.8), the study's codebook was finalised through the merging of the codebooks developed under the DBR Phase 1 and DBR Phase 2. In considering Lincoln and Guba's (1985:289-290) criteria of qualitative rigour, the researcher ensured the trustworthiness and integrity of the study's findings by addressing: i) credibility through a process of triangulating primary and secondary data to verify consistency of emerging patterns discussed in Chapter 6; ii) transferability by providing thick descriptions on WIL (Simulations) delivery aspects, and applying purposive sampling (discussed under Section 4.4.2); iii) dependability by creating an audit trail through ATLAS.ti, codebooks and memos; and iv) confirmability of codes through iterative cycles of coding and an external audit of the finalised qualitative codebook by an qualitative data expert to ascertain that the findings were supported by the raw data collected. Subsequently, analysed data led to the research findings which informed the designed WIL (Simulations) for the MA framework.

4.7 Method limitations

While this research study was carefully designed for the investigation into and development of a Work-Integrated Learning (WIL) (Simulations) for MA framework, the researcher encountered methodological limitations which must be acknowledged. Moreover, these mentioned limitations were proactively considered throughout the research process, with appropriate steps taken to mitigate their potential impact.

The study was primarily focused on South African UoTs presently delivering a WIL (Simulations) curriculum designed under the HEQSF (2013), thereby excluding traditional, comprehensive, colleges, and distance higher education institutions. This scope limitation was intentional on the basis that UoTs often adopt a more applied and vocational pedagogical approach (CHE 2010:9-10) with curricula designed for workplace readiness. This, in turn, aligns with the objectives of WIL (Simulations) curricula as theory-practice gap interventions. However, the study's scope limitation poses the risk that the findings and conclusions may not be generalised to all other HEIs. As asserted by Saunders et al (2023:454), qualitative case-orientated research prioritises in-depth data since its intention is not to generalise, but to provide rich and contextual insights that may inform practice in similar environments. In addressing this

limitation, the study's sample included two diverse UoTs with a range of participants who possess extensive academic and industry experiences to ascertain a multifaceted understanding on the delivery, administration, implementation, assessment and monitoring practices of WIL (Simulations) delivery. Moreover, the detailed descriptions provided in the study enable readers to assess the degree to which the findings and conclusions can be transferable to other situations or contexts (Lincoln & Guba 1985:124).

The study employed a qualitative, interpretivism-to-pragmatic research approach, using a combination of document analysis (see Chapter 5) and two cycles of semi-structured interviews with a relatively small sample (see Chapters 5 and 6). While this limited the scope of statistical generalisability, it was consistent with the interpretivism philosophy which prioritises subjective meaning and interpretation (Creswell & Creswell 2022:9) as the qualitative nature of the study allowed for a comprehensive exploration of participants' experiences with the delivery of a WIL (Simulations) curriculum. Furthermore, the incorporation of pragmatism philosophy consistently links with its objective, which is focused on practical outcomes and problem-solving research as a meaningful contribution to the body of knowledge (Saunders et al 2023:152). As such, the researcher's pragmatic stance on the investigation centred on creating a WIL (Simulations) for an MA framework that is designed with the CHE (2011) and the HEQSF (2013) WIL guidelines, underpinned by Kolb's (1984:38) ELT as an intervening solution for narrowing the theory-practice gap between MA graduates and industry. In addressing concerns relating to the study's rigour, the researcher adapted Cochrane's (2022:4) DBR strategy while following a structured and transparent research approach, using data collection procedures familiar with the research community (Sukmawati 2023:119), and applied Lincoln and Guba's (1985:290) four criteria for establishing trustworthiness focusing on credibility, transferability, dependability, and confirmability as discussed in Section 4.8 below.

Another limitation relates to the lack of external validation of the proposed WIL (Simulations) framework by MA industry professionals or workplace partners as the model was only reflectively evaluated by the study's participants during the second cycle of reflective interviews. While this approach generated contextually rich feedback and suggested refinements, it limited the external validation of WIL delivery as

recommended by the CHE (2011:51). To address this limitation, the researcher administered the second cycle of reflective evaluation interviews only with participants directly involved with WIL (Simulations) delivery and WIL coordination, who possessed extensive industry experiences, and some with recognised professional body designations. In addition, the researcher further triangulated the study's findings that informed the WIL (Simulations) for the MA framework against the literature to uncover any knowledge and practical gaps (see Chapter 6). Moreover, future research is encouraged to centre on the incorporation of external stakeholders, including industry partners to further validate the proposed framework's applicability and alignments with workplace demands.

4.8 Study rigour

An investigation's study rigour relates to the quality, thoroughness and accuracy of the research methodology followed throughout an academic research study (Saunders et al 2019:808). Methodological rigour narrates a study's trustworthiness based on the quality demonstrated in planning, data collection and data analysis procedures (Creswell 2019:67). Inadequate rigour can lead to unreliable findings, biasness and poor substantial scientific evidence (Tucker 2021:223). Furthermore, Tucker (2021:226) noted that research rigour for qualitative research is based on the level of consistency in applying method(s) used to provide accuracy in representing the entire population. Ibiamke and Ajekwe (2017:157), cautioned researchers embarking on accounting research on the challenges of ensuring rigour, relevance, and trustworthiness of investigative findings. In overcoming the previously mentioned concerns, the study followed Lincoln & Guba's (1985:290) framework for establishing trustworthiness of the study.

4.8.1 Trustworthiness of study

Lincoln and Guba's (1985:290) trustworthiness for a qualitative inquiry involves establishing credibility, transferability, dependability, and confirmability of a study. In this study, trustworthiness was established in the following ways as documented in Table 4.9 below:

Table 4. 9: Trustworthiness confirmation for this research study

Criteria	Description	Confirmation
Credibility	The confidence in truth of an investigation's findings by establishing whether the drawn conclusions represent credible information gathered from the raw data and is an accurate interpretation of the participants' original views (Korstjens & Moser 2018:121)	Secondary data were obtained from credible journal data bases, official government, organisations, and the UoTs included in the study. Creditability was enhanced through individual, semi-structured, anonymous, and iterative interviews with academics involved in UoT programmes with a WIL (Simulations) curriculum. Moreover, an independent qualitative expert was consulted to validate the study's findings. In addition, member-checking and triangulation of data sources were deployed to validate interpretations.
Transferability	The provision of thick descriptions pertaining to the research questions, design, context, findings, and interpretations to allow readers to judge the transferability of the study to other settings (Saunders et al 2023:219).	To support transferability, thick descriptions of the research context, participants, and procedures followed were provided to assess the applicability of the findings to other similar situations or settings
Dependability	Applying consistency when conducting the research in line with acceptable research standards to provide a clear audit trail documenting the research process (Stahl & King 2020:27-28).	The documents analysed were collected from reliable sources and were analysed using ATLAS.ti. Interviews were recorded, independently transcribed, and coded on ATLAS.ti to provide a clear audit trail, including decision-making and data analysis procedures. In addition, the data were validated by an external qualitative expert for quality assurance (see Annexure K).

Confirmability	The aspects of neutrality (free from researcher biasness) where the researcher needs to secure inter-subjectivity so that interpretations are grounded on literature and data collected (Korstjens & Moser 2018:123)	The participants' direct quotations (verbatims) were included. Moreover, the audit trail, consisting of interview transcripts was maintained in documenting the two cycles of interviews. The researcher further included justifications for the study's theoretical framing, methodological choices, and analytical decisions which were documented throughout the research process. A comprehensive codebook was developed and finalised with the assistance of an independent qualitative expert as a quality assurer. In addition, the researcher thematically analysed the findings to explicitly connect the study's knowledge and practical contributions on the delivery of WIL (Simulations) curriculum

Source: Adapted from Lincoln and Guba (1985:290)

The precise application of Lincoln and Guba's (1985:290) framework for establishing trustworthiness as displayed in Table 4.9 above serves as the underlying basis of trustworthiness aimed at mitigating research design concerns.

4.9 Ethical considerations

Ethical considerations were considered when planning for the current investigation to ensure that the research design was both methodologically sound and morally justifiable. Research ethics relate to all questions personified and understood in the research subject, in the research design, and in the way the research interpretations and findings are conveyed (Saunders et al 2019:181).

Due to the magnitude of this study which involved conducting research with HEI staff from two UoTs, ethics approval for this study was obtained from three independent institutional review boards prior to data collection (see Annexures A, B, & C). The primary ethics approval was granted by Unisa's College of Accounting Sciences'

(CAS) Research Ethics Review Committee (RERC), followed by additional approval that was obtained from the two UoTs. The researcher adhered to Unisa's Policy on Research Ethics (Amended 2024:22-24) which promotes the four principles of ethical research, namely: autonomy, beneficence, non-maleficence, and justice. As such, all participants partook in the study on a voluntary basis, with the option to withdraw from participation at any point during the interviewing process. During the recruitment process, all participants were sent a participation information sheet (see Annexure F), and an informed consent form (see Annexure G). Moreover, all participants were de-identified; however, basic demographical data was captured to potentially add depth and detailed understandings to the research findings which may be disclosed subject to the consent given by the participants. Demographical data captured included the qualifications, professional affiliations, current work position and work experiences. The current research did not pose any physically harm to the participants. Additionally, other ethical considerations such as confidentiality, and protection from discomfort, harm and victimisation were adhered to during the data collection process. All digital data gathered in the study such as audio files, interview transcripts, and ATLAS.ti generated reports were stored in an encrypted, password protected computer device. Data access was restricted to the researcher, supervisors, transcriber, and an independent qualitative expert and will be retained for a period of 15 years following the study's examination and publication output.

4.10 Chapter summary

This chapter provided the study's research methodology framework, in which the methodology components were identified. Moreover, the chapter described the research philosophy, namely, interpretivism-to-pragmatism, following a qualitative research design conducted through a DBR strategy. This chapter further provided the decision and justification for the use of document analysis and semi-structured interviews to achieve the primary and secondary research objectives. Moreover, the chapter described the study's population, sampling procedures, data analysis and coding protocols, followed by a description of the inductively identified themes for the study's thematic analysis. Subsequently, the study's methodological limitations, study rigour, and the establishment of the research trustworthiness were detailed.

The next two chapters present the findings that emerged from the data and the analysis thereof from the study's DBR phases. The final chapter also discusses the study's limitations, opportunities for further research and the contribution to the body of knowledge.

CHAPTER 5: DATA ANALYSIS, INTERPRETATIONS, AND DISCUSSIONS OF THE FINDINGS

5.1 Chapter layout

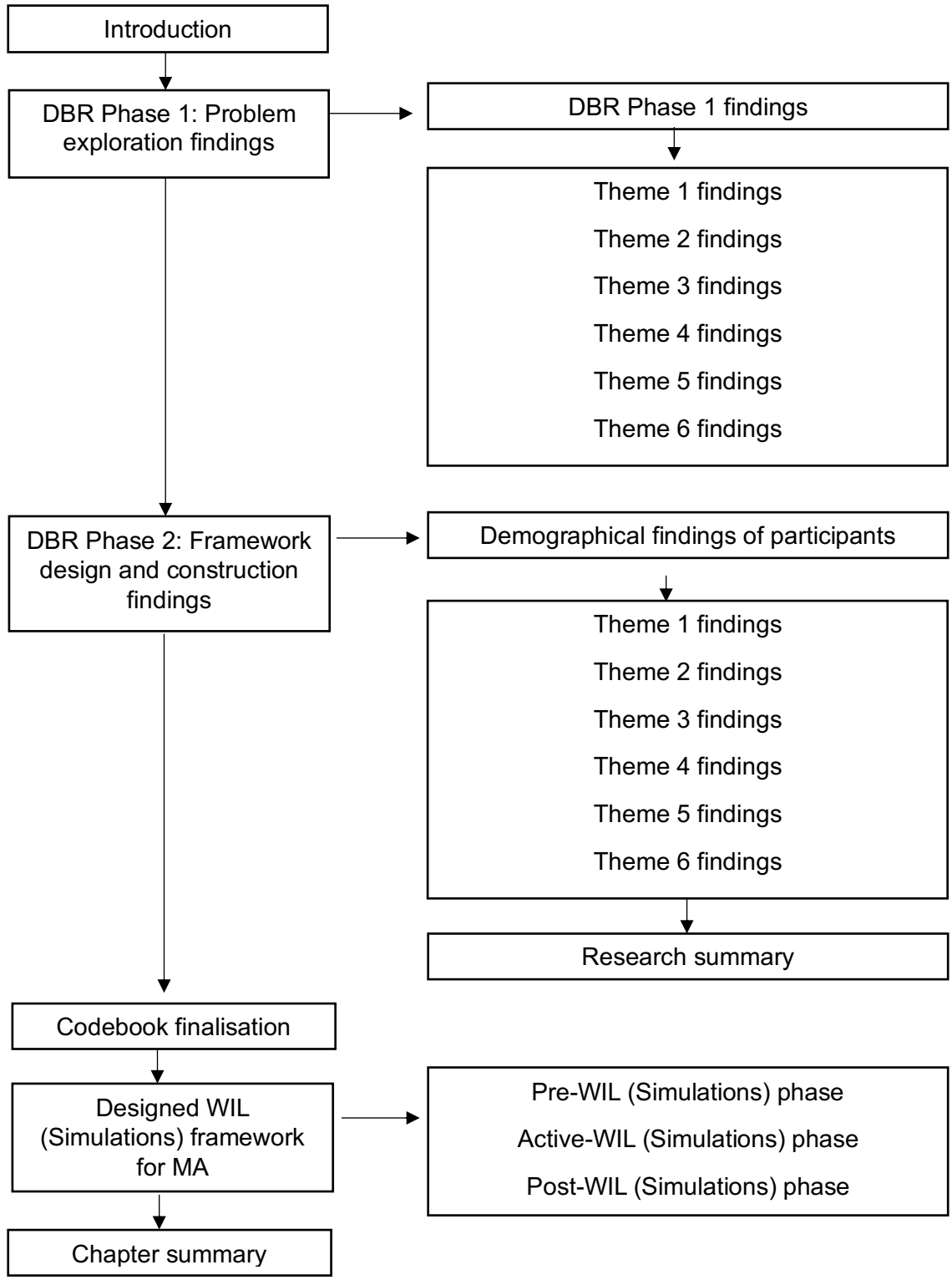


Figure 5.1: Chapter layout

Source: Own compilation

5.2 Introduction

The preceding chapter detailed the current study's research methodology shaped by qualitative design principles to reach the investigation's objectives. As outlined in Chapter 1, the chief objective of this study was to create a WIL (Simulations) framework for South African UoTs for programmes with a major in MA. This framework is intended for current consideration, post the alignment of the curriculum with the CHE's HEQSF (2013). The study was impelled by the absence of a guiding framework that integrates WIL (Simulations) for MA curriculum with graduate skills-set development that reflects industry demands. This is considered both a theoretical as well as a practice gap (Miles 2017:4). Importantly, there are also knowledge gaps (Miles, 2017:3). The literature review revealed limited use of WIL (Simulations) at Higher Education Institutions (HEIs) for MA programmes and that within the context of South African UoTs, no literature could be found that covered how these newly developed pathways to qualifications, as well as the qualification itself, align with the recent HEQSF (2013). The consideration of these gaps points to the argument that existing realities of MA WIL programmes have not been sufficiently considered.

The core focus of this chapter is therefore the transformation of the MA WIL (Simulations) conceptual framework outlined in Chapter 3 into a refined framework based on the study's findings from the study's DBR Phases 1 and 2. As Sanchez and Heene (2017:16-17) argue, it is the "foundational concepts" (see Chapter 3) that "provide the essential conceptualisations" that posit towards mid-range theory such as demonstrated in this study through the refined framework. The refinement of the framework is guided by the concepts as building blocks drawn from theories as well as empirical evidence, document analysis and qualitative interviews. It is further supported by a blend of interpretivist and pragmatic philosophies, as emphasised in the research methodology, detailed in Chapter 4.

In ensuring the rigour of the research findings, the chapter's major components detail the procedures followed under Cochrane's (2022:4) DBR strategy in which three phases were followed adaptively. As stated in Chapter 4 on the methodology for data collected, secondary data was collected in the form of documents, while primary data was acquired through semi-structured interviews where thematic findings were categorised by the two participant groups. Furthermore, the semi-structured interview

questions were designed to inform in-depth dialogues centred on the core areas of WIL, theory-practice integrations through simulations, resource needs, challenges and assessment strategies.

In structuring the chapter, the researcher categorised components such as: DBR Phase 1 - problem exploration detailing secondary data collection procedures and preparation for inductive document analysis (see Chapter 4); and DBR Phase 2 - framework design drawing evidence from 17 semi-structured interviews which were conducted with participants from the selected UoTs. It is reiterated that the design therefore arose from pre-identified thematic clusters that were described *a priori* to the researcher's analysis. The themes are bolstered by compelling direct quotations (verbatim) from individual participants. The chapter further includes the study's designed framework. Finally, a summary, highlighting the framework's posited significance towards contributing experiential learning approaches within South Africa's higher education and accounting education research is presented.

5.3 DBR Phase 1: Problem exploration findings

The document analysis findings from the study's DBR Phase 1 (Problem exploration), which primarily focused on WIL literature and simulations-based education (SBE) as experiential learning approaches, are documented in this section. Moreover, Phase 1 (See Chapter 4, Figure 4.5) involves a critical review of the six groups of documents outlined in Chapter 4, Section 4.4.1, namely: Institutional WIL policies and guidelines; syllabi and programme manuals; CHE (2011) WIL guidelines for higher education; the National Qualifications Framework; local and international WIL and SBE publications; and MA competency frameworks.

5.3.1 Findings on Theme 1: Core objectives, impact, and influence of WIL on skills development

The purpose of the theme is to document the experiential learning outcomes within a higher education setting and industry requirements for MA graduates. Investigating the theme on WIL core objectives, impact and influence on skills development is important because the lack of understanding can potentially hinder WIL educators' effectiveness in facilitating experiential learning initiatives (Ojo 2019:10). Documents analysed for this theme resulted in the following categories, namely: i) skills development; ii)

professional identity formation; iii) industry partnerships; iv) student confidence enhancement; v) employability, and v) WIL curriculum gaps. Table 5.1 below provides key findings and extracts from the documents analysed:

Table 5.1: Literature and document analysis key findings on Theme 1

	Category	Key findings	Evidential extracts
Core objectives of WIL	Skills development	• **Limited practical exposure** at universities which focus on theoretical learning leads to skill deficits in MA programmes. • **Simulations** suggested as a cost and time effective alternative for actual workplace practical exposure. • Simulations are effective for skills such as **problem-solving** and integrated learning.	*"Soft skills development emphasised through strategic case studies and business simulation that can be used or adapted by accounting educators to **develop and assess professional skills**"* (Rudman & Kruger-van Renen 2014:201) *"results show that simulation is a valuable teaching tool that can also be used by universities at tertiary level for skill development in management accounting areas"* (Bishop 2019:2) *…The many advantages for students who engage in WIL include **skills development**, including increased competence and increased technical knowledge and skills"* (HEQSF 2013:6)
	Professional identity formation	• WIL offers practical experience that may **contribute towards career development** and **employability.** • **Alignment** with professional standards and expectations is key when designing WIL curriculum. • Strong emphasis on **pervasive skills** required by professional bodies.	*"The significance of WIL (or variations of WIL) for students' **professional development and employability** is widely accepted by both employers and the higher education sector" (*HEQSF 2013:6) *"Academic staff select professional concepts and skills for their students to study, devise methods of teaching and assessment that are **appropriate to students' professional development**"* (CHE 2011:9)
	Industry partnerships	• Emphasis on Higher Education to **engage with workplace partners** for WIL as it is **not possible to simulate industry issues** without industry partners as industry partners provide external validation.	*"WIL cannot occur **without partners who represent the different knowledge fields**. the effectiveness of WIL depends to a major extent on the **commitment of both academic and professional partners**…"* (CHE 2011:51) "*The role of workplace partners includes co-assessing or moderating students' work, particularly in cases where the problem is significant assessment task…*" (CHE 2011:53)

Impact and Influence on skills development	Enhanced student confidence	• Simulations appear to have a **positive impact** on students' confidence and understandings of Financial Management and Management Accounting within a real-world context	*"The results shown in Table 1 confirm that the learners in this study experienced a business simulation as a significantly more positive learning experience than either an average lecture or an average case study discussion."* (Wolmarans 2006:362) *"it appears that a number of benefits may be derived from using management accounting simulations and business plan projects, inter alia, a better understanding of management accounting concepts and real-world management.***"** (Rudman & Kruger-van Renen 2014:205)
	Employability	• Core emphasis on WIL to ease students' **transition** from higher education to employability within industry. • Suggestions for higher education institutions to design WIL (Simulations) **centred on employability**	*"Simulations for WIL preparedness can be designed with an employability focus aiming to develop WIL readiness skills."* (Iipinge**,** Batholmeus & Pop 2020:532) "*Programmes that include WIL offer opportunities for students to prepare for, and learn from, the workplace, to transfer discipline-based theory and a wide variety of skills learned in their formal education to an authentic context as a colleague and employee, with all the responsibilities and expectations such a role entails*." (HEQSF 2013:13)
	Curriculum	• WIL is **compulsory** under the revised HEQSF (2013) for vocational programmes. • Emphasis on educators to design WIL (Simulations) curriculum that is **innovative** and **scenario-based** to align with industry (WIL curriculum gaps). • UoTs in South Africa offer **career-orientated** and **experiential learning** qualifications. • DHET (2013:10) emphasised that WIL (Simulations) **should not be confused** with WIL (Placement) (practical training) as students do not have to perform to real-world standards.	"*…curriculum development that aligns disciplinary demands with workplace relevance, and thereby enhances, rather than compromises, the academic quality of the programme…*" (CHE 2011:16) *"WIL may take various forms including simulated learning…The selection of appropriate forms of WIL depends on the nature and purpose of the qualification type, programme objectives and outcomes, the HEQF level at which the WIL component is pegged, institutional capacity to provide WIL opportunities…."* (HEQSF 2013:11) *"…77.6% indicated that the simulation should be extended to cover other core financial accounting, auditing and taxation areas, and should be a means of teaching the practical application of the subjects."* (Rudman & Kruger-van Renen 2014:205)

Source: Own compilation

As supported by the literature and documents summarised in Table 5.1 above, the core objectives of WIL involve the alignment of the MA curriculum with real-world practice to enhance student employability. WIL also fosters industry collaboration while cultivating professional identify formation in facilitating comprehensive skills development.

5.3.2 Findings on Theme 2: Theory-practice integration through WIL (Simulations)

As signified by Bishop (2019:22) as well as Rudman and Kruger-van Renen (2014:205), simulated learning activities within MA aim to mimic real-work tasks, activities and responsibilities that are appropriate for general and specific MA attributes. Moreso, the importance of this theme centred on practical actions that may assist in developing a balance between theoretical knowledge, and technical and soft skills for students. In support of the previously mentioned statement is Cernușca (2020:33) who alluded that accountancy professionals require a blend of technical expertise such as data analysis, financial model creation, adherence to compliance and soft skills that enables them to communicate, think critically, collaborate and make informed decisions. In analysing Theme 2, several categories were identified which included: i) simulated activities; ii) simulations relevance and practice space as documented in Table 5.2 below:

Table 5.2: Literature and document analysis key findings on Theme 2

	Categories	Key findings	Evidential extracts
Theory-Practice gap	Simulated activities	• **Practical exposure** in mainly theoretical accounting programmes is a concern. • **Innovative educational approaches** for simulations such as games, strategic case studies, role-play were suggested. • **Integration** with all modules within accounting programmes was emphasised.	*"The act of simulating something **entails representing certain key characteristics** of the selected workplace and includes such things as laboratories, patient models, mock meetings, flight simulations…."* (CHE 2011:76) *"Various simulation, role-plays and on-the-job activities can be used to simulate the actual workplace performance."* (CHE 2011:42) ***Game-based accounting simulations**: "seen as effective learning aids since skills development occurred both within a formal, mark-bearing game and in an informal game with no bearing on the students' marks"* (Malan & Van Dyk 2021:1)

		• **Ethical** and **confidential** handling of simulated activities	*"…respondents indicated that they thought the management accounting simulation incorporating a business plan project was a useful part of their studies…"* (Rudman & Kruger-van Renen 2014:205-206)
	Simulations relevance	• **Alternative** skills-transfer methods such as simulations within accounting programmes were justified.	*"…skills development that is not obtained through practical exposure at training office auditing firms, should rather be developed at tertiary level through the same **replacement tools** currently used by these firm."* (Bishop 2019:22)
	Practice space	• Value created in allowing students to practice in a 'safe space' without **real-world consequences.** • Safe experiential learning environments that address students' uncertainty, team dynamic and exposure	*"The computer simulation provided the platform for learning to take place in a practical environment without the risk of errors that would translate into real financial consequences"* (Du Preez et al 2023:149) *"Higher education systems in South Africa must adapt to global changes, necessitating new teaching and learning paradigms as well as a new learning environment because today's students are digital natives, lecturers must be more creative and imaginative when it comes to digital teaching"* (Mhlanga et al2022:11) "*Students become frustrated with technical difficulties inherent in the simulation."* (De Villiers 2016:488)

Source: Own compilation

As a key step in uncovering existing practices for WIL (Simulations) in MA programmes within South Africa, the theory-practice integration theme was an integral component of the current investigation as it aims to address Research Sub-Objective 2 (RSO2), which states: obtain innovative methods to embed theory-practice integration within WIL (Simulations) curriculum in developing graduate skills and professional competencies for South African UoT students, and answer Research Sub-Question 2 (RSQ2), stated as: How can WIL (Simulations) assist in the development of management accounting graduate skills and professional competencies demanded by the industry for South African UoTs, thereby narrowing the gap between those acquired through HEIs and those demanded by industry?

The analysis pertaining to Theme 2 revealed several simulation approaches suggested for MA students within a higher education setting where there is limited practical exposure as indicated by Bishop (2019:23). Simulated approaches include

strategic and collaborative case studies (Hough 2012:982; Rudman & Kruger-van Renen 2014:197); educational business games (Dahalan, Alias & Shaharom 2024:1279; Malan & van Dyk 2021:3; Mhlanga et al 2022:3;); role-plays and on-the-job activities (CHE 2011:42; Lanciloti, Deffenbaugh & De Berry 2023:22); computer-based business simulations (Du Preez et al 2023:134;Wolmarans 2006:361) and business-oriented projects (Rudman & Kruger-van Renen 2014:205). As reiterated by CHE's (2011:76) practice guide on WIL, programmes with an experiential learning component need to ensure that they possess the capacity and resources to offer WIL opportunities in line with the qualification learning outcomes.

Furthermore, based on the observed approaches for simulations in MA studies, UoTs have the opportunity to embed simulations in their programmes constructed under their unique circumstances, staff capacity and available resources. As discussed in Chapter 3, Section 3.5.5.1, the MA profession is considered to be a low-risk occupation due to the negligible physical harm it poses to individuals in practice. Moreover, the Simulation Powered Learning (2023:1) suggests that the delivery of simulations-based education can include but is not limited to: live-based simulations - where humans engage in real time with each other or with real-world equipment; and virtual-based simulations which involve the digitisation of real-world scenarios. By including MA industry partners in channelling technical skills acquisition through virtual simulations and interpersonal soft skills development through immersive, MA learning scenarios, MA students may benefit from directed, context-specific experiences.

5.3.3 Findings on Theme 3: Technology within WIL (Simulations)

Technology has a significant influence on the quality of WIL offered in higher education (CHE 2011: 6-7; Mhlanga 2022:2), more specifically for WIL (Simulations) (Du Preez et al 2023:140; Rudman & Kruger-van Renen 2014:197; Wolmarans 2006:361). As discussed under Theme 2 (Theory-practice integration), virtual simulations award students a learning environment that allows for repeated practice, reflection, and improvement during the academic period (Leppink, Maestre, Santos & del Moral 2021:83). Technology plays a vital role in the facilitation of virtual simulations to enhance access, authenticity, and flexibility. Three categories were identified from the theme's analysis, namely: i) virtual learning environment; ii) collaborative software

tools and artificial intelligence (AI), and iii) machine learning as summarised in Table 5.3 below:

Table 5.3: Literature and document analysis key findings on Theme 3

	Categories	Key findings	Evidential extracts
Simulations and technology	Virtual learning environment	• **Advancement in technology** has had a significant impact on how experiential learning is facilitated in higher education. • Virtual and augmented realities offer **learning environments** for students to engage in simulated tasks realistically. • **Accessibility** was noted as a key benefit when simulations are integrated with technology as this **eliminates geographical challenges** • **Digital skills** cited as key for finance professionals, although this may shift towards **strategic skills** with career progression	*"Integration of technology into accounting education. Employers, academics, and current students identify the need for adequate preparation of students in technology in order to gain skills applicable in the workforce and therefore become successful public accounting practitioners."* (Hough 2012:976) *"Digital skills are essential for finance professionals, from basic digital literacy through to a deeper expertise in cloud computing, cybersecurity, data analytics and digital costing."* (AICPA & CIMA competency framework 2019:4) "*The innovative practices offered by the inclusion of web-based ICTs and social media in WIL offer additional educational and logistic challenges and opportunities to the higher education sector as a whole… and engage extensively and intensively with curriculum and WIL specialist* (CHE 2011:7)
	Collaborative software tools	• **Computer-based simulations** enhanced learning of accounting, financial management and management accounting • **Microsoft 365** perceived to be common server software for facilitating simulations in MA	*"Students were given background information, and the purpose of the management accounting simulation and business plan project were explained. The students were first given information on a hypothetical wine company for which the financial information had to be prepared in Excel."* (Rudman & Kruger-van Renen 2014:197) *"As Microsoft Excel is a widely applied programme with many functions, learning the programme would not only result in mastering of the software but would also develop critical and analytical thinking skills."* (Malan & van Dyk 2021:6)
	Artificial Intelligence (AI) and machine learning	• Research on the use of AI in simulations at higher education is **still in its infancy.**	"…*educational technologies included "e-learning, video-assisted learning, blockchain, big data, AI, learning analytics, gamification, virtual and augmented reality, and social media learning…"* (Mhlanga 2022:3)

		• Recent publications centred on the **ethical implications** of using AI within higher education with contrasting views.	*"Many reported that they thought AI served as a mentor or assistant more than a cheating tool. They noted that it didn't provide the answers to win at the simulation, but it did provide a better understanding of the terms used in the simulation… other students commented on the risk of over-reliance on AI, which might undermine critical thinking and decision-making skills crucial for real-world business contexts."* (Stenard, Brennan & Sisk 2024:10-11)

Source: Own compilation

The findings above allude to the significance that technology has on offering simulations as it enables repeated practice without real financial consequences (Du Preez et al 2023:139-140). Furthermore, creating virtual learning environments for MA was noted to enable students to apply theoretical concepts practically (Malan & Van Dyk 2021:6) within a controlled setting. Designing simulated tasks and activities as those mentioned under Theme 2 (Theory-Practice integrations) and using technology requires educators to ensure that virtual learning environments use appropriate software tools such as Microsoft 365 in developing soft and technical MA skills (Hough 2012:976; Mhlanga 2022:3). The previously mentioned assertion necessitates collaborative relationships between WIL educators and MA industry experts to ensure that the software tools are relevant for the workplace.

The use of AI to augment learning within higher education has raised critical ethical concerns globally (Rakya 2023:2; Guilherme 2019:47) and locally (Funda & Mbangeleli 2024:44; Patel & Ragolane 2024:51). Moreover, mixed reviews were observed in Stenard et al's (2024:10-11) study over the impact of AI where simulations were used for business students. While the presence of AI was noted to enhance learning efficiency and effectiveness within higher education (Patel & Ragolane 2024:53), significant concerns over educational integrity, assessment fairness and information privacy were cited (Lim, Gottipati & Cheong 2023:32). As such, the issue of awareness among WIL (Simulations) educators is crucial when designing tasks and activities due to its potential impact on assessment integrity and authenticity. Furthermore, such ethical concerns may be mitigated by combining virtual and immersive simulations where the latter is predominately "live" as students engage in

role-play and live scenarios in demonstrating skills acquired during the simulated lectures.

5.3.4 Findings on Theme 4: Implementation and feasibility of WIL (Simulations)

Preliminary investigations revealed that qualifications with a WIL (Simulations) component from the selected UoTs for the study were offered from the year 2020 onwards, where numerous challenges were faced due to the Covid-9 pandemic. As such, the theme further aims to uncover pragmatic challenges when using simulations pre- and post-Covid-19 pandemic to obtain sustainable mechanisms that address such concerns based on varied opinions. The exploration of theme 4 led to three major categories namely: i) authenticity costs; ii) facilitator training; and iii) infrastructure which have been outlined in Table 5.4 below:

Table 5.4: Literature and document analysis key findings on Theme 4

	Categories	Key findings	Evidential extracts
Implementation	Authenticity costs	• **Capturing real-world complexities** through simulations is challenging. • Authentic simulations that **align** with the workplace are **resource-intensive.** • **Resource availability** to offer WIL (Simulations) noted as a challenge.	*"…disadvantages of simulations may include, among others, the cost of maintaining and updating the simulation, the misconception that the simulation is perfect but in real life there is always room for errors…"* (Du Preez et al 2023:141) "*creating and managing authentic opportunities for projects in a real work context is a time-consuming task and opportunities for student work placements might be limited in particular fields."* (CHE 2011:61) *"game-based learning are not universally accepted, and critics have called for more extensive research to determine whether meaningful learning indeed occurs."* (Malan & van Dyk 2021:3)
	Facilitator training	• **Limited mentions** on training university educators to facilitate WIL and WIL (Simulations)	*"In deciding what kind of WIL curriculum is appropriate, university teachers should ask: What sort of capacity development might the academic staff need (e.g., visits to industry; Industry placements)?"* (CHE 2011:29) *"the provision of support to academic staff to create interactive online teaching and learning materials, enhancing internet bandwidth, increasing data centres' capacity, procurement of authorised e-learning tools, as well as training both students and academic staff on the required IT skills"* (Mhlanga 2022:464)

Feasibility	Infrastructure	• **Hardware/software costs** and maintenance for simulations were highlighted as a major concern. • Barriers caused by **internet connectivity issues** and power outages were emphasised. • Immersive learning environments required for effective simulations **are not feasible** with **large student groups.**	*"…critical issues needed to be considered by universities to make online learning successful, including affordability, connectivity, assessment, and student support…. Affordability and connectivity are the most critical of these four challenges…"* (Mhlanga 2022:11) *"Challenges such as lack of resources (computer/ laptop, network and internet access to fully participate, time) could have limited student attendance and made it difficult for some students to perform different tasks."* (Iipinge et al 2020:540)

Source: Own compilation

A WIL (Simulations) programme should not be confused with WIL (Placement) (DHET 2013:10), because ensuring authenticity in a simulated learning environment poses the risk of excessive costs for educational accountancy programmes (Du Preez et al 2023:141; Iipinge et al 2020:540). Creating simulated learning environments for soft science disciplines such as MA require a higher education to consider equally investing in educators (facilitator training) (CHE 2011:29; Mhlanga 2022:11) and infrastructure (conducive lecture halls, computer laboratories, internet connectivity, etc.) (Hough 2012:984; Shamsudin, Mamat, Pauzi & Karim 2023:167). Furthermore, limited work experience from academic staff responsible for WIL within higher education has been highly debated in South Africa (Oosthuizen, Spencer & Chigano 2022:214). As echoed by the CHE (2011:29), higher education institutions need to probe questions on the type of capacity development needed by WIL educators to ensure that there is a clear connection between theory and practice taught during experiential learning activities. This suggestion further validates the emerged category on industry partnerships where professional development projects may be useful in assisting academic staff to gain relevant workplace experience.

5.3.5 Findings on Theme 5: Assessment and evaluation practices within WIL (Simulations)

Assessing WIL in whatever form requires educators to critically evaluate how experiential learning tasks and activities achieve learning objectives in preparing students for the place of work. As indicated by Lasen, Evans, Tsey, Campbell and Kinchin (2018:788), WIL assessments practices require collaborative efforts between higher education academics, industry partners and students to ensure learning authenticity. The pivotal aspects for the assessment of WIL (Simulations) and WIL (Placement) centre on the discipline orientation of the programme where career development, transferrable skills development and professional practice reflections should form part of the WIL curriculum (Young, Miller, La Fontaine, Palmer & Campell 2024:276). Furthermore, within WIL (Simulations), assessment strategies used should be distinct between technical and soft skills development as outlined in Theme 2 (Theory-practice integration) above. Table 5.5 below highlights critical findings pertaining to the assessment of WIL (Simulations):

Table 5.5: Literature and document analysis key findings on Theme 5

	Categories	Key findings	Evidential extracts
Assessment and evaluation	Assessment strategies and Quality assurance	• Assessment strategies for simulations should include **varied assessment methods** such as simulated case-studies, games, role-play, chief among them being simulated case-studies. • WIL assessments should consist of **formative** (trial-runs) and **summative** activities. • Moderators of WIL assessments should be in practice (workplace). • **"Time-consumption"** was cited as a critical concern with regards to assessing simulations.	*"SAICA guidelines on simulations require that simulations also include an assessment using the same ratings as what would normally be used to evaluate practical experience."* (Bishop 2019:26) *"When planning to introduce this and other simulations in future, ensure that students have enough time to complete the simulation by introducing it during a less busy period of the year."* (De Villiers et al 2015:499) *"Moderators who are drawn from the workplace and can provide authentic workplace problems, together with lecturers, can be curriculum coordinators and work as team to ensure that the problems are at the correct level of challenge."* (CHE 2011:47) *"Experiential assessment might include innovative forms of assessment, such as learning diaries, portfolios, student progress files and other means by which learning through and at work can be documented."* (CHE 2011:48)

Source: Own compilation

The dynamic link between Theme 2 (Theory-practice integration) and Theme 5 (Assessment and evaluation) concerning WIL (Simulations) for MA cannot be understated as the designed tasks and activities for simulations need to align with appropriate assessment strategies suitable for industry standards. As reiterated by Smith, Ferns and Russell (2016:197), academics cannot prioritise discipline-specific module content over explicit development of professional skills required for workplace transitioning, which necessitates a fresh look on how such skills are assessed. The previously mentioned assertion not only requires industry experts to form part of assessments and moderation activities (CHE 2011:47) but further needs WIL educators to be specific on the type of skills to be developed.

Research pertaining to the assessment of WIL (Simulations) aimed at developing soft and technical skills revealed a critical challenge of being time consuming due to the complex nature of simulations (De Villiers 2016:499). As such, it remains the responsibility of WIL coordinators to ensure that sufficient time is allocated for assessment purposes. Additionally, the emerging interest in the leveraging of AI technologies for assessing simulated practical learning has been acknowledged as useful to track students' learning progress (Dai & Ke 2022:2). However, Dai and Ke (2022:8) advocated for future research on virtual reality and simulation games as these tend to be more immersive, providing supplementary *in-situ* practices for knowledge and skills application and development.

5.3.6 Findings on Theme 6: Reflection and monitoring practices for WIL (Simulations) programmes

WIL monitoring practices and techniques have been echoed by scholars (Du Plessis 2015:36; Sithebe, Maladzhi, Nemavhola, Lebea & Kanakana-Katumba 2023:2) and higher education stakeholders (CHE 2005:50, 2011:62; Education, Training and Development Practices - Sector Education and Training Authority (ETDP-SETA) 2019:36) within South Africa. Most of the monitoring practices uncovered in South Africa's higher education pertain to WIL (Placement) where students' activities are monitored within a workplace setting with external industry partners. As specified in CHE's WIL practice guidelines (2011:62), continuous monitoring of experiential

learning of students is crucial for quality management, irrespective of the WIL modality. However, the uncovered literature centres on monitoring practices for WIL in general and not explicitly for WIL (Simulations) incorporated within some HEQSF (2013)-aligned programmes as indicated in Table 5.6 below. Thus, this signals a clear knowledge gap pertaining to WIL (Simulations) monitoring practices for new programmes offered under the HEQSF (2013) framework.

Table 5.6: Literature and document analysis key findings on Theme 6

	Categories	Key findings	Evidential extracts
WIL Reflection and monitoring practices	Reflection and monitoring practices within WIL (Simulations) curriculum	• Current reflection and monitoring practices for WIL **remain confined** to traditional WIL (Placement) • UoTs with a WIL (Simulations) component designed under the HEQSF (2013) should develop reflection and monitoring frameworks administered with industry partners	*"University teachers who implement WIL programmes are responsible for planning issues, and the level and nature of engagement, as well as the implementation issues of monitoring progress, assessing work and programme evaluation"* (CHE 2011:60) "*It is important to request feedback from partners for the development of improvement plans for WIL. If possible, workplace partners should be included in informal debriefing sessions, as well as more formal programme evaluation"* (CHE 2011:57)

As indicated in Chapter 4, DBR Phase 1 formed the study's general foundation pertaining to the delivery of WIL (Simulations) within higher education. By explicitly structuring DBR Phase 2 around the main Research Objective (RO), stated as: to develop a simulations-based WIL framework to bridge theory and practice in management accounting education at South African Universities of Technology, and addressing the Research Question (RQ), stated as: How can a simulation-based WIL framework be developed for MA programmes at South African UoTs aimed at preparing students for industry?

The findings from Phase 1 established the core design principles and MA competency components that informed the initial configuration of the WIL (Simulations) for MA framework. In addition, the researcher, through cycles of revisions, was able to iteratively design and develop the WIL (Simulations) for the MA framework, guided by the empirical data collected. Moreover, each cycle of revision responded directly to the

previously mentioned RO and RQ mentioned in the discussions above by investigating which design attributes most effectively addressed the identified theory-practice integration variables for MA experiential learning identified through Saldaña's (2016:14) codes-to-theory principles.

5.4 DBR Phase 2 (Framework design and construction) findings

As outlined in Chapter 4, Figure 4.5, the envisioned framework was initially designed by synthesising the findings from DBR Phase 1 (Problem exploration) and the first cycle of semi-structured interviews conducted under DBR Phase 2 (Framework design and construction). This section presents the DBR Phase 2 (Framework design and construction) which includes the analysis, key discoveries, and interpretations of qualitative data collected through semi-structured interviews from the two groups of UoTs utilising the first cycle interview schedule outlined in Annexure D. The interview schedule consisted of two sections, namely: Section A which entailed questions relating to a participant's biographical information and Section B which entailed questions relating to the construction of a WIL (Simulations) framework for MA programmes within a UoT. The time periods of the interview discussions ranged from 32 to 65 minutes and were, as explained in Chapter 4, audio recorded by the researcher, transcribed by an independent party and, thereafter, analysed towards the contribution of the study.

5.4.1 Demographical findings of individual participants

As summarised in the methodology chapter, interviewees who participated were UoT academic professionals responsible for teaching and learning activities within a qualification programme that has a major in MA. Additionally, this programme included a simulated WIL component embedded in the qualification. The participants interviewed for this study were selected to ensure a diverse scope of opinions, experiences, and expertise significant to the teaching and learning of MA at a HEI. To gain an overview about WIL and simulations, the researcher included professionals and practitioners who possessed both academic and industry expertise within the broad fields of accounting, auditing and finance. A total of 18 semi-structured interviews were conducted, independently transcribed and anonymously labelled as

P0 to P18 where P0 represents the pilot interview from Group 1 and P1 to P18 represent all participants from both groups.

Group 1's total population consisted of 16 academic staff members who, at the time of the interviews, met the inclusion/exclusion criteria which were stipulated in Chapter 4, Section 4.4.3. Participants were informed that no compensation would be provided for partaking in the research study and that they could withdraw at any point of the interview (see information sheet in Annexure F). In addition, a consent form was signed by each participant, which stipulated confidentiality practices as required by Unisa's Policy on Research Ethics (Amended 2024). This section presents the demographical data based on qualification(s) alignment; professional body affiliation(s); and academic and professional experiences. In addition, the demographical questions further probed participants on the modules they were involved with and if they had formal WIL training for teaching WIL (Simulations). Table 5.7 represents Group 1's demographical data analysed from the first cycle of interviews:

Table 5.7: Demographical data from Group 1

#	Qualifications, professional affiliation, and position	Industry experience	Academic experience	Module(s) involved with	WIL training
P0	• Masters (Cost & MA) • CIBA member • Lecturer	2 years in bookkeeping	20 years	Investment management; Portfolio Management	None
P1	• Honours (Cost & MA) • Part-time lecturer	2 years in MA and cash management	6 years	WIL (Simulations)	Partial
P2	• Masters (Acc) • CIMA member • Lecturer	None	23 years	Management Sciences	None
P3	• Honours in Financial Planning • FPI member • Part-time lecturer	4 years in financial planning	6 months at time of interview	Corporate Finance	None
P4	• Masters (Acc) • CA(SA) designation • Department head	2 years in finance + articles years	20 years	Designing modules in programmes with WIL (Simulations)	None
P5	• Masters (FM) • Part-time lecturer	7 years in debtors and creditors management	2 years	Financial management ; Portfolio management;	None

				Corp. Finance; e-Business	
P6	• Masters (Tax) • CA(SA) designation • Part-time lecturer	5 years in auditing including articles	3 years	WIL (Simulations)	None
P7	• Masters (Finance) • CFA member • Lecturer	3 years in accounting	15 years	WIL (Simulations); Financial Planning; Ethics and Practice	None
P8	• Masters (Cost & MA) • Lecturer	None	12 years	Financial management; MA	None
P10	• Masters (Acc) • Lecturer	Limited experience	6 years	Financial management; Cost Acc; WIL (Simulations)	None
P11	• PhD (Acc Sci) • SAIPA designation • Senior lecturer	Limited experience	28 years	Estate and Tax Planning	None
P12	• Honours (not specified) • Part-time lecturer	10 years in business banking	2½ years	WIL (Simulations); Ethics; Financial management; Risk Management	Not specified
P13	• Honours (Acc) • CA(SA) designation • Registered Auditor • Part-time lecturer	30+ years in auditing	5 years	Financial management	None
P14	• DBA • CIBA member • Lecturer	2 years (not specified)	27 years	WIL (Simulations); Financial management	Partial

Source: Own compilation

5.4.1.1 Findings on the demographical data of Group 1

The characteristics of each individual participant varied extensively based on qualifications, professional body affiliations and experience. As outlined in Chapter 1, research pertaining to the use of Simulations for MA disciplines is still in its infancy within South Africa, and none exists for programmes designed to align with the HEQSF (2013). The diverse nature of the study's sample is in line with Cohen, Phillips and Palos' (2001:190) suggestion which states: "Qualitative research with diverse populations is useful when little research exists on a topic, when there are no reliable and valid instruments for the groups". Additionally, interviewing key participants from a wide range of participants allows the researcher to uncover varying perspectives and identify underlying concerns (Cohen et al 2001:191; Shea, Pesa, Geonotti, Powell, Kahn & Peters 2022:1979). In line with the de-identifying protocols, supplementary

demographical data such as gender, race and age were not considered in the research findings.

a) Qualifications and work experiences findings from Group 1

Qualifications and experience were deemed as critical characteristics of academic staff based on the notion of **knowledge mix** reiterated by the Department of Higher Education and Training's (DHET) policy on professional qualifications for lecturers in technical and vocational education and training (TVET) (2013), which highlighted the following:

- **With regards to WIL lecturers**: "For lecturers who will teach practical or workshop components of the vocational or technical subjects, WIL must encompass learning the technical skills associated with the subject and how to teach them. Lecturers mostly first learn the technical expertise through their prior qualifications and through substantial experience in the workplace" (DHET 2013:10);
- **With regards to workplace or industry practice**: "all TVET lecturers need to have up-to-date knowledge of the application in, and relevance to, the workplace of the subjects they teach…" (DHET 2013:10).

While the above policy was aimed at academic staff at TVET institutions, the document highlighted significant teaching requirements for all vocational qualifications within the Republic of South Africa, such as those offered at UoTs, namely, Diploma, Advanced Diplomas and Postgraduate Diplomas. Furthermore, data collected with regards to qualifications and experience links directly with interview questions under Theme 4. Of the 16 potential participants in group 1, a total of 13 participants were selected to participate as they met the inclusion criteria stipulated in the study's research methodology. Qualifications observed ranged from Honours (NQF level 8) to Doctoral/PhD (NQF level 10) where:- four participants possessed an Honours qualification of which three specialised in Accounting, Cost and Management Accounting and Financial Planning; the majority of the participants (n=7) were in possession of a Master's degree specialising in Accounting (n=3), Cost and MA (n=2), Taxation (n=1) and Finance (n=1) respectively; and two participants had doctorate qualifications specialising in Accounting and Business Administration respectively.

b) Academic and industry experience findings from Group 1

The lack of industry and workplace experience from South Africa's higher education teachers has been studied (McBride, Papier & Needham 2009:8; Oosthuizen et al 2022:214); moreover, Van der Bijl and Oosthuizen (2019:215) concluded that over half of lecturers nationally were in possession of less than five years of relevant workplace experience. This issue was further investigated concerning the credibility of academics teaching WIL within HEIs (Osthuizen et al 2022:226). Overall, this further justifies the DHET's (2013:10) assertion on the required need for lecturers to possess a mix of academic and relevant industry experience, particularly for teaching WIL in whatever modality.

The data indicated that of the 13 participants, two had no relevant work experience, yet possessed over 12 years of pure academic experience. An additional two participants had limited work experience (less than one year) while possessing six and 28 years of academic experience respectively. Seven participants had between two to seven years of industry experience ranging from accounting to MA, financial planning, general finance, and auditing roles. It was further noted that of these seven participants, one had no professional body affiliation while three were qualified Chartered Accountants (CA) who held auditing trainee experiences through articles. Moreover, the remaining three participants were affiliated with the AICPA-CIMA, Financial Planning Institute (FPI) and South African Institute of Public Accountants (SAIPA). Interestingly, two participants with only Honours degrees had ten and 30 years of industry experience respectively. Of these two participants, one had ten years of experience in the banking industry, and the other had 30 years in auditing.

Based on the findings above, there is a fair balance of participants who are academically qualified and those who possess substantial industry experience in varied fields within Group 1. This balance provided the researcher with varied responses from the participants that shaped the theoretical and practical aspects for teaching and learning strategies concerning WIL (Simulations) for MA. Nevertheless, while the findings highlight the complementary balance of qualification and experience within a group, more attention should be placed on such a balance individually as indicated by DHET (2013:10) for those who lecture WIL.

c) Academic modules allocation and WIL training findings from Group 1

The findings on modules allocated among academic staff members in the programmes revealed that the vast majority of the members are responsible for teaching multiple modules where eight academics are responsible for teaching theory in financial management at different academic levels of study. The previously mentioned findings correspond with Group 1's programme structures for the Diploma and Advanced Diploma in Financial Management qualifications which are interdisciplinary as they specialise in MA, financial accounting, investment management, and strategic management (Group 1's 2024 programme syllabus).

Seven staff members are directly involved with WIL (Simulations) modules in which one staff member, the department head, assisted in the designing of WIL (Simulations) curriculum and six staff members are responsible for teaching WIL (Simulations) modules. Apart from Participant 10, all other staff members responsible for teaching WIL (Simulations) possessed a minimum of two years' experience working in accounting, MA, banking and auditing industries. The concern over a lack of formal training in the teaching and learning practices in WIL (Simulations) was apparent as only two of the 13 participants echoed that they had partial WIL training through workshops. Furthermore, the lack of a structured WIL training has resulted in academics responsible for teaching WIL (Simulations) relying on individual industry experiences and informal methods which may compromise consistency and alignment with best MA practices.

5.4.1.2 Findings on the demographical data of Group 2

A total of 10 departmental staff members were identified as potential participants in Group 2 where a total of four individuals were selected to partake in the study as they met the research methodology's inclusion criteria. Moreover, Group 2 had fewer participants based on the following reasons: i) Group 2 was a smaller department compared to Group 1; ii) interview time clashes with several potential participants; iii) the researcher's lack of familiarity with the institution and iv) research time constraints.

Table 5.8 outlines the characteristics of each participant below:

Table 5.8: Demographical data from Group 2

#	Qualifications, professional affiliation and position	Industry experience	Academic experience	Module(s) involved with	WIL training
P9	• Honours (MA) • Lecturer	3+ years in MA	36 years	WIL (Simulations); Pastel SAGE	None
P15	• PhD (Auditing) • CA(SA) designation • CIA(SA) designation • Certified Systems Auditor (CISA) • Department head and senior lecturer	6 years in accounting and auditing + 15 years consulting	15 years	WIL (Placement); Research; Internal Auditing; Risk Management; Financial Acc	None
P16	• Masters (not specified) • SAAA member • Lecturer	None	20 years	Financial Acc; Auditing; WIL (Placement)	None
P17	• Masters (Internal Auditing) • Lecturer	3 years in internal auditing	Not specified	WIL (Simulations)	None

Source: Own compilation

a) Qualifications and work experience findings from Group 2

Qualifications from Group 2 ranged from Honours (NQF level 8) to Doctoral/PhD (NQF level 10) where:- one participant possessed an Honours qualification specialised in MA; two participants possessed a Master's degree of which one specialised in internal auditing and the other not specified; and one participant had a PhD in Auditing.

b) Academic and industry experiences findings from Group 2

Experiences showed a unique mix of extremes where academic and industry experiences were a concern. One participant had no industry experience with over 20 years of academic experience and is affiliated with the Southern African Accounting Association (SAAA). Two participants indicated that they had three years of industry experience in MA and internal auditing, respectively. Participant P15 possessed a remarkable balance on qualifications (PhD in Auditing), professional body designations (Chartered Accountant (CA) SA, Certified Internal Auditor (CIA) and Certified Systems Auditor (CISA) with industry experience (20 plus years).

c) Academic modules allocation and WIL training findings from Group 2

The findings on module allocations are similar to Group 1 as almost all the academic staff members within Group 2 are responsible for varied modules within its programme, namely: Bachelor of Management Sciences specialising in accountancy where core areas of financial accounting, taxation, cost and financial management, research methodology, auditing and internal control are offered at various levels of study. Two participants indicated that they were responsible for teaching theoretical modules that focus on financial accounting, risk management, internal auditing, and research methodology at different levels of study. Furthermore, all participants within Group 2 are responsible for experiential learning modules where two were allocated WIL (Placement) and the other two were allocated WIL (Simulations). The findings further revealed that none of the participants were formally trained in the teaching and learning practices of WIL which underlines the need for academics to be structurally trained on how to integrate WIL principles effectively into their curriculum.

The next sections pertain to the core themes as stipulated in Chapter 4, Section 4.6.1.1 and discussed under DBR Phase 1. Moreover, the previously mentioned themes derived from DBR Phase 1 now represent the data from DBR Phase 2. DBR Phase 2 is considered cumulative in that the themes of DBR Phase 1 were used for *a priori* coding for DBR Phase 2 as indicated in Table 5.2. While the literature review and documents uncovered the guidelines that higher education institutions should consider when offering WIL and WIL (Simulations) curricula, the purpose of DBR Phase 2 was to investigate and thematically document first-hand information on how WIL (Simulations) programmes are run considering the identified attributes necessary for MA skills development among students.

5.4.2 Findings on Theme 1: Core objectives of, impact on, and influence of WIL (Simulations)

The codes categories that emerged under DBR Phase 2 on Theme 1 post-analysis of the interviews were: i) MA skills development and enhancement; ii) limited WIL (Placement) in MA opportunities; iii) positive impact of WIL (Simulations); iv) industry standards alignment; and v) MA industry readiness. The next discussions pertain to the sub-theme MA skills development and enhancement.

5.4.2.1 MA skills development and enhancement

The development of appropriate skills for MA students is an essential objective when offering WIL (Simulations) for enhancing industry-readiness. When probed on the primary objective and impact of WIL (Simulations), most of the participants remarked that WIL (Simulations) for MA-related subjects should be to develop practical skills for students by mimicking real-world environments within a controlled learning setting during their formal training years, consistent with Bishop's (2019:22) purpose of WIL. Furthermore, multiple participants resonated with the fundamental objective of WIL which centres on preparing students for the work environment as expressed below:

> Group 1's WIL coordinator: "*The core objective is to try to cover the practical gap for this qualification since it does not allow students to actually go in to practice like the NATED Diploma…"* (P1)

> Group 2's WIL coordinator: *"the way I see WIL simulation is to create a real-world business environment. And is to prepare them when they go and work in the actual environment…"* (P9)

The previously mentioned finding corresponds with the stated objective of WIL echoed by CHE (2011:4) and the impact it has on skills development as reiterated by the HEQSF (2013:6). Participants from Group 1 also expressed that the lack of WIL (Placement) for MA-related qualifications is one of the paramount reasons for narrowing the theory and practice gap through WIL (Simulations), which further resonates with Bishop's (2019:22) findings on limited practical training opportunities for MA students. The impact on curricula that the redesign of vocational programmes offered at UoTs under the guidance of the HEQSF (2013) was noted as one of the motivators for offering practical training through WIL (Simulations) as uncovered in the document analysis (Table 5.3 - impact and influence) under the same theme.

While the participants' general understandings of the core objectives, impact and influence that WIL and WIL (Simulations) has on MA skills development for students, were in line with the CHE (2011:4), a major concern was expressed by multiple participants (P1, P2, P7, P10, P12) from Group 1 on the sole use of WIL (Simulations) for practical learning. This concern can be partially mitigated if they incorporate the

CHE's (2011:6) stipulation pertaining to the involvement of an industry partner for the design and running of WIL programmes, irrespective of the WIL modality. In contrast to Group 2's WIL approach where WIL (Simulations) and WIL (Placement) run consecutively, several participants from Group 1 (P1, P2, P7) cited the need for exploring MA industry collaborations as a means of obtaining WIL (Placement) opportunities.

5.4.2.2 Limited WIL (Placement) in MA opportunities

The redesign of Group 1's vocational programmes with MA majors resulted in the use of WIL (Simulations) as a solution for the lack of WIL (Placement) opportunities. Furthermore, the inclusion of WIL (Simulations) in higher education has been supported by CHE's (2011:4) definition of WIL, which states: "It is worth emphasising that the alignment between work and education implied in WIL is not restricted to work placement. There are many different WIL practices along a continuum from more theoretical to more practical forms …." In probing the participants for suggestions aimed at improving the running of WIL (Simulations) for MA, almost all of Group 1's participants expressed that the sole dependency on simulations poses the risk of insufficient exposure to MA industry trends that may leave graduates underprepared for real-work complexities. The previously mentioned finding on the lack of workplace exposure within WIL programmes in South Africa has been echoed as a persistent challenge by Mayombe (2022:310). The limited involvement of MA industry experts in designing and assessing tasks and activities within WIL (Simulations) modules was expressed by Participant 3:

> *"Yes I think without industry it will not work as there has to be a collaboration between institutions of higher learning and industry because what are you teaching them basically you know, we need to align whatever you are teaching with whatever the student is going to experience."* (P3)

Additionally, collaborative efforts should not only be limited between MA industry experts and UoTs, but also be considered among UoTs themselves as echoed by Participant 15:

> "*I think it would be wonderful if there could be closer collaboration between the UoT's or the Universities. I think we are all in this, we know that it is part of the requirements of our new qualifications but perhaps like a working group or a collaboration effort that might be or a benchmarking exercise."* (P15)

It was apparent from both groups that industry involvement when developing the WIL curriculum is valued, more so for Group 1 where possible WIL (Placement) opportunities might actualise. Similarly, academics involved with WIL (Simulations) for MA need to consider the positive impact that simulations have in developing a range of factors such as soft skills (Hough 2012:982), technical skills (Bishop 2019:26) and a conducive learning environment (Wolmarans 2006:362) for practical training.

5.4.2.3 Positive impact on skills development

All the participants from both groups emphasised the significance and positive impact that WIL (Simulations) has on developing soft skills for MA students, which is consistent with WIL literature (Bishop 2019:22; De Villiers 2016:499; Du Preez et al 2023:136). Some participants (P2, P6) echoed that the students became more enthusiastic when engaging in simulated practice as opposed to traditional classroom-based lectures. This directly links with numerous studies conducted on the positive impact on soft skills development through MA simulations (Calabor et al 2019:43; Viviers, Fouche & Reitsma 2016:368). Communication, problem-solving, collaborative, and analytical skills were the most observed when students participated in MA simulated group activities. In the same vein, Participant 4 expressed their sentiment as follows:

> *"I think it helps students in terms also of their soft skills because sometimes they will have to be able to present a solution that came up in their classroom if they were using Excel and they have to analyse financial statements they then have to come back and present their analyses and discuss how they came to the conclusions."* (P4)

Several participants echoed challenges when asked about their experiences in teaching WIL (Simulations). The previous challenges relate to conflict and unbalanced

time allocations for simulated group activities (Participant 1 - Group 1's WIL coordinator, 6 and 10). Practical exposure through simulations tends to be quite laborious and time-consuming for both students and academics due to the nature of experiential learning requiring cyclical build-ups from previous activities which some students struggled to understand. A similar concern was echoed by Du Preez et al (2023:138). Furthermore, although Participant 2 does not teach WIL (Simulations), the interviewee highlighted the inherent learning challenges when developing soft skills through WIL (Simulations) as students possess different learning styles which traces back to Kolb's (1984:38) Learning Style Inventory (LSI) theory.

> *"But the challenge is that some students will fail to adopt quickly because of lack of resources. Some students lack communication, some cannot even involve themselves with other students when you give them activities…"* (P2)

The previously mentioned concerns correspond with De Villiers' (2016:488) findings where students expressed their frustrations with simulations technicalities.

It is apparent that, although WIL (Simulations) has a positive impact in developing soft skills for MA students, time allocated for such activities is inadequate as echoed by WIL coordinators from both groups (P1 and P9). A vital component of the objectives and impact of WIL that was reiterated by most participants from Group 1 on soft skills development, was the limited access they have towards live business environments and professional networking opportunities due to bureaucratic hurdles. This concern poses a risk of WIL (Simulations) curricula not being up to date with trending MA practices and restricting potential long-term alignments with industry experts.

5.4.2.4 Industry standards alignment

The field of MA is consistently influenced by rapid technological advancements and progressing governing frameworks, which directly impact its professional identity (Wolf, Kuttner, Feldbauer-Durstmüller & Mitter 2020:311). In general, academics without consistent exposure to industry developments face the inevitable risk of poorly integrating modern practices into their teaching and learning strategies (Van der Bijl & Oosthuizen 2019:205), which may result in curriculum and industry standard gaps, more so for those involved with WIL. The category of industry alignment analysis

revealed that there is a considerable difference pertaining to industry relationships between the two groups interviewed. The modes of industry alignment ranged from limited through to high industry involvement pertaining to WIL.

All participants from Group 1 indicated a need for deeper industry partnerships over and above advisory committees and external moderations of assessments with regards to WIL (Simulations) for MA, more so in designing tasks and activities that mimic real-work complexities. WIL (Simulations) without external stakeholders has been cautioned against by Zegwaard, Pretti, Rowe and Ferns' (2023:41), who concluded that authentic simulated activities done by students should be meaningful to industry experts as a form of validation. This conclusion is in parity with CHE's (2011:51) WIL guidelines which states that "WIL cannot occur without external partners who represent different knowledge fields" because its effectiveness is highly dependent on the degree of commitment between academic and professional partners. In this vein, Participant 12 suggested the following:

> *"Suggestion could be mainly that we just need to relook at simulations. Yes, to relook at it and to ensure that whatever we are doing at whatever level is interlinked and at the end of the day the output is what is required in the industry."* (P12)

The above quotation alludes to the immediate need for a deeper involvement from industry stakeholders, particularly in the design of theory-practice tasks and activities for students aimed at merging theoretical learning and practical applications. The next theme and categories within the framework of WIL (Simulations) for MA relates to theory-practice integrative methods in pursuit of industry-readiness.

5.4.3 Findings on Theme 2: Theory-practice integration through WIL (Simulations)

The usage of simulation-based experiential learning should be in coordination with other methods, such as "heuristic-based optimisation and machine learning" techniques (Campus, Nogal, Caliz, Juan & Caliz 2020:1-2). The integration of paper-based, virtual-based and live-based simulations within the framework interweaves humans (contextually, students and WIL academics) and digital tools to create a

flexible simulation-based learning system. As cautioned by Campus et al (2020:2), such integrations (humans and digital tools) are predominately subject to a precautional level of uncertainty and dynamism, of which some are bred by the "human component" within the learning system. As pointed out by Juan, Loch, Daradoumis, and Ventura (2017:2), the integration of simulations software, digital tools and games allows students to enrich their learning experiences using the development of hands-on activities designed by the WIL academics. Theme 2 on theory-practice integration through WIL (Simulations) probed participants on existing instructional guidelines, simulated tasks and activities conducted during simulations classes. Additionally, Theme 2's categories were: i) instructional guidelines; ii) authenticity of WIL (Simulations); and iii) WIL (Simulations) in MA tasks and activities which emerged post data analysis.

5.4.3.1 Instructional guidelines

When asked about instructional guidelines for simulations, almost all participants from both groups remarked that there are currently no formal WIL (Simulations) instructional guidelines provided to academics in offering simulated classes. The previous findings contradict CHE's (2011:58) recommendation pertaining to the development of instructional guidelines by institutional WIL coordinators. Moreover, this finding corroborates with the lack of formal WIL training on teaching WIL (Simulations) as echoed by the participants under the biographical information findings. A vast majority of the participants from both groups mentioned simulated-based education was a new teaching concept as instructional guidelines were self-created. The finding is consistent with Swart and Duys' (2019:12) findings on simulations-based education, citing "available finances, lack of trained educators, lack of equipment and lack of protected time for educators and learners" as the main challenges. One participant from Group 1 mentioned that they relied on their own knowledge and previous industry experience in setting instructional guidelines for simulations (P5). This finding from both groups further alludes to the need for deepening external industry partnerships in shaping appropriate guidelines for WIL (Simulations), as recommended by the HEQSF (2013:14). Similarly, participants from Group 2 also echoed that instructional guidelines for WIL (Simulations) were created internally amongst lecturers themselves as none were provided.

5.4.3.2 Authenticity of simulations

Authenticity of simulations refers to how effectively a simulation imitates real-life conditions, settings and experiences that aim to construct a realistic and engaging learning environment by factoring "cognitive processes implied in learning" (Corves, Stadler & Fischer 2024:3253). When asked about the teaching experiences in integrating theory and practice, participants from both groups responsible for teaching WIL (Simulations) indicated that they felt a level of uncertainty concerning the effectiveness of the current teaching framework in developing MA skills. Furthermore, the level of uncertainly on the WIL (Simulations)'s authenticity was apparent based on Group 1's limited industry involvement as indicated under Theme 1's category regarding industry standards alignment. Creating an authentic experiential learning environment through WIL necessitates academics to involve industry experts when designing and assessing simulated tasks and activities for external validation (CHE 2011:51). In the same vein, Participant 3 echoed the following:

> *"I would bring in specialists, I would take them to industry, I would give them practical challenges. The JSE has an annual competition called the JSE challenge where they say here, we are going to give you a dummy account and you actually invest into the JSE because it is not a real account, it is a dummy account and then you actually practice and you go into it."* (P3)

While most of the participants from both groups indicated that simulated activities were predominately based on real-world events and complexities, it was apparent that gauging authenticity was rather difficult to ascertain as the qualifications offered are not affiliated with professional bodies as remarked by Participant 7. Over and above external involvement, some studies have attributed the effectiveness of simulations to depend on other factors such as a learner's prior knowledge (Chernikova, Heitzmann, Stadler, Holzberger, Seidel & Fischer 2020:503), immersive and interactive experiences through technology (Musa, Gonzalez, Penney & Daher 2023:2) and the provision of inconsequential practice environments (Du Preez et al 2023:141). In considering the previously mentioned elements, it may be beneficial for industry experts to conduct campus visits and observe live simulation classes as a means of validating the appropriateness and authenticity of activities conducted by students.

5.4.3.3 WIL (Simulations) for MA tasks and activities

Under Theme 2, participants elaborated on the types of tasks and activities conducted during WIL (Simulations) classes. Participants from both groups revealed adopting a wide range of tasks and activities for WIL (Simulations) in MA classes which included strategic case studies, business-orientated simulations, practical analysis of real-world data and work-readiness components which is in line with Fouche and Visser (2008:588) and Zegwaard et al's (2023:29) suggestions. Furthermore, the participants from both groups indicated that WIL (Simulations) tasks and activities are continuously assessed through demonstrative formative and summative assessments with no final examinations. As indicated in Chapter 3, simulations have been clustered into three categories for this study, namely paper-based (Doolan 2018:145), virtual-based (Wijkmark & Heldal 2020:1154) and live-based (Wijkmark & Heldal 2020:1155). Table 5.9 below compares simulated tasks and activities uncovered from the literature with those mentioned by participants from both groups where "✓" represents if the activity is mentioned and "✗" denotes that the activity type was not mentioned:

Table 5.9: Types of simulated tasks and activities used by participants

Simulations mode	**Simulated tasks and activities**	**Group 1**	**Group 2**
Paper-based: *Humans interactions with non-digital tools*	Strategic case studies and projects	✓	✓
	Business simulations games	✗	✗
	Scenario-based	✓	✓
Virtual-based: *Humans' interactions with digital learning tools*	Practical laboratories	✓	✓
	Virtual research simulations	✗	✗
	Software-based business simulations	✗	✗
	Educational videos	✓	✓
Live-based: *Humans interact with each other*	Role-play and mock meetings	✗	✗
	Presentations	✓	✓
	Business debates	✓	✗
	WIL (Simulations) preparation workshops	✗	✗

Source: Own compilation; Based on participants' answers

It is evident from Table 5.9 above that there is a fair mix on the use of simulation modes between both groups. Analysis of the interviews indicates that a vast majority of the participants cited paper-based simulations (strategic case studies and projects) as the most used form of simulated activities because academics have the liberty to structure them at their own discretion with limited financial implications. Virtual-based business simulations offered using software that has been recognised to offer interactive and risk-free learning environments that replicate real-world systems, virtual testing and analysis (Harvard Business Publishing-Education 2025:1; Velez & Alonso 2025:2). Participant 15 echoed that such software tools are costly to implement which alludes to budgetary constraints.

Further findings revealed a limited use of live-based simulations with presentations being the most utilised activity with only one participant who mentioned the use of business debates (P7). As implied by the Toronto Metropolitan University (2025:1), live-based simulations (also known as Live Actor Simulations (LAS)) are efficient at providing immediate, behaviour-centred feedback that results in a lifelong impact on learners' skills development. However, the authenticity of live-based simulations has cost implications as a high degree of involvement with external experts is required. The infancy of using WIL (Simulations) in MA coupled with no formal WIL training had a direct impact on staff preparedness for teaching WIL (Simulations) based on their lack of prior experiences as the previously offered qualifications had no WIL component. When asked for future suggestions in improving WIL (Simulations) programmes, some participants echoed the following:

> *"I think the facilitators themselves need to undergo proper training where we understand fully what is it we are supposed to be doing. You know without training we work according to gut feel…"* (P14)

> *"I think as much as we do try to see that it needs to integrate, but in reality, it is not. With my experience I just feel like we are pushing to say we have a module called work-integrated learning, but we do not have clarity that what we are doing is linked to professional standards or ethics…"* (P12)

The previous finding further attests to Iipinga et al's (2020:533) suggestions that WIL curriculums should include WIL preparedness programmes which are beneficial for WIL readiness for both academics and students. In the same vein, Participant 15 echoed that students felt intimidated when engaging with practical simulations:

> *"It is a new experience for the students as it is something completely different from what they are used to. So, I think it is always you need a kind of like a mature lecturer that understands the students' insecurities and fears when they start with this module. So, my experience is it is new they do not know what to expect."* (P15)

In reflection on the identified literature pertaining to the use of simulations for theory-practice integrations in MA within South Africa (Bishop 2019:22; Du Preez et al 2023:139; Wolmarans 2006:352), and the practicality of Kolb's (1984:38) ELT for pragmatic theory-practice integrations using simulations in the domain of accounting education (Jackson and Meek 2021:63; Wolmarans 2006:354), the initial observation drawn from the coded data analysed in DBR Phase 2 affirmed the following:

- The legitimacy of using simulations for developing MA skills through an interplay of paper-based, virtual-based and live-based simulations as pointed out by Participant 4

> "*I think it helps students in terms also of their soft skills because sometimes they will have to be able to present a solution that came up in their classroom if they were using Excel and they have to analyse financial statements they then have to come back and present their analyses and discuss how they came to the conclusions. So, it is variable for the students because they do not only learn the practical and theory, but they also learn how to apply in a simulated real-world environment*". (P4)

The above remark indicates a process of cyclical experiential learning, demonstrating facets of Kolb's (1984:38) ELT through the "do-reflect-conceptualise-apply" cycle,

while integrating paper-based (case study projects), virtual-based (analysis through Excel ® software) and live-based (discussions and presentations of solutions).

- When engaging in simulation tasks and activities to facilitate theory-practice integrations, WIL (Simulations) academics expressed a clear preference for group-based tasks over individual tasks. The WIL coordinator from Group 1 stated the following:

  "we normally use group work because some students have got limited resources… so through collaboration they are able to have access to other things (referring to resources) which others will actually come with within the group, So, when they combine and collaborate..." (P1)

- WIL academics routinely rely on case studies rather than merging alternative simulations modalities due to resource restrictions, high student numbers and the limited knowledge on simulation-based education as echoed below:

  "On a weekly basis they are given case studies, of which these case studies we pick them from Finweek (South Africa's weekly magazine focused on investment and financial news) *for example".* (P7)

  "*Yes, we do our training very practical from the start. It is, because with the students the first years I see many groups, I have got 9 groups there".* (P9- WIL coordinator from Group 2)

While the use of case studies is common in the delivery of simulated experiential learning (Du Preez 2023:139; Rudman & Kruger-van Renen 2014:201), the above verbatim quotations echo an exclusive reliance on case studies, which allude to a significant knowledge gap among WIL academics who may be unaware of the pedagogical benefits that come with diversifying simulation modalities.

Based on the above findings, academics should deliberate and consider how the mode of simulations (paper, virtual or live based) is appropriate for developing the types of

skills (soft and technical) within WIL (Simulations) curriculum. In addition, all participants indicated that offering WIL (Simulations) in MA requires a set of digital tools for access, efficiency, and effectiveness. As such, the next section details the study's findings on how technology is used within WIL (Simulations) for MA curriculums.

5.4.4 Findings on Theme 3: Technology and WIL (Simulations)

The integration of digital technological tools within WIL (Simulations) for MA curricula centres on the utilisation of technological resources tailored for conducting simulations effectively, consistent with Mhlanga's (2022:3) suggestions. The rapid advancement of computer technologies, along with the increasing speed of internet communication, has fostered the utilisation of digital tools for simulations-based education (Bishop 2019:22; Juan et al 2020:2). Moreso, Juan et al (2020:2) pointed out that the integration of digital tools within simulations-based education can significantly enrich the experiential learning in almost any knowledge area, further affirming the significance of merging technology in simulations. Contextually, this validates the interplay between paper-based, virtual-based, and live-based simulations summarised from the analysed data and reflected in the DBR Phase 2's (Framework designing) WIL (Simulations) for MA framework.

When questioned on the digital resources provided to academics, all participants from both groups remarked that computers and internet access were provided to staff responsible for both theoretical and practical modules using an online LMS for creating, delivering and managing learning content in streamlining the learning processes. Participants (P1, P4, P6, P7, P9, P10, P12, P14 and P17) responsible for teaching WIL (Simulations) further acknowledged that such web-based learning platforms are useful in attracting students' attentions while providing ease of access for teaching and learning activities. Furthermore, the Participant 1 explained that the LMS was particularly valuable for accessibility and integrating subject matter from other modules within the qualification.

> *"It have benefited a lot because the integration now is much easier to simulate and you can actually do it anywhere because now we also adopting these external system that have got a number of simulation in finance so even if we are not in the lab the student can be able to still work around those simulations at any place, anywhere, using a phone or either using a desktop or a laptop."* (P1)

In conjunction with LMS, a vast majority of the participants responsible for teaching WIL (Simulations) described Microsoft 365 (Office) ® as a dominant supplementary digital tool in which Microsoft Excel ® and Microsoft Powerpoint ® were seen as the most used applications in facilitating theory-practice integrations. This finding corresponds with numerous simulations studies conducted within accounting education (Alobaidani, Albattasi & Thottoli 2023:2; Marriot 2004:10). In this vein, a further two discipline-specific software, namely Sage Pastel accounting and Quickbooks ®, are used within WIL (Simulations) for MA curricula as stated by participants from Group 2 (Participants 9,15 and 16). A suggestion was made by Participant 1 to incorporate MA-specific software such as Systems, Applications and Products (SAP) ® and SAIPRO systems ® which could offer tailored theory-practice integrations for manufacturing, retail and finance topics. However, these suggestions could be hindered by the finance limitations outlined under Theme 2's simulated MA tasks and activities category where Participant 15 cautioned about the high costs of implementing such discipline-specific tools. Participant 7 suggested incorporating artificial intelligence (AI) as part of improving technological advancements within WIL (Simulations) in higher education.

While the use of digital tools within WIL (Simulations) is evident from the participants' responses, the issue of limited technological resources was stated by a vast majority of the participants. This links with Mhlanga et al's (2022:15-16) recommendations on simulations that academics need to be provided with sufficient digital resources to create e-learning environments as well as training for both staff and students on the required digital skills.

Moreover, unanimously, all participants affirmed that:

- The incorporation of digital tools is indispensable for the effective delivery and managing of WIL (Simulations), where Participant 4 echoed the following:

  "*The resources that is made available is computer labs that are available in the laboratory, and it is left to the individual lecturer who is providing the module to maybe identify what is the need. We have got that challenge if a person is not that innovative then we will not be able to improve on our simulated module."* (P4)

- The acquisition of relevant digital tools for the delivery of WIL (Simulations) within MA poses the risk of incurring substantial costs. Participant 15 indicated the following:

  "*But I would have liked to see more financial resources being allocated to this like I have said the quotes are really big if you want to do a proper simulation with a real-life data set that has been sanitised and cleaned, we are talking about R300 000.00 to R400 000.00 per simulation".* (P15)

The above remarks seem to confirm Du Preez et al's (2023:141) and Mhlanga et al's (2022:11) concurrence over the importance, yet costly integration, of technology within simulations-based education. Apart from the costs there are other implementation challenges as discussed below.

5.4.5 Findings on Theme 4: Implementation challenges of WIL (Simulations)

Implementing WIL (Simulations) within MA for HEQSF (2013)-aligned programmes has brought its own set of challenges within both groups. Compared to WIL (Placement), WIL (Simulations) has no day-to-day industry exposure for students which may hinder its effectiveness. The categories uncovered within this theme are i) WIL (Simulations) teaching and learning practices, ii) WIL (Simulations) resources and iii) WIL (Simulations) time allocation.

5.4.5.1 WIL (Simulations) teaching and learning practices

Effective delivery of WIL (Simulations) requires authentic experiential and reflective teaching practices to bridge academic theory and professional practice (CHE 2011:4).

Moreover, Zegwaard et al (2019:201-202) recommend that academics responsible for teaching WIL in higher education need a combination of a discipline-specific academic qualification and relevant professional experience. The limited knowledge and experience in teaching and learning practices for WIL (Simulations) was echoed by most of the participants where Participant 16 expressed the following concerns:

> *"I have no experience in doing that as I have said it was just through interacting with the previous lecturer and also listening to the report back during departmental meetings but as a lecturer, I have not worked with WIL simulation."* (P16)

Another key finding was that academics not responsible for lecturing WIL (Simulations) modules expressed a general understanding on the objectives of WIL (Simulations), but they had very limited knowledge of operational aspects of it within the departments. The previous finding alludes to the limited internal collaborations between WIL academics and academics responsible for theoretical modules. Participant 10 indicated that one of the challenges faced when offering WIL (Simulations) was the need to learn "how to simulate" prior to engaging with students. The previous finding was especially prevalent from Group 1's participants who possessed limited industry experience. WIL quality management systems should build on the strength of current and innovative practices, develop areas of weaknesses and engage with WIL specialists as echoed by CHE (2011:7).

5.4.5.2 WIL (Simulations) resources and challenges

In accordance with the CHE (2011) WIL practice guidelines, resources required for successful implementation centre on the availability of funding resources, staff resources and physical resources (CHE 2011:63-64). When probed on the resources made available to academic staff members for implementing WIL (Simulations), Participant 4 echoed:

> *"The resources that are made available are computer labs that are available in the laboratory, and it is left to the individual lecturer who is providing the module to maybe identify what is the need. We have got that challenge if a person is*

not that innovative then we will not be able to improve on our simulated module." (P4)

Furthermore, most of the participants indicated that resources made available to both students and staff members were insufficient for creating a digital learning environment. Additionally, some participants indicated that the lack of WIL training and formal guidelines when offering WIL (Simulations) hinders them from identifying appropriate resources required to simulated MA workplace practices (P3 and P10). Concerns over power cuts (load-shedding) causing internet connectivity issues and system overloads were cited as critical by P4, P14 and P15. The previous finding links with Mhlanga's (2022:1-2) investigation where the author concluded that higher education should strive to enhance digital capabilities as a means of closing the digital technology gaps.

5.4.5.3 WIL (Simulations) time allocation

Within both UoTs, WIL activities are allocated 12 credits (where one credit equates to ten notional hours) per given semester period. WIL coordinators (P1 and P9) from both groups indicated that the time allocated for WIL (Simulations) was inadequate when probed on the challenges experienced in implementing simulations. As echoed by Van der Merwe (2020:81), time constraints are common in simulated education due to the significant amount of time that experiential learning requires. As an iterative process, the learning cycle of experiential learning requires active experimentation where students consider how the abstract concepts they learned can be put into practice (Kolb 1984:38). WIL coordinators (P1 and P9) and a few participants (P7, P12 and P15) from both groups echoed that WIL (Simulations) modules require a significant amount of time investment as emphasised below:

"*The challenges will actually be the time allocation. They are on the same time frame whereas on the simulation part it is a big challenge because now it is more application than explaining the theory and the students have to be hands on and some are actually new to this system using software, following instructions and trying to understand what is required from them to do…"* (P1)

Additionally, the general reasons for the challenge of time allocated for WIL (Simulations) are as follows:

- Designing and preparing of WIL (Simulations). As already indicated under findings from Theme 2 under DBR Phase 2, academics involved with WIL (Simulations) bear the burden of crafting realistic simulated scenarios that reflect industry challenges which require extensive research, planning, and coordination. This finding is more concerning for Group 1 as its experiential learning approach is purely simulated without any industry involvement.
- Facilitation and administration of WIL (Simulations). As opposed to traditional lectures, running simulation classes often requires academics to actively monitor students' engagement in real time**.** This is further aggregated by large student numbers per simulations class coupled with poor class attendance (P8).

The next section focuses on themes 5 and 6 where the findings on assessment strategies and monitoring practices for WIL (Simulations) were documented.

5.4.6 Findings on Theme 5: Assessment and evaluation practices for WIL (Simulations)

As indicated by the CHE (2011:41-42), the assessment strategy for WIL should comprise of formative and summative assessment tasks and activities aimed at evaluating students' evolving competencies as well as end-of-module abilities to practically apply theoretical knowledge within a workplace situation. As reiterated by Ferns and Zegwaard (2014:183), assessment and monitoring practices for WIL are impactful in determining students' skills development progress and alignment with workplace expectations. The main categories uncovered in this theme were: i) assessment and evaluation strategies for WIL (Simulations) and ii) external validation of WIL (Simulations) assessments and collaborative practices.

5.4.6.1 Assessment and evaluation strategies

When probed on the formal assessment and evaluation strategies in place, participants responsible for WIL (Simulations) modules from both groups indicated that MA topics are continuously assessed where the quality of students' work is evaluated by several tasks and activities conducted during a course and not by a final

examination (P1, P9, P12 and P15). In addition, most of the participants indicated that the continuous assessment strategy comprised of formative and summative assessment tasks and activities fits CHE's (2011:42) principles of WIL assessments. Moreover, all WIL (Simulations) lecturers indicated that they faced no ethical challenges (such as assessment bias) pertaining to the existing assessment practices as formal rubrics were designed for each assessment. However, Van der Merwe (2020:179) cautions on the suitability of summative assessment strategies for immersive simulations (virtual learning environments), stating that they should only be limited to formative assessments due to a lack of SBE facilitators in South Africa. Additionally, the remarks made by participants directly involved with WIL (Simulations) from both groups indicated an apparent confusion between assessment and evaluation *strategies* (Theme 5) and assessment *tasks and activities* (Theme 2) as some (P1, P9, P12, P15 and P16) confirmed group assignments, presentation tasks and practical case studies as assessment strategies.

When probed on how the existing assessment and evaluation strategies account for the diversity of students' experience, all participants responsible for WIL (Simulations) modules indicated that assessment tasks and activities are predominately conducted in groups for developing MA skills, indicating the difficulty of obtaining individual experience due to the high enrolment numbers. As the research pertaining to the authenticity of SBE in South Africa's higher education is still in its infancy due to limited research on the choice of assessment designs and the isolated use of simulations (Van der Merwe 2020:204), academics need to consider collaborating with internal and external stakeholders when designing assessment strategies and criteria for WIL (Simulations) in MA subjects.

5.4.6.2 Coordination and collaboration practices within WIL (Simulations) programmes

Coordination and collaborative efforts are crucial for the effective delivery of WIL programmes. In accordance with the stipulated WIL guidelines stated by the CHE (2011:47), lecturers involved in qualifications with a WIL component can be "curriculum coordinators and work as teams" to ensure that the WIL assessments are set at the correct NQF level. Additionally, the CHE (2011:51) recommends strong collaborative efforts between WIL lecturers and industry partners to ensure the effectiveness of WIL.

When probed on the challenges faced by academics pertaining to the current assessment and evaluation strategies in place for WIL (Simulations), the vast majority of participants who do not teach WIL (Simulations) modules remarked that they had limited knowledge pertaining to such practices, indicating a lack of coordination concerning MA subject matter between academics responsible for WIL (Simulations) and those responsible for teaching theoretical MA modules. This finding alludes to the potential risk of students being exposed to WIL (Simulations) practicals prior to obtaining the theoretical MA knowledge due to poor coordination between WIL (Simulations) lecturers and MA theory academics.

As cited by Du Preez et al (2023:136), WIL (Simulations) aims to gauge students' ability to apply theoretical knowledge (contextually, MA theory) to a practical workplace scenario (contextually, simulations). Moreover, theoretical knowledge is most prominent within the "Abstract Conceptualising" stage of Kolb's (1984:36) ELT, thus requiring students to learn theoretical principles prior to engaging in practical activities. The mentioned finding signals a clear disconnect between academics responsible for teaching WIL (Simulations) in MA-related subjects and external partners as there is minimal external validation for simulations. Despite the essential role of industry partner engagement which aims to enhance practical relevance as indicated by CHE (2011:6), all academics responsible for teaching and managing WIL (Simulations) remained confined to academic discussions internally. When asked about the collaborative efforts done by academics responsible for teaching WIL (Simulations) with external industry partners, all participants from Group 1 indicated that no formal collaborations were done apart from yearly advisory committee meetings with individuals from practice. In addition, Participants 1, 9, 10, 12, and 15 confirmed that collaborations were only done internally with colleagues for WIL (Simulations) where Participant 1 echoed:

> *"I think we can enhance WIL (Simulations) if we can have external stakeholders such as financial institutions, even private companies who are willing to assist in terms of coming in and give certain community projects to students and collaborate with the university…"* (P1)

The previous findings allude to a lack of external collaborations with MA industry partners which may have had a significant impact on the overall effectiveness of WIL (Simulations).

5.4.7 Findings on Theme 6: Reflection and monitoring practices within WIL (Simulations) programmes

The literature uncovered under DBR Phase 1 on Theme 6's key insights revealed a significant lack of literature pertaining to reflection and monitoring practices for WIL (Simulations) programmes as opposed to traditional WIL (Placement). As mentioned by Sithebe, Maladzhi, Nemavhola, Lebea, and Kanakana (2023:2), the standard WIL monitoring procedures involve "the WIL coordinator or lecturer conducting workplace visits during which the student leads a tour through their organisation", alluding to WIL (Placement) as opposed to WIL (Simulations). Expectedly, the findings revealed significant gaps pertaining to reflection practices within WIL (Simulations) programmes under both groups.

Currently, there are no formalised means in place to reflect on the overall implementation and quality of WIL (Simulations) programmes after each cycle of students. Moreover, Participant 12 from Group 1 and Participant 15 from Group 2 indicated that lecturer evaluations were the only reflexive practice done after each cycle of students. This absence of structured monitoring extends across the WIL (Simulations) programmes with no oversight from external MA partners. In addition, the CHE (2011:60) advises that academics who implement WIL programmes are responsible for "monitoring progress, assessing work and programme evaluation". Nonetheless, Participant 15 reported maintaining informal contact with several graduates who are now employed in industry following completion of the WIL (Simulations) and WIL (Placement) programmes:

> *"I try to keep in contact with some of my old students that I know are currently in industry… So it is very informal, self-driven kind of thing keeping contact with industry and making sure that you then take these things back to the classroom and into considerations…"* (P15)

The monitoring practices for WIL (Simulations) were similar in both groups as they are conducted during formative and summative assessments to gauge students' progress. However, providing individualised monitoring and feedback is challenging due to the high student numbers as indicated by Participants 8:

> *"We will be having more than 200 students in one class, it is not easy to control a class of students if they are more than 200…"* (P8)

The above findings allude to the need for a formal and structured approach towards reflection and monitoring procedures after each cycle of students, with greater involvement from industry partners to enhance the credibility and relevance of the WIL (Simulations) curriculum.

5.4.8 Codebook finalisation

Through the iterative, inductive-deductive coding process outlined in DBR Phases 1 and 2 above, the six core themes were distilled from the primary and secondary data. The total codes generated in ATLAS.ti were from DBR Phase 1 and 2 were 3585 codes with 3364 quotations (see Annexure M) which were then grouped into code categories based and organised thematically as displayed in Table 5.10 below.

Table 5.10: Study's codebook categories

Theme	Sub-themes	Codes group categories	Code examples
Core objectives, impact and influence of WIL (Simulations)	Skills development	Core objectives of WIL	*"Skills development"; "Experiential learning"*
		WIL (Simulations) for MA literature	*"Simulations"; "Skills development"; "Management Accounting"*
		MA skills development and enhancement	*"Career preparation"; "Industry collaboration"*
	WIL practices	Limited WIL (Placement) in MA opportunities	*"Enhancing readiness"; "Lack of readiness"*
	Professional identity formation and industry partnerships	Workplace readiness	*"Employability"; "Practical experience"*
	Enhanced student confidence	Student perceptions	*"Satisfaction"; "Feedback"*
	Curriculum	Educational theories	*"Experiential learning theory"; "Constructivism theory"*

		Higher Education practices	*"Academic education"; "Career development"*
		Resource allocation for HE	*"Learning resources"*
Theory-practice integration	Simulated activities	Integration with other disciplines	*"Integration"*
		Comprehensive approach to WIL and guidelines	*"Deeper learning"; "Adaptive learning"*
		Soft skills for MA	*"Analytical skills"; "Business skills"*
		Technical skills for MA	*"Data processing skills"; "Digital skills"*
	Simulations relevance	Benefits of simulations	*Student engagement"*
		Accounting Education in Higher Education	*"Applied learning; "Accounting curriculum"*
		Professional body and industry standards	*"SAICA"; "CIMA"; "SAIPA"*
		Skill development through simulations	*"Personal development"; "Professional expertise"*
	Practice space	Learning environment	*"Digital teaching"; "Teaching paradigms"*
		Theory-practice through Simulations	*"Authenticity"; "Alternative skills transfer";"Game-based learning"*
Technology in WIL (Simulations)	Virtual learning environment through collaborative software tools	Technology and digital tools	*"Online learning"; "Digital skills application"; "Accessible resources"; "Digital learning environment"*
Implementation and feasibility of WIL (Simulations)	Authenticity costs	Challenges of WIL (Simulations)	*"Limited knowledge of simulations"; "Resource constraints"; "Time-consuming*
	Infrastructure and learning environment		
Assessment and evaluation	Assessment strategies and	Assessment and Evaluation	*Group learning"; "Case studies"; "Project-based learning*
	Quality assurance	External validation of WIL (Simulations)	*Assessment tasks and activities"; "Authenticity"; "External validation*
Monitoring practices of WIL (Simulations) curriculum	WIL (Simulations) monitoring	Reflexive monitoring practices	*"Monitoring knowledge gaps"; "External validation"*

Own compilation; based on ATLAS.ti generated report

Collectively, the findings from Phase 2 extended the fundamental framework design components that emerged from Phase 1. Through iterative cycles of refinement, the study's conceptual framework as depicted in Chapter 3, Section 3.9 from Phase 1 was operationalised into feasible model.

5.4.9 Summary of research findings

Section 5.4 disclosed that most participants demonstrated a strong mix of qualifications and theoretical expertise in varied accounting sciences related fields, making them suitable to be involved in WIL (Simulations) for MA. Furthermore, the findings revealed an unbalanced mix between years of academic and industry experiences. Most of the participants understood the overall objective of WIL and WIL (Simulations) for MA despite the fact that none had any formal WIL training. Furthermore, the findings show limited collaboration with MA-industry partners in the design, assessment, and validation of WIL (Simulations) in the MA curriculum. The section further revealed varied theory-practice integration methods for simulating MA-related subjects where participants remarked on the challenges faced in the implementation process due to resource availability, time allocated for simulated activities and limited WIL (Simulations) training. In addition, the empirical evidence shows that cyclical reflections on WIL (Simulations) for MA were a challenge due to an unstructured approach in running WIL (Simulations).

In having a holistic overview of the findings, it can be concluded that academics responsible for teaching WIL (Simulations) in MA still face challenges in securing external validation and effectively managing the WIL (Simulations) curriculum as most cited the complexities of simulations, addressing administrative burdens while being responsible for other academic duties. Numerous suggestions and recommendations were echoed by the participants which the researcher considered in designing the WIL (Simulations) for the MA framework.

5.5 Designed WIL (Simulations) for MA

The WIL (Simulations) for MA framework developed for this research study is a discipline-specific experiential learning artefact designed to provide UoTs with guidelines in offering programmes with a WIL (Simulations) component. Moreover, the three consecutive phases of the WIL (Simulations) for MA design have been categorised as: i) Pre-WIL (Simulations) phase; ii) Active WIL (Simulations) phase; and iii) Post-WIL (Simulations) phase in which the framework aims to identify key actions within each phase while providing best practices for optimising simulated experiential learning. The categorisation of the previously-mentioned phases emerged through thematic clustering of data generated during the study's Phase 1 and 2 of the DBR

process. The ATLAS.ti generated codes concerning MA curriculum alignment, WIL (Simulations) preparation, resource requirements, WIL policies, and assessment design were grouped under “planning and administration” which informed the Pre-WIL (Simulations) phase. The codes relating to active facilitation, simulated task and activities, and Kolb’s (1984) experiential learning engagement formed an enactment cluster (implementation and assessment) which informed the Active WIL (Simulations) phase. The last phase of Post-WIL (Simulations) concentrated on codes that related to WIL reflection and monitoring. Furthermore, the interactions between the mentioned phases formalised a progressive three-phased framework as visualised in Figure 5.2 below:

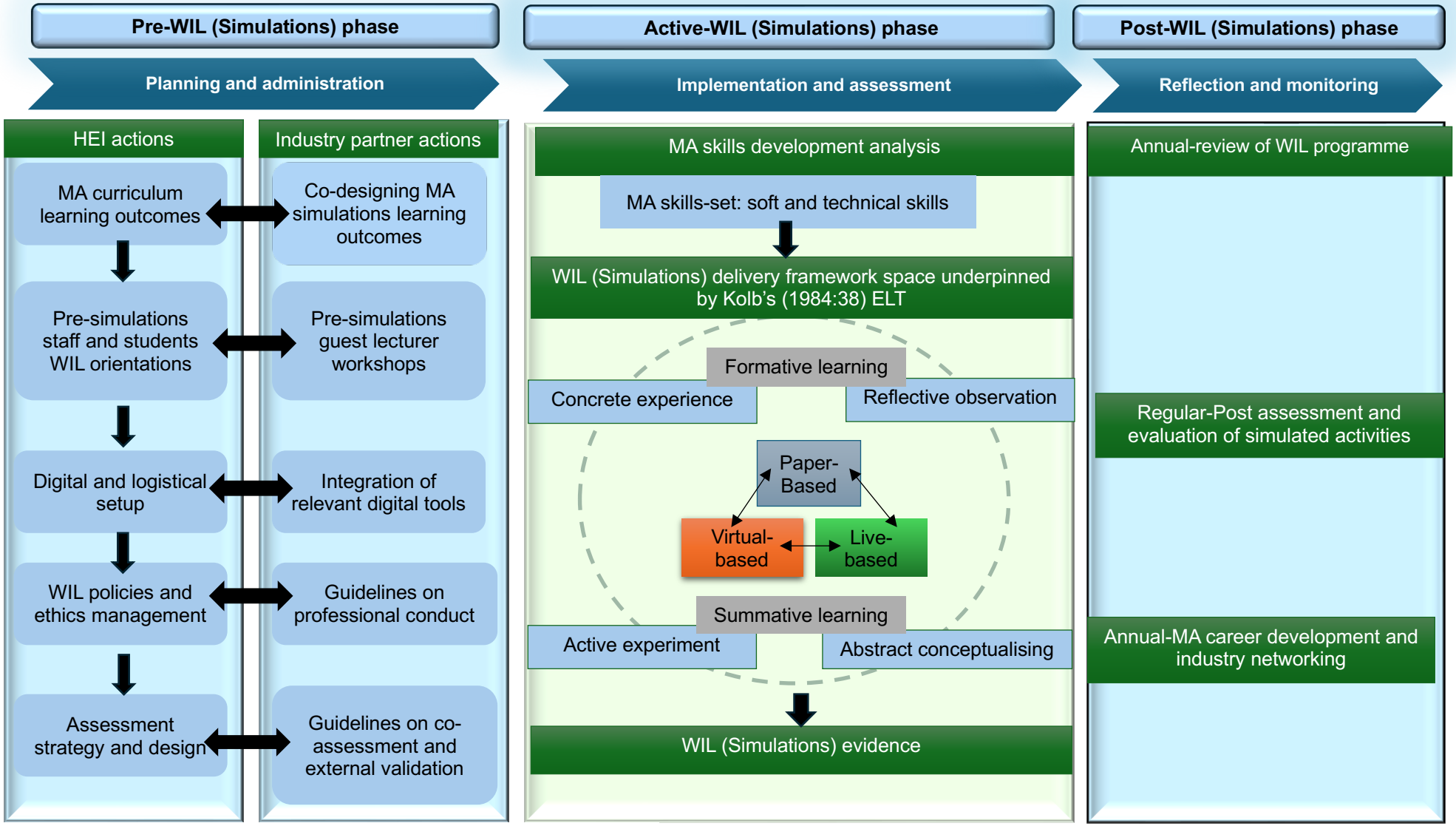


Figure 5.2: DBR Phase 2 WIL (Simulations) for MA design

Source: Own compilation

5.5.1 Pre-WIL (Simulations) phase

The *Pre-WIL (Simulations)* phase is the initial focus within the WIL (Simulations) for the MA framework which provides a comprehensive analysis of actions that should be undertaken by HEIs and MA industry partners towards creating an effective experiential learning environment for both MA academics and students prior to running the simulations programme. As uncovered under Theme 1 of the study's DBR Phases 1 and 2, authenticity remains the critical concern for using simulations as a form of experiential learning for MA subject-related modules. Pre-WIL (Simulations) phase is an integral component of the WIL (Simulations) framework as it aims to ensure that both academics and students are adequately prepared for a realistic teaching and learning experience, while fostering HEI-industry partnerships. Likewise, the qualitative findings from the semi-structured interviews conducted underscore the necessity of a structured, multi-phased WIL framework that has implications for industry-aligned learning outcomes for MA (Theme 1; staff and students WIL orientation; digital and logistical considerations; WIL policy and ethical considerations and assessment strategy and design aspects).

5.5.1.1 Industry-aligned learning outcomes for MA

Newly developed programmes that align with the HEQSF (2013) with a WIL component offered in any modality require HEIs to foster strong industry partnerships in ensuring authenticity for experiential learning activities (CHE 2011:51; HEQSF 2013:6) as discussed in Phase 2 (Themes 1). As reiterated in the literature review in Chapter 2, the influence of technology coupled with big data within complex business settings has resulted in a constant change for the MA profession. HEIs are thus required to continuously review and update MA content and learning outcomes with industry partners as an initial step towards creating authentic learning experiences through WIL (Simulations) for MA-related subjects. Departmental WIL coordinators and relevant academic staff members supported by institutional cooperative education sections should function as industry liaisons (Van der Merwe 2020:185) to ensure that WIL (Simulations) for MA programmes reflect current workplace trends, accounting regulations and digital advancements within the MA profession.

5.5.1.2 Staff and students WIL orientations

As remarked by all participants involved in the study, the lack of formal WIL training and orientation has resulted in an unstructured WIL (Simulations) programme being offered. Thus, the pre-WIL (Simulations) phase on the staff and student orientation requires academics to be formally trained on the offering of simulated education and students to be oriented through workshops for simulations. Additionally, such orientation practices should cover key definitions, expectations and practical applications of simulations aimed at emphasising theory-practice integration skills development (as discussed in Phase 2, Theme 2), career readiness and professional code of conduct within accounting and finance professions. However, the previous suggestion might be hindered by the limited number of SBE training specialists within South Africa as echoed by Swart, Duys and Hauser (2019:12) and Van der Merwe (2020:182-183). As such, resource-restricted educational environments require WIL academics to provide substantiating evidence based on MA industry partners' expectations on WIL (Simulations) to facilitate simulations fundings.

5.5.1.3 Digital and logistical setup

The integration of relevant digital tools and software platforms are crucial for technical skills development within the MA profession. As echoed by many of the participants in Phase 2 (Theme 3), the resources provided to WIL academics and students are currently limited which aggravates poor workplace technology alignment. Within the pre-WIL (Simulations) phase, HEIs along with MA industry partners should review and update the existing digital tools in offering WIL (Simulations) for MA while considering the potential cost implications in the pursuit of workplace alignment.

5.5.1.4 WIL policies and ethics management

The advancement of technology has brought considerable debates over regulations and ethical concerns within WIL programmes (Govender & Våland 2021:141), in particular, on the use of generative AI within simulations (Stenard et al 2024:10). These concerns include over-dependence on automated systems, limited application of critical thinking and data privacy infringement coupled with the need for accountability in its use. Moreover, WIL policies within UoTs appear to have a direct impact on the implementation of WIL (Simulations) due to implementation challenges as discussed in Phase 2, Theme 4. As such, the actions that should be taken by HEIs and industry

partners ought to include reviewing existing WIL policies and adopting interdisciplinary approaches towards authentic WIL (Simulations) for MA that emphasise both human-centric and AI-driven learning. Additionally, discussions with industry partners should centre on an appropriate code of conduct for the MA profession.

5.5.1.5 Assessment strategy and design

The final action within the Pre-WIL (Simulations) phase focuses on creating an assessment framework with clearly defined assessment strategy, methods and experiential learning activities based on the appropriate skill type to be developed for students. Within this phase, authentic MA scenarios development should be co-created and co-assessed (external moderation) with industry partners guided by the competency framework from local and global accounting professional bodies (see discussions in Phase 2, Theme 5). Additionally, the co-creation discussions of MA scenarios ensure that industry partners provide anonymised real-world data and templates that can assist in mimicking workplace challenges to enhance the realism of WIL (Simulations) in MA . The following phase of the designed framework presents the WIL (Simulations) phase where MA skills requirements analysis, WIL (Simulations) delivery framework space and WIL (Simulations) evidence are discussed.

5.5.2 Active-WIL (Simulations) phase

The Active WIL (Simulations) *phase* serves as the second stage within the WIL (Simulations) for MA framework which encompasses the implementation and execution of WIL (Simulations) in MA based on the findings under Phase 2 (Themes 1, 2, 3, 4, and 5). As a secondary phase, the Active WIL (Simulations) requires academics responsible for teaching WIL (Simulations) in MA to actively implement the outcomes from the pre-WIL (Simulations) phase since students will engage in real-time application of MA theory into practice within a campus setting. The scope of the secondary phase within the WIL (Simulations) framework includes MA skills development analysis, WIL (Simulations) delivery framework space and WIL (Simulations) evidence.

5.5.2.1 MA skills development analysis

The purpose of the MA skills development analysis is to provide WIL (Simulations) academics with clear guidelines in identifying skills development gaps applicable for

the MA competencies that may be lacking within curricula. Identifying the skills development gaps will ensure that the skill type to be developed during each WIL (Simulations) class corresponds with theory-practice integration tasks and activities, particularly for those who are technologically driven (see Phase 2 Theme 1 and 2 findings). In addition, the justification for the MA skills development analysis stems from responses echoed by the study's findings where the WIL coordinators from both groups expressed that developing skills for students through WIL (Simulations) tends to be time-consuming (Phase 2 Themes 2 and 4) as not all skills to be developed require the same amount of time and effort.

5.5.2.2 WIL (Simulations) delivery framework space and evidence

The developed designed WIL (Simulations) for MA framework was designed to align with Kolb's (1984:38) ELT, the identified theory-practice integration tasks and activities (as discussed in Phase 2, Theme 2) and assessment strategies (as discussed in Phase 2, Theme 5) echoed by participants in creating a WIL (Simulations) delivery framework space. Kolb's framework has never been positioned with this data and hence the framework and its integration with Kolb as per Fife and Grossner (2024:3-4) is the theorising arising from the data analysis. As this is a fresh theorisation, this framework, therefore presents an extension of Kolb's (1984) theory and is modestly claimed as a theoretical contribution, which will be discussed more fully in Chapter 6.The key aspects that fall within this component of the Active WIL (Simulations) phase include matching formative and summative learning with the simulation's mode and the simulated tasks and activities outlined in Table 5.9 above.

Furthermore, the formative and summative learning aspects were designed guided by Kolb's (1984:38) ELT as outlined in the literature review Chapter 2. Creating a WIL (Simulations) delivery framework space requires academics responsible for WIL (Simulations) in MA to consider a flexible approach for developing the intended skills and competencies post-MA skills development analysis. The use of Kolb's (1984:38) ELT to enhance SBE has been applied flexibly in numerous fields (Grady 2017:15; Poore, Cullen, & Schaar 2014:241) where its components, namely: concrete experience, reflective observation, abstract conceptualisation and active experiment offer guidance in implementing an effective WIL strategy. Again, the linkage to Kolb

provides the guiding theory and then the data-interpreted practical WIL demonstrates an expansion of Kolb's theoretical applications.

There is therefore an uncovering of WIL on the one hand, as a foundational core concept of this study and Kolb's learning stages and applications on the other hand. The confluence of these domains represents an original offering. The WIL (Simulations) delivery framework space offers a systematic approach in which theory and practice integrations are achieved through WIL (Simulations) while enhancing academic and industry partnerships and contributing towards graduate skills for the MA industry. The final phase of the designed framework relates to Post-WIL (Simulations) activities that are applicable to students, academics, and industry partners.

5.5.3 Post-WIL (Simulations) phase

The post-WIL (Simulations) phase, based on the findings from Phase 2 (Theme 6), is a crucial component within the WIL (Simulations) framework in completing the experiential learning cycle as it offers the opportunity for both academics and students to reflect on successes and challenges experienced using the WIL (Simulations) evidence gathered from the Active-WIL (Simulations) phase. Within this phase, academics responsible for teaching WIL (Simulations) should analyse the WIL (Simulations) evidence that was documented during the Active-WIL (Simulations) phase to address possible teaching and learning gaps that were experienced after theory-practice integration activities (regular reviews) and after each cycle of students (annual reviews).

The first annual activity includes high-level reflections between HEIs and MA-industry partners in which the WIL (Simulations) evidence is presented and scrutinised for quality assurance and gauging the effectiveness of the programme. The secondary annual activity comprises of MA career development and industry networking actions which require the involvement from stakeholders within the WIL (Simulations) curricula. The final component of the post-WIL (Simulations) relates to regular actions that are conducted within the university between WIL academics and students' post-assessment and evaluations of simulated tasks and activities.

5.6 Chapter summary

The findings in the current study were comprehensively documented in this chapter which provided empirical evidence to create a WIL (Simulations) MA framework for skills development and industry readiness. Furthermore, the researcher also sought to uncover current practices, challenges and opportunities in running WIL (Simulations) for MA-related subjects in general and from the sampled groups. Findings from the secondary data was presented in DBR Phase 1 through document analysis. The DBR Phase 2, discussed in Section 5.4, thematically presented the empirical evidence gathered from the semi-structured interviews pertaining to the secondary research questions and objectives and were supported by verbatim extracts from the transcribed interviews. In DBR Phase 1, the secondary data was coded and categorised using Saldaña's (2016:14) codes-to-theory framework to develop a draft codebook which guided the coding of primary data gathered in DBR Phase 2. Through iterative cycles of coding, reshaping codes categories, and merging of codebooks from both DBR Phase 1 and 2, the codes were distilled into a complete codebook that accurately mirrored both literature and participants' experiences. The chapter then introduced the three-phased designed WIL (Simulations) in MA framework as a final product of the DBR Phase 2.

The following chapter presents the findings for the DBR Phase 3, during which the researcher conducted reflective evaluation interviews with WIL coordinators to finalise the designed WIL (Simulations) for MA framework. Chapter 6 will discuss the conclusions of the overall study and the recommendations for practice and further research.

CHAPTER 6: REFLECTION, WIL (SIMULATIONS) FOR MA FRAMEWORK, CONCLUSIONS AND RECOMMENDATIONS

6.1 Chapter layout

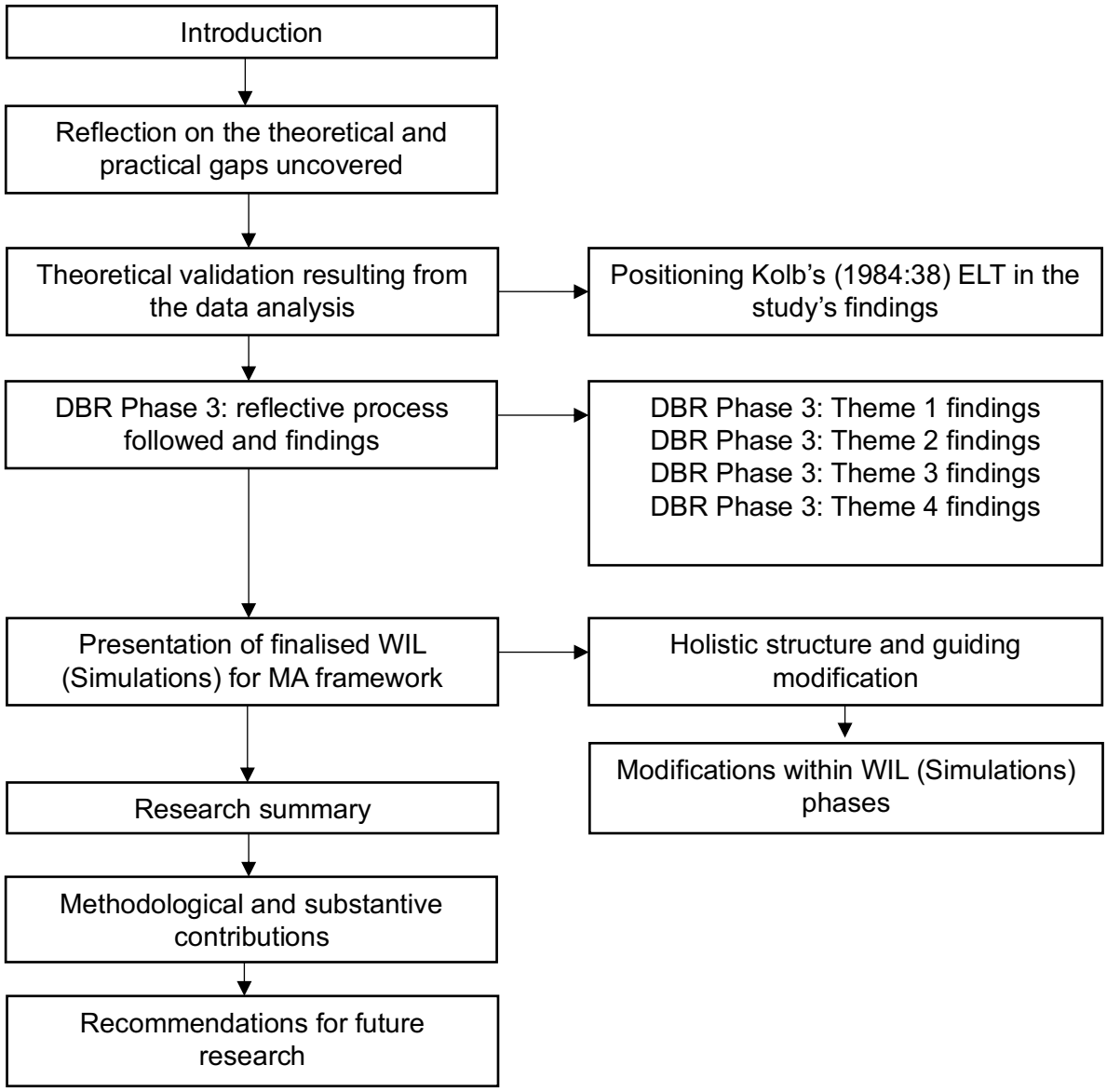


Figure 6.1: Chapter layout

Source: Own compilation

6.2 Introduction

This study was set against the general literature uncovered on WIL as an instructional pedagogy aimed to develop graduate attributes and enhancing employability skills (CHE 2011:4; DHET 2013:5; Impinge et al 2020:531). A significant challenge that HEIs are confronted with, particularly in the field of accounting education, is the persistent scarcity of practical training through WIL (Placement) opportunities (Crawford et al 2024:1062; Jackson et al 2016:35-36), in particular, within the domain of MA (Bishop 2019:22). Contextually, the transition from the Higher Education Qualifications Framework (HEQF) (2007) to the comprehensive HEQSF (2013) in South Africa called for an integration of WIL, more specifically WIL (Simulations) within selected programmes offered by UoTs (HEQSF 2013:10). Thus, the overarching purpose of this qualitative research study was to develop a WIL (Simulations) framework in MA for UoTs aimed at bridging the academic theory and professional practice, underpinned by Kolb's (1984:38) ELT.

Chapter 5 presented the study's DBR Phase 1 (Problem exploration) and Phase 2 (Framework design and construction) findings based on the identified themes from Chapter 4, derived from the literature. These findings and the subsequent analysis of the empirical data and its interpretations resulted in a WIL (Simulations) framework for MA revised from the initial conceptual framework outlined in Chapter 3. The designed WIL (Simulations) framework in MA from Chapter 5 was informed by Kolb's (1984:38) ETL theory, literature on WIL, and the empirical data gathered from the DBR Phase 2 (Framework designing).

Considering the data gathered, Chapter 6 reports on the process followed under the study's DBR Phase 3 (Framework finalisation), in which the designed WIL (Simulations) framework from Phase 2 was reflectively evaluated by WIL coordinators and WIL academics from the study's sample. Moreover, the detailed review and feedback on the designed framework's feasibility informed its targeted revisions, which ultimately guided the finalised WIL (Simulations) for MA framework. This chapter further highlights the study's final contribution, limitations, and recommendations for future studies.

6.3 Reflection on the theoretical and practical gaps uncovered

As indicated by Patton (1999:1196-1198), the act of triangulation denotes the use of various data sources in a qualitative inquiry to develop a broad understanding of phenomena. The researcher's document analysis conducted in Chapter 5 pertaining to WIL practices in higher education, along with the findings obtained from the DBR Phase 2, were contrasted to obtain a comprehensive understanding of WIL aspects in order to verify and strengthen the findings that informed the finalised WIL (Simulations) framework for MA. In context of the study's interpretivism-to-pragmatism research philosophy, the qualitative document analysis, along with the interviews conducted under the study's DBR Phase 2 in relation to the study's objectives, revealed multiple interrelated gaps that hinder an effective integration of MA theory learning and practice. These gaps as depicted in Table 6.1, have been categorised as theoretical (i.e. deficiency in knowledge relating to WIL (Simulations) practices), and practical (i.e. discrepancy on how knowledge on WIL (Simulations) practices may be applied in HEIs) and were presented in context of the themes identified under the study's DBR Phase 2:

Table 6.1: Theoretical and practical gaps identified

DBR Phase 2 theme	Theoretical gap	Practical gap	Operational implications
Staff biographical data	**No gaps identified:** The findings indicated that all participants involved in programmes with a WIL (Simulations) component possessed sufficient theoretical knowledge and qualifications in MA-related subjects to teach WIL (Simulations). This finding is consistent with the recommendations echoed by CHE (2011:29)	**Gaps identified:** While the participants possessed sufficient academic experiences, the findings suggest that there is an uneven balance between teaching experiences and industry-based experiences. This identified gap links with Whelan's (2017:172) concerns.	**Implications:** UoTs should create alternative methods for WIL educators to gain relevant industry experience to ensure that WIL modules are designed to reflect practices. This is in line with the suggestions from Mesuwini et al (2023: 83)
Theme 1: Core objectives,	**No gaps identified:** The findings indicated that all participants know the	**Gaps identified:** While academics understood the objectives of WIL	**Implications:** All academics involved in programmes with a WIL

impact, and influence of WIL	objectives, impact and influence that WIL (Simulations) has on students' learning outcomes. This is consistent with the CHE's (2011:9) and the HEQSF (2013:11) description of WIL.	(Simulations), the findings signified that they lacked practical experience and guidance to teach WIL (Simulations) due to the lack of formal WIL training. This links with CHE's (2011:29) recommendations pertaining to staff capacity development for WIL.	component should be formally orientated and trained to offer WIL (Simulations) as suggested by the CHE (2011:29).
Theme 2: Theory-practice integration	**Gaps identified:** The remarks from participants highlighted that although varied methods of integrating MA theoretical knowledge and practical learning are used, uncertainties remain if these methods develop the skills-set required for the MA profession. This concern over the authenticity of simulations has been echoed in the literature (CHE 2011:61; Malan & van Dyk 2021:3)	**Gaps identified:** The findings further suggested that the participants often lacked the relevant digital tools and resources that are suitable to integrate theory and practice to prepare students for the MA profession. Furthermore, the lack of MA-industry partners when offering WIL (Simulations) aggravates the disconnect between academic theory and the profession The concern over resource scarcity pertaining to WIL has been echoed in the literature (Du Preez et al 2023:141)	**Implications:** Industry partners should be identified and be involved in WIL curriculums as recommended by the CHE (2011:16). In addition, staff should be trained on the use of appropriate tools as echoed by the CHE (2011:29)
Theme 3: Technology in simulations	**Gaps identified:** The majority of the participants indicated that they are able to use the digital learning resources provided by the universities. However, the knowledge gap on which digital tools are relevant for the MA profession was	**Gaps identified:** The findings indicated that academic staff involved in programmes with WIL (Simulations) are provided with appropriate digital learning platforms such as Learning Management Systems (LMS) and	**Implication:** University management, along with WIL academics and MA industry partners should identify the technological gaps within the WIL curriculums and develop appropriate and cost-effective digital tools for

	apparent. This finding is consistent with Mhlanga et al (2022:11) concerns over the lack of universities adopting discipline-specific digital tools for WIL.	computer laboratories. However, some participants indicated that obtaining relevant MA digital resources and software came with high implementation and maintenance costs, coupled with university budget limitations. These findings link with Du Preez et al's (2023:139-141) concerns on the high costs of simulations in relation to using appropriate digital tools.	experiential learning activities. This links with Bishop's (2019:22) and Hough's (2012:976) suggestions.
Theme 4: Implementation challenges	**Gaps identified:** The findings highlighted that the majority of the participants had no knowledge of how to effectively design and manage the WIL (Simulations) curriculum due to its novelty as part of the newly developed HEQSF (2013)-aligned programmes. The lack of simulation-based education (SBE) specialists in South Africa available to train educators on simulations (Van der Merwe 2020:81) further aggravates the mentioned knowledge gap. This finding further linked with the participants' lack of formal WIL training, which contradicts the recommendations made by CHE's (2011:29) that universities should ensure	**Gaps identified:** Due to the lack of prior knowledge and experiences in the teaching and management of WIL (Simulations), the participants indicated that they struggled to effectively run the WIL (Simulations) programme. Furthermore, the findings indicated that WIL (Simulations) is often time-consuming and laborious. Similar concerns on running WIL programmes were echoed by the CHE's (2011:61) and Du Preez et al's (2023:141).	**Implication:** Knowledge gaps and the **i**mplementation challenges pertaining to the running of WIL programmes should be clearly identified and addressed with the appropriate university stakeholders (Iipinge et al 2020:540; Mhlanga et al 2022:464). Moreso, sufficient time should be allocated for WIL (Simulations) activities as echoed by De Villiers (2016:499).

	that staff capacity is sufficient to teach WIL.		
Theme 5: Assessment and evaluations	**Gaps identified:** Although the participants cited both assessments strategies (i.e. formative and summative) and assessment methods (i.e. case studies, simulated projects, business presentations, etc.), they frequently confused the two assessment concepts (i.e. assessment strategies and assessment methods).	**Gaps identified:** The findings indicated that the WIL (Simulations) assessments are not externally validated by appropriate MA-industry partners. This finding contradicts CHE's (2011:47) recommendations that WIL programmes should be co-created and co-assessed with external workplace partners for authenticity.	**Implication:** Industry partners should be identified and be involved in WIL curriculums as recommended by the CHE (2011:16). Furthermore, the CHE (2011:48) recommends that experiential learning should include innovative forms of assessment such as "learning diaries, portfolios, student progress files and other means…"
Theme 6: Reflection and Monitoring practices	**Gaps identified:** The findings indicated that the participants had no knowledge on how to reflect on WIL (Simulations) programmes after each cycle of students. Moreover, it was also noted that participants understood the monitoring aspects of WIL (Simulations) of students in relation to MA-skills development at a group level.	**Gaps identified:** The findings highlighted a pragmatic challenge in monitoring students' individual progress of MA skills development due to the high student numbers. This is consistent with the concern over the unbalanced ratio between university staff capacity and the exponential growth of student enrolments as echoed by the DHET (2019:21). Moreso, This may lead to leniency biasness- "a tendency for WIL educators to evaluate individuals more favourable than is warranted by their performance" as cautioned by Jackson (2018:556). Reflection and monitoring	**Implications:** Universities and WIL educators, along with industry-partners should collaborate to create multiple, lightweight channels for detailing each student's unique trajectory such as structured electronic-portfolios (Carter 2021:463), self-reflection (van Loon 2019:2), and individual development plans (McIlveen et al 2011:149)

		aspects pertaining to WIL (Simulations) involved no industry partners, this contradicts CHE's (2011:55) recommendations that industry partners should form part of monitoring aspects pertaining to WIL at higher education.	

Source: Own compilation

Table 6.1 above distils and presents the key themes that emerged from the literature alongside the corresponding broad findings (theoretical and practical gaps), and their operational implications which informed the final WIL (Simulations) framework for MA. Collectively, these identified gaps affirm the need for a multi-faceted approach towards WIL (Simulations) where WIL (Placement) opportunities are limited (Bishop 2019:22), while expanding the body of knowledge in the domain of accounting education research.

In reinforcing the theory's relevance in new settings and populations, the coded 17 qualitative interview transcripts echoed in DBR Phase 2 were further analysed to identify facets of Kolb's (1984:38) ELT in order to ascertain whether the data provided unique insights in the avenue of integrating theory learning and practice using WIL (Simulations) for MA. The researcher then followed Saldaña's (2016:14) codes-to-theory framework in Chapter 6 for the theoretical validation. Moreover, the qualitative coding conducted in ATLAS.ti (Version 24) in Chapter 5 was validated by a second independent qualitative advisor. The analysed data from DBR Phase 2 was mapped across this comprehensive approach for experiential learning to affirm its position in the study, contributing to the body of knowledge. Moreso, the contextual positioning of Kolb's (1984:38) ELT was outlined in the study's designed WIL (Simulations) framework, in which the Active WIL (Simulations) phase features theory-practice integration through paper-based, live-based and virtual-based simulations.

6.4 Theoretical knowledge validation resulting from the data analysis

The proposition of the current doctoral investigation is warranted by the need to advance theoretical and practical knowledge in the domain of simulated experiential learning within MA, necessitated by the widening gap between HEIs and professional MA practice (ACIPA & CIMA 2015:16; De Meyst & Hartmann 2025:23; Nomlala & Mvunabandi 2023:988). Within South Africa, the DHET's (2024:12-16) recent publication on the national skills of occupations in high demand of 2024 included management accountants, finance managers, financial accountants, tax professionals, internal and external auditors, which all fall within the broad domain of accounting education (SAICA 2021:51; Sebele-Mpofu 2024:4).

In the context of South African UoTs, where vocational qualifications are designed under the HEQSF (2013) to denote applied pedagogy and professional practice (Scholtz 2019:414), this doctoral inquiry serves to produce practical learning concepts that support simulation-based instructional modalities and further substantiate their educational efficacy through a rigorous scholarly inquiry. Moreover, this study was motivated and underpinned by Kolb's (1984:38) ELT on education and experience, and the need to close the evidential gaps identified in Table 6.1 above, along with the concerns over the lack of WIL (Placement) opportunities available for MA students (Bishop 2019:23) and the deficiency of workplace readiness among accounting education graduates (Reyneke & Shuttleworth 2018:142; Terblanche & De Clercq 2021:325). Despite the considerable scholarly discourse on the use of WIL at South African higher education institutions to develop the skills-set appropriate for MA, there is a compelling rationale to address the widening gap between formal academic training and the MA industry, based on the following three broad factors:

- **Curriculum revision**: The revision of South Africa's higher educational framework from the HEQF (2007) to the HEQSF (2013) has resulted in the redesign of certain programme curricula at UoTs to incorporate WIL (Simulations) aimed at warranting the alignment and integration of academic knowledge with workplace skills expectations. The process of developing and implementing higher education curricula in South Africa has been closely associated with knowledge gaps due to curriculum development skills shortages among academics (Dowelani & Dowelani 2020:1018). Furthermore, the implementation of simulations in accounting

education has been reported to encompass substantial complexities and administrative burdens inherent in the designing, assessing, and managing of simulated activities (de Villiers 2016:499; Motsoeneng & Dlamini 2020:313). Contextually, the previously mentioned concerns and challenges were evident as discussed under Phase 2 - Theme 4 (Implementation challenges). In addition, corrective actions, opportunities and suggestions to remedy these concerns were discussed in Chapter 5, Section 5.6 and Table 6.1 above.

- **The absence of an established framework in the delivery of WIL (Simulations) for MA as an alternative skills development strategy:** In relation to the point above, concerning the introduction of WIL (Simulations) curriculum for some programmes aligned with the HEQSF (2013), a comprehensive literature review conducted by the researcher pertaining to WIL and SBE revealed that no formalised framework exists for the deployment of experiential simulations tailored to MA. Furthermore, there is a considerable concern over accounting education graduates and their lack of professional skills (Nomlala & Mvunabandi 2023:988). This identified educational gap underscores the need for a comprehensive framework capable of guiding the development, implementation and validation of simulated experiential learning within the MA domain. There is compelling motivation for incorporating alternative skills development methods for South African MA students. For HEIs, the provision of these “practical skills” is not feasible if collaborative efforts with industry partners are non-existent (Lubbe & Svesson 2022:40). As indicated in the findings discussed in Chapter 5, under Section 5.4, the developed WIL (Simulations) framework for MA considered the CHE’s (2011:29) recommendations for HEIs to involve industry partners for the effective delivering of WIL. Furthermore, the qualifications in UoTs blend vocational education (hands-on, trade explicit skills, occupational (wider workplace competencies and work-readiness), and professional education (theoretical fundamentals and industry standards) (Mungal & Cloete 2016:203-205), thus their focus on equipping students with foundational knowledge to lead to professional registration (Mungal & Cloete 2016:204).The existing literature gap for addressing conceptual or empirical research on simulated WIL as an alternative skills development strategy, specifically for MA students in UoTs, is irrefutable.

- **Misalignment of MA skills and industry needs:** The concern raised by accounting professional bodies over the disconnect between higher education and the accounting industry (AICPA & CIMA 2023:7; De Meyst & Hartmann 2025:23), which aggravates the growing skills gap identified in the study's literature discussed in Chapters 2 and 3, affirms the central purpose of WIL (CHE 2011:4; HEQSF 2013:11). More significant is the lack of external validation in WIL (Simulations) programmes by industry partners, which is evident from the study's findings as discussed in Chapter 5 under Section 5.4. The high level of uncertainty expressed by the participants pertaining to developing skills aligned with MA industry practices may pose the risk of creating confusion and a superficial transfer of practical learning. As discussed, and addressed in Chapter 5, under Section 5.4.2.4 and Table 6.1 above, collaborative efforts between universities and industry partners when delivering WIL are paramount to ensure authenticity of experiential learning experiences that reflect on Kolb's (1984:38) ELT for both academics and students.

6.4.1 Positioning Kolb's (1984:38) ELT in the study's findings

As discussed in Chapter 2, Kolb's (1984:38) ELT has a strong foundation confirming its position as a WIL theory in which knowledge is created through an iterative process of experience and reflection (CHE 2011:7; Mesuwini et al 2023: 83; Morris 2020:1064). More recently, Kolb (2015:18) cited "Simulations" within experiential education as part of the contemporary application of the ELT. Through its cyclical process of Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualisation (AC), and Active Experimentation (AE) learning modes, Kolb's (1984:38) ELT asserts that "learning is the process whereby knowledge is created through the transformation of experience". Furthermore, each learning mode feeds into the next so that experiential learning becomes a constant loop (Kolb & Kolb 2005:194). As students engage and act on novel educational concepts, a new cycle of experience (hand-on experience), reflection (thinking and reflecting back on the experience), conceptualisation (forming new ideas) and experimentation (application of those ideas to new scenarios) begins (Bergsteiner et al 2010:29-32).

Within the designed WIL (Simulations) for MA framework, active learning is achieved by combining MA theoretical understanding with reflective "thinking" and practical

"doing" as advocated by Eickmann et al (2004:242). In addition, this holistic view of Kolb's (1984:38) ELT has been widely applied in WIL for accounting education as an underpinning theory and for theoretical extension (Jackson & Meek 2021:63; Picard & Courtois 2023:163; Sathe & Yu 2021:193). The literature not only affirms the application of Kolb's (1984:38) ELT as the theoretical bedrock of a WIL curriculum but further allows for theory extension in experiential learning through simulations within the domain of MA.

As part of the study's DBR strategy, the following section presents the third and final phase, DBR Phase 3, in which the designed WIL (Simulations) framework from the Phase 2 in Chapter 5 (Section 5.5), is reflected and scrutinised for its practical implications within UoTs.

6.5 DBR Phase 3: reflective evaluation process followed for framework finalisation

This section presents the process followed under the study's DBR Phase 3 component in which a comprehensive reflection on the overall findings from DBR Phase 2, and the designed framework from Chapter 5 under Section 5.5 was completed. As indicated in Cochrane's (2022:4) DBR framework to guide curriculum design, DBR Phase 3 centres on a "collaborative and iterative redesign" of the designed framework with project peers to refine and finalise the proposed model. Contextually, the previously mentioned "project peers" refer to the study's participants from Phase 2, of which only the WIL coordinators and academics responsible for the teaching of WIL (Simulations) were included. Moreover, the final cycle of semi-structured interviews under Phase 3 was guided by the interview scheduled displayed in Annexure E.

The WIL coordinators and academics responsible for the teaching of WIL (Simulations) and WIL (Placement), from both groups, were invited via emails for the final cycle of semi-structured interviews as furnished in Table 6.2 below. In addition, the invitation email sent to participants for Phase 3 included:

- Informing participants that the second interviews would commence with a five-minute presentation pertaining to the study's progress in which the consolidated findings and the designed WIL (Simulations) for MA from DBR Phase 2 would be presented;

- A reminder that the confidentiality agreement they signed is still applicable as the study's findings cannot be shared with third parties. In addition, the participants were informed that a member check would be conducted to ensure that their opinions and suggestions made from the study's DBR Phase 3 had been captured; and
- A summary of David Kolb's (1984) ELT informing them on its applicability to the research study's theoretical framework.

The interviews were then scheduled on Microsoft 365 Copilot's ® Microsoft Teams ®, recorded, and transcribed using the software's Artificial Intelligence (AI) recap feature which automated meeting notes and transcribed spoken words in real time (Microsoft 365 2025:1).

Table 6.2: Participants involved in DBR Phase 3 (Framework finalisation)

#	Group	Position	Module(s) involved with
P1	1	Lecturer and WIL coordinator	WIL (Simulations)
P7	1	Lecturer	WIL (Simulations); Financial Planning; Ethics and Practice
P9	2	Lecturer and WIL coordinator	WIL (Simulations); Pastel SAGE
P15	2	Senior lecturer and department head	WIL (Placement); Research; Internal Auditing; Risk Management; Financial Accounting
P17	2	Lecturer	WIL (Simulations)

Source: Own compilation

The remarks and suggestions by participants involved in Phase 3 were manually analysed and thematically presented against the designed WIL (Simulations) framework. In addition, the designed framework was scrutinised for possible gaps that were identified by the participants included in Phase 3. In accordance with Cochrane's (2022:4) DBR framework for curriculum innovation, Phase 3 signifies a crucial step focused on reflective "refinement, evaluation, and finalisation". The study's Phase 3 comprised of the following reflective evaluation themes, namely: Theme 1 (Theoretical underpinnings); Theme 2 (Feasibility of framework); Theme 3 (Stakeholder

perspectives); and Theme 4 (WIL policy implications and improvement) as indicated in Chapter 4, Section 4.6.1.1

6.5.1 DBR Phase 3 findings: Theme 1 (Theoretical underpinnings)

The use of Kolb's (1984:38) ELT has been wildly accepted for underpinning WIL as a pedagogical approach for bridging academic theory and professional practice, while offering students impactful learning experiences (Mesuwini et al 2023: 83; Morris 2020:1064). As indicated in the study's theoretical framing from Chapter 1, the research proposed Kolb's (1984:38) ELT as a guiding theory in developing the WIL (Simulations) for MA framework to be incorporated in theory-practice integration tasks and activities.

Reflecting on the integration of Kolb's (1984:38) ELT in the designed WIL (Simulations) framework for MA, the participants unanimously conveyed that not only was the theory integrated, but actively informed guidance pertaining to the design and delivery of the paper-based, virtual-based and live-based simulations that were previously echoed during the study's DBR Phase 2 (Framework designing) indicated in Chapter 5, Section 5.5.3.3. When probed on the use of Kolb's (1984:38) ELT as a guiding theory for the designed framework, all participants remarked that the theory seamlessly integrated, particularly on how the WIL (Simulations) delivery framework space considered formative and summative experiential learning aspects, which validated the study's theoretical positioning of Kolb's (1984:38) ELT. In this regard, Participant 7 echoed the following:

> *"You also identified what the participants actually said to you. And the other part is that these findings were meaningfully analysed in light of these learning styles* [In reference to Kolb's 1984:38 ELT]. *I would say it has been interpreted in a way that was informed by the participants."* (P7)

6.5.2 DBR Phase 3 findings: Theme 2 (Framework feasibility)

Pertaining to the feasibility of the designed WIL (Simulations) framework for MA, all five participants expressed a strong appreciation for the model, where Participant 1 echoed that it "aligns with objectives of WIL for MA". Participant 15, expressed the following:

> *"And from management side, you know something that has been properly grounded in academic literature, in theory etcetera is always good to see. So, I think definitely this is such a helpful tool to say this is you know what we want to achieve with our work integrated learning simulation. So, I think you did a brilliant job with this whole framework of yours."* (P15)

Participants also praised the structured integration of Kolb's (1984:38) learning cycle of "do-reflect-conceptualise-apply" through paper-based, virtual-based and live-based simulations, as a basis of reinforcing MA concepts through interactive engagement.

However, when probed on identified inconsistencies, gaps, or limitations pertaining to the designed WIL (Simulations) for the MA framework, the following remarks and possible suggestions were mentioned:

i) Pre-WIL (Simulations) phase

Participant 17 raised concerns relating to the incorporation of relevant digital tools and software appropriate for the MA industry due to the high-cost implications and the technical capacity required to procure and maintain. In reference to the logistical set-up component, Participant 17 highlighted the lack of an established business hub or "business clinic" within their UoT, which is restrictive in creating a dedicated space for business simulations.

> *"I was going say for this one on digital tools, they might not be cost effective, wouldn't you suggest something other than that? What are alternatives? What can we do?"* (P17)

> *"Potential challenges in terms of feasibility, of course, is we don't have our own clinic. Yeah, because all those labs that we are using, we are sharing with other faculties"* (P7)

Although no suggestions were offered by the participants concerning the challenges mentioned above, UoTs, along with WIL (Simulations) academics and MA industry partners should collaborate to find scalable technology options by exploring open-source or affordable digital platforms while phasing in innovative digital tools over time.

This suggestion is in line with CHE's (2011:29-30) recommendations pertaining to staff capacity development, for instance, training academic staff on the use of appropriate software, and resources, for instance, the funding of the mentioned "business hub/ clinic" required for the effective running of WIL.

ii) Post-WIL (Simulations) phase

While the Post-WIL (Simulations) was praised for the inclusion of annual reviews of WIL programmes, regular post evaluation of simulated activities (P1, P7, P9, P15, and P17), participants remarked that annual MA career development and industry networking components should be included in this phase in which P15 echoed the following:

> *"Let's review the WIL programme again. Let's do the post assessment they want to get there, but it's not really written into policy. You know I specifically, like that, career development and industry networking. But you know if you can have that written into a process or procedures, etcetera, that'll be very helpful. And specifically because it is based on good academic literature that you did this. So yeah, my short answer will be, this will definitely only be able to enhance and strengthen the current policies that we have."* (P15)

Participant 1 suggested the inclusion of self-reflection and peer-to-peer discussions as well among students under the regular post evaluation of simulated activities. These suggestions are in line with CHE's (2011:63) recommendations as part of WIL reflection, allowing students to reflect on the "relevance of the experience and what was learned". Participant 9 suggested incorporating "Post-WIL tracking" activities, in which WIL (Simulations) academics periodically engage with former students (alumni networking) to assess how the simulated activities influenced their work-readiness and actual workplace performance. Another suggestion was echoed by Participant 17 who indicated that the annual review of the WIL (Simulations) curriculum should be conducted regularly with each student cohort for the purpose of addressing emerging gaps and MA contextual changes.

6.5.3 DBR Phase 3 findings: Theme 3 (Stakeholder perspective)

When probed on how stakeholders such as university management, potential employers and students will receive the designed WIL (Simulations) framework for MA, all participants indicated that the framework should be well received for its structured approach in simulations. Participant 9 said the following:

> *"I think employers will receive it very well because they can see what we do is not taken from thin air, it was well researched, and I can also see the flow of everything".* (P9)

6.5.4 DBR Phase 3 findings: Theme 4 (WIL Policy implications)

Participants were probed on the possible WIL policy implications that the proposed WIL (Simulations) framework may affect, should it be implemented. In reflecting on the designed WIL (Simulations) framework, the WIL coordinators from both groups expressed that the integration of industry partners may necessitate revisions to their existing WIL policies, in particular:

- The inclusion of MA industry partners who would co-design and validate simulated tasks and activities would require a formal policy that defines partner roles, quality assurance criteria and protocols on data sharing (P1).
- The allocation of resources pertaining to the running of WIL (Simulations) under the proposed framework might be a challenge due to the bureaucratic nature of their work environment when requesting resources as said by Participant 7.
- The implementation of the proposed WIL (Simulations) for MA framework has the potential to improve WIL policies, specifically, for assessment and career development purposes as remarked by Participant 15:

> *"Let's review the WIL programme again. Let's do the post assessment they want to get there, but it's not really written into policy. You know I specifically like the career development and industry networking. If you can have that written into a process or procedures, etcetera, that'll be very helpful. And specifically, because it is based on good academic literature. My short answer will be, this*

will definitely be able to enhance and strengthen the current policies that we have." (P15)

Participant 9 reiterated on the aspect of digital and logistical set-up, stating that a practice hub in which students can mirror an actual business environment would be difficult to obtain as the university may not soon be able to acquire specialised software, hardware and practice space.

"And I was thinking about the digital or logical setup, you know other faculties that have got excellent practice hubs and so on. But we do not have such". (P9)

By weaving together and incorporating the reflexive findings above, the finalised WIL (Simulations) for MA framework offers a practical roadmap for the delivery of simulated experiential learning structured in a coherent, scalable and policy-aligned approach. In contextualising the findings from the Phase 2 and Phase 3, the following section presents the final WIL (Simulations) for MA framework for UoTs.

6.6 Presentation of the finalised WIL (Simulations) for MA framework

The culmination of this qualitative study is a comprehensive WIL (Simulations) framework tailored for MA programmes, grounded on Kolb's (1984:38) ELT and designed under Cochrane's (2022:4) DBR framework strategy. The theoretical scaffolding of paper-based, virtual-based and live-based simulations, around Kolb's (1984:38) ELT cyclical phases of concrete experience, reflective observation, abstract conceptualisation, and active experimentation in the WIL (Simulations) framework's delivery space, allows for a flexible and authentic development of MA skills necessary to bridge the theory-practice gap between UoTs and the MA industry. Figure 6.2 presents the final WIL (Simulations) framework for MA, which was designed on the foundation of WIL literature, the CHE's (2011) guidelines on WIL delivery, the HEQSF (2013), and empirical evidence from Phase 2 and Phase 3.

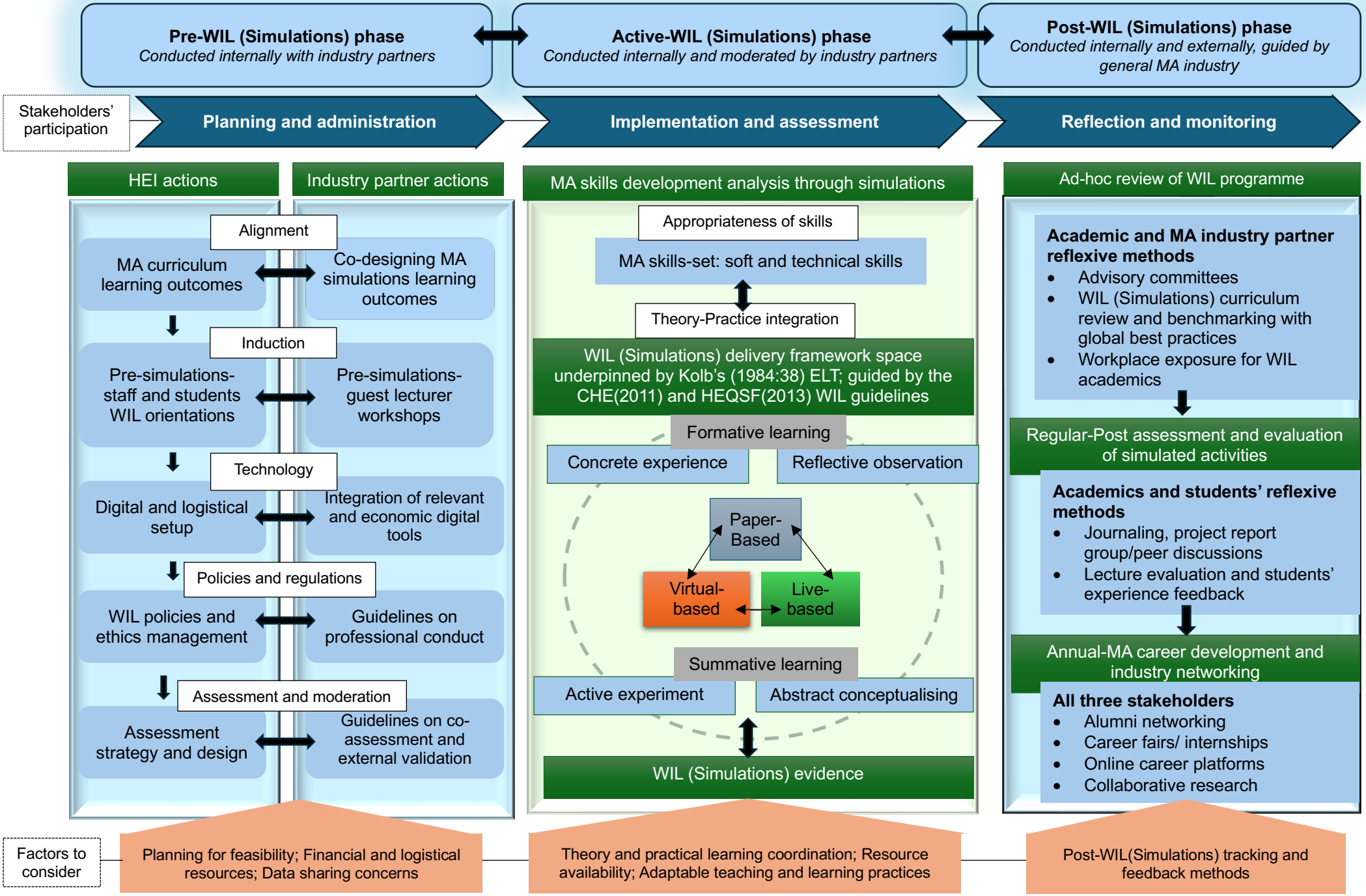

Pre-WIL (Simulations) phase
Conducted internally with industry partners
Active-WIL (Simulations) phase
Conducted internally and moderated by industry partners
Post-WIL (Simulations) phase
Conducted internally and externally, guided by general MA industry
Stakeholders' participation
Planning and administration
Implementation and assessment
Reflection and monitoring
HEI actions
Industry partner actions
Alignment
MA curriculum learning outcomes
Co-designing MA simulations learning outcomes
Induction
Pre-simulations-staff and students WIL orientations
Pre-simulations-guest lecturer workshops
Technology
Digital and logistical setup
Integration of relevant and economic digital tools
Policies and regulations
WIL policies and ethics management
Guidelines on professional conduct
Assessment and moderation
Assessment strategy and design
Guidelines on co-assessment and external validation
MA skills development analysis through simulations
Appropriateness of skills
MA skills-set: soft and technical skills
Theory-Practice integration
WIL (Simulations) delivery framework space underpinned by Kolb's (1984:38) ELT; guided by the CHE(2011) and HEQSF(2013) WIL guidelines
Formative learning
Concrete experience
Reflective observation
Paper-Based
Virtual-based
Live-based
Summative learning
Active experiment
Abstract conceptualising
WIL (Simulations) evidence
Ad-hoc review of WIL programme
Academic and MA industry partner reflexive methods
Advisory committees
WIL (Simulations) curriculum review and benchmarking with global best practices
Workplace exposure for WIL academics
Regular-Post assessment and evaluation of simulated activities
Academics and students' reflexive methods
Journaling, project report group/peer discussions
Lecture evaluation and students' experience feedback
Annual-MA career development and industry networking
All three stakeholders
Alumni networking
Career fairs/ internships
Online career platforms
Collaborative research
Factors to consider
Planning for feasibility; Financial and logistical resources; Data sharing concerns
Theory and practical learning coordination; Resource availability; Adaptable teaching and learning practices
Post-WIL(Simulations) tracking and feedback methods

Figure 6.2: DBR Phase 3 finalised WIL (Simulations) for MA framework

Source: Own compilation

Ledger: Single point arrow denotes directional flow; double point arrow denotes an iterative flow

6.6.1 Holistic structure and guiding modifications

In comparison to the designed framework from Phase 2, the “Pre-WIL (Simulations), Active-WIL (Simulations), and Post-WIL (Simulations)” phases were modified to become an iterative loop (as opposed to linear), allowing for flexibility in response to emerging challenges or developments as echoed by participants P1, P7, and P17. Moreover, within Phase 3 the previously mentioned WIL phases articulate planning, administration, implementation, reflection and monitoring practices as interdependent, conducted internally and externally with stakeholders (i.e. UoT management, academics, students, and MA industry partners). The previously mentioned modification is consistent with the CHE’s (2011:4, 14, 31, 41, 51, 58) guidelines pertaining to WIL’s management, teaching and learning practices, workplace partnerships, and assessment and monitoring practices. In addition, the finalised WIL (Simulations) framework features factors to consider for its effective implementation which were guided by the participants’ remarks when reflecting on the designed framework from Phase 2.

6.6.2 Modifications within WIL (Simulations) phases

As indicated in Section 6.5.2, participants P7 and P17 emphasised that technological infrastructure and logistical set-ups must consider cost-effectiveness (consistent with De Villiers’ (2016:499) recommendations) to enable feasible teaching and learning through simulations within the UoT environment. The suggestions resulted in adjustments to the Pre-WIL’s digital and logistical setup actions between HEI and industry partners, moving “Integration of relevant digital tools” to “Integration of relevant and economic digital tools”. Moreover, holistic factors to consider under the pre-WIL (Simulations) phase include realistic planning for delivering the WIL (Simulations) programme, the availability of financial and logistical resources, and data-sharing concerns.

The Active-WIL (Simulations) phase's "MA skills development analysis through simulations" has been adjusted to become iterative with the "WIL (Simulations) delivery framework space" and the "WIL (Simulations) evidence" to allow for flexibility in addressing emerging challenges that may arise due to time and resource restrictions when delivering WIL (Simulations) classes as echoed by P9. With the continuing changes within the MA professional practice as documented by the ACIPA-CIMA (2025:3; 2023:7; 2020:6; 2019:1; 2018:2; 2015:6) "Mind the Skills Gap" reports, the iterative loops within the Active-WIL (Simulations) phase are necessary for WIL academics to adjust WIL curricula based on the continuing developments of the MA profession. Subsequently, the effective implementation of the Active-WIL (Simulations) phase currently considers the coordination of theory and practical lessons between WIL academics and (MA) theory academics as alluded by Rook and Sloan (2021:42). Further considerations within the Active-WIL (Simulations) phase include the incorporation of "adaptive teaching and learning practices" in WIL, signifying "curriculum agility" when higher education institutions face unprecedented circumstances such as the recent Covid-19 pandemic (Zegwaard et al 2020:319).

In modifying the post-WIL (Simulations) phase, the actions pertaining to "Annual review of WIL programme" have been adjusted as "*Ad hoc* review of WIL programme" to reflect P17's suggestion. Moreover, the previously mentioned actions have been modified to include "advisory committees", "WIL (Simulations) curriculum review and benchmarking with global best practices", and "workplace exposure for WIL academics" based on remarks made by participants involved in the study's Phase 2 to cover the gaps identified under Table 6.1 above. Additionally, the post-WIL (Simulations) actions pertaining to "Regular-Post assessment and evaluation of simulated activities" was updated with actionable activities described by participants P1 and P9. The "Annual-MA career development and industry networking" was also updated with suggestions uncovered from the literature (CHE 2011:51; Jackson & Meek 2021:64; Zegwaard et al 2023:32-36). More significantly, the guiding considerations under this Phase now include the development of structured post-WIL (Simulations) tracking and feedback methods as suggested by Participant P9.

The final WIL (Simulations) for MA framework represents a comprehensive, yet flexible model for incorporating scalable experiential learning within the MA curriculum where WIL (Placement opportunities) are limited.

6.7 The research summary

The central qualitative inquiry of this study pertains to the widening skills gap between HEIs' Accounting Education graduates, specifically within the MA domain, and the entry-skills requirements necessary for work-readiness in industry (AICPA & CIMA) 2015:2). The evolving role of the MA profession has necessitated the development and upskilling of professional role-specific skills, digital fluency, and soft skills (AICPA & CIMA 2023:3). In the context of this research, the disparity in workplace training between professionally recognised qualifications such as the bachelor's degree in accountancy (SAICA 2024:4-30); and non-professional accounting education programmes such as the certificates and diplomas within South African UoTs allude to an experiential gap faced by graduates from UoTs. This challenge is predominately attributable to the limited number of industry-driven training placements (Bishop 2019:20), often aggravated by substantial student enrolment numbers (Mhlongo 2020:50), and with the mounting demand for experiential learning across the broad fields of accounting education (Jackson & Meek 2021:63-64).

While the introduction and implementation of a WIL (Simulations) curriculum for certain HEQSF (2013)-aligned certificates and diplomas, in the discipline of MA offered at UoTs, aim to address the previously mentioned concerns, this has resulted in implementation challenges because of the knowledge and practical gaps discussed in Section 6.3 above. Moreover, despite the widespread use of WIL in higher education, there is a dearth of research conducted on the integration of WIL (Simulations) within the domain of MA for HEQSF (2013:11)-aligned programmes offered at South African UoTs, requiring an inquiry pertaining to its design, implementation, and management. Figure 6.2 below visually demonstrates the application of Cochrane's (2022:4) DBR strategy and the coherent flow within the study's chapters:

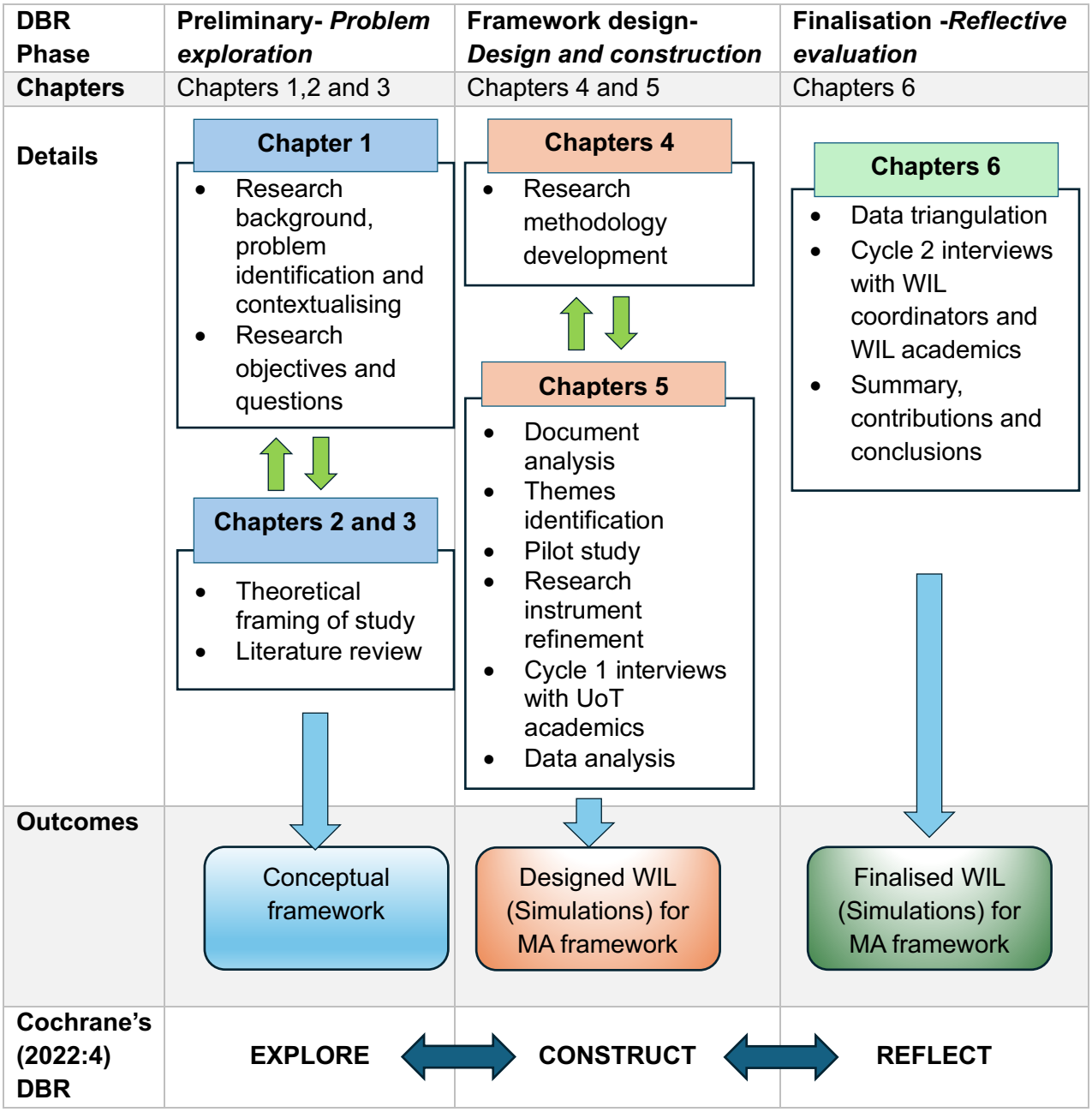


Figure 6.3: Visual illustration of the DBR strategy followed in this study

Source: Own compilation; Based on Cochrane 2022:4; McKenney & Reeve 2019:17

⇧⇩ Indicates the process of iterative cycles of refinement.

As illustrated in Figure 6.3 above, this qualitative research followed Cochrane's (2022:4) three-phased DBR strategy, in which its three phases included: DBR Phase 1 (Problem exploration); DBR Phase 2 (Framework design); and DBR Phase 3 (Framework finalisation) to develop the WIL (Simulations) for an MA framework.

6.7.1 DBR Phase 1 (Problem exploration)

This study commenced with Chapter 1, in which the research background, problem orientation, and the study's research questions and objectives were outlined in Sections 1 through to 4. Thereafter, Chapter 2 outlined the study's theoretical framework, which focused on Kolb's (1984:38) ELT cycles for pragmatic learning which was delineated as the study's' foundational principles for developing a WIL (Simulations) framework. Furthermore, Chapter 2 included an extension of the study's theoretical framework with literature discussions pertaining to experiential education and Kolb and Kolb (2005:197) learning style inventory, along with literature discourses on WIL practices within South Africa. The literature pertaining to the change in the management accounting profession, and its evolving skills-set requirements were discussed, along with the discussions relating to simulations-based education were included in Chapter 3, in which the outcome was a conceptual WIL (Simulations) framework for management accounting students enrolled at higher education institutions as discussed in Section 3.6.

6.7.2 DBR Phase 2 (Framework design and construction)

The researcher followed Saunders et al's (2023:124) Research Onion framework as discussed in Chapter 4 under Sections 4.3.1 through to 4.3.4, in which its application of interpretivism-to-pragmatic philosophy, the DBR strategy, sampling procedures, data analysis protocols, and methodological limitations were outlined. Chapter 4 also included the discussions pertaining to the protocols followed to ensure the study's rigour and ethical considerations thereof as discussed under Sections 4.8 and 4.9.

In addressing the Research Objective (RO) and answering the Research Question (RQ), which focused on obtaining an in-depth understanding of the current WIL (Simulations) strategies within UoTs pertaining to offering modes, pedagogy and assessment, Chapter 5 captured the findings pertaining to the delivery of WIL and Simulations-Based Education (SBE), obtained through document analysis and 17 semi-structured interviews with academics from two UoT groups as discussed under Sections 5.3 and 5.4. Furthermore, the discussions pertaining to the data analysis and refinement, which were guided by Saldaña's (2016:14) codes-to-theory framework and a qualitative data expert, were outlined. As indicated in the study's Chapter 1, two additional objectives were outlined, namely, RO 3 which aimed to investigate the

relations between WIL (Simulations) and the development of graduate skills, attributes and professional attitudes amongst students, and RO 4, which centred on how the management accounting skills-set from industry can be embedded in WIL (Simulations) within UoTs. The previously mentioned objectives were addressed through the literature and the designed WIL (Simulations) for management accounting framework's iterative cycles of paper-based, virtual-based, and live-based simulations modes as outlined under Chapter 5 in Section 5.4.3. Thereafter, Chapter 5 presented the designed WIL (Simulations) for MA framework, which was guided by the uncovered WIL literature and the interview remarks made by participants, as an outcome of the chapter as pointed out in Section 5.5.

6.7.3 DBR Phase 3 (Framework finalisation)

In finalising the designed WIL (Simulations) for MA framework, Chapter 6 commenced with a thematic triangulation of the findings from the Phase 2 against the uncovered literature and identified gaps as documented in Table 6.1 pertaining to WIL practices within higher education. Subsequently, the study's theoretical validation, which was based on the data analysed, was discussed under Sections 6.3 and 6.4. Chapter 6 further presented the findings from Phase 3, in which the designed WIL (Simulations) for MA framework was reflectively evaluated by WIL coordinators and relevant WIL (Simulations) academics for its positioning of Kolb's (1984:38) ELT as a theoretical underpinning detailed in Sections 6.5. Moreover, the discussions pertaining to the WIL (Simulations) framework's feasibility, stakeholder perceptions, and WIL policy implications were addressed. Thereafter, the reflective evaluation remarks were considered and incorporated in the study's final WIL (Simulations) for MA framework under Chapter 6, Section 6.6. Chapter 6 then concluded with the research summary, methodological contributions and limitations, along with recommendations which were discussed in Sections 6.9 through to 6.11.

6.8 Contributions to research

The research study makes a substantive contribution to the advancement of WIL scholarship by contextualising simulations-based education within experiential learning for management accounting education. The study delivered a guiding framework pertaining to the design, implementation, assessment and monitoring practices pertaining to WIL (Simulations) for MA curriculum for HEQSF (2013)-aligned

programmes grounded on a rigorous methodology that was comprised of comprehensive WIL literature (as discussed in Chapters 1, 2, and 3), theoretical basis on experiential learning, and empirical evidence (discussed in Chapter 2), which were instrumental for synthesising theoretical concepts and empirical perceptions derived from the investigation. The contributions are outlined as follows:

- **Theoretical advancement of experiential learning theory**: The study uniquely positioned Kolb's (1984:38) ELT cycle of Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualisation (AC), and Active Experimentation (AE) (see Chapter 2, Section 2.4.4) to legitimise theory-practice integration through an interplay of paper-based, live-based, and virtual-based simulations (as discussed in Chapter 5, Section 5.4.3) in fostering the development of MA skills-sets among UoT students within a South African context. Moreover, the incorporation of Kolb's (1984:38) ELT was particularly useful in designing the WIL (Simulations) framework for MA as an alternative skills development approach within South Africa where traditional WIL (Placement) opportunities for students are lacking (Bishop 2019:22) as indicated in Chapter 1, Section 1.4.
- **Methodological contributions**: The research study demonstrated a feasible interpretivist-to-pragmatist approach in conducting qualitative research, illustrating how document analysis and semi-structured interviews can be flexibly adapted within a design-based research (DBR) strategy (see Chapter 4, Section 4.5.1 and Section 6.7, Figure 6.2). Additionally, the use of iterative cycles of DBR may provide a replicable research methodology template for future researchers (see discussions on the study's rigour outlined in Chapter 4, Section 4.8) who wish to develop, augment or refine experiential learning frameworks within the field of accounting education research.
- **Practical contributions**: In line with the study's pragmatic philosophy, the finalised framework outlined in Section 6.6 (Figure 6.1) offers a practical guiding tool for curriculum developers, WIL academics and WIL policy administrators pertaining to the design, implementation, assessment, and monitoring of WIL (Simulations) curricula within UoTs. Moreover, the finalised artefact is suitable for creating an authentic simulated learning environment aligned with the WIL guidelines echoed by the CHE (2011), the HEQSF (2013) and industry demands.

In synthesis, the developed framework's contribution shows that when MA theoretical concepts and scenarios are validated by industry partners, students can learn to translate academic knowledge into practical actions through iterative cycles of abstract conceptualisation of MA theory, concrete experimentation through simulations, reflective observations though reflexive practices, and by applying prior MA knowledge to new scenarios to infer concrete experiences. More significantly, the finalised framework addresses how industry readiness among graduates can be achieved through the delivery of simulated theory-practice integrations aimed at narrowing the gap between higher education and MA industry demands.

6.9 Limitations

While the investigation and findings provide in-depth understandings into the implementation, delivery and experience of WIL (Simulations) within a higher education context, the researcher acknowledges the following inherent limitations:

- The research study relied exclusively on the qualitative data gathered through the documents and the semi-structured interviews, involving a relatively limited number of WIL (Simulations) academics from two UoTs. To mitigate this limitation, the study's data was drawn from the only UoTs in South Africa currently offering WIL (Simulations) within the discipline of MA of which one is the largest residential HEI in the country.
- The research study centres on accounting education qualifications aligned with the HEQSF (2013) within the domain of MA at undergraduate level only. The same investigation done for postgraduate level programmes in MA will not necessarily achieve the same findings. Thus, the findings cannot be generalised to all HEIs or disciplines in the Republic of South Africa. However, the underlying principles of WIL (Simulations) may be adapted for other disciplines within the domain of accounting education offered in a UoT.
- The perspectives of potential employers and students were not included. These perspectives can be gained from future research amongst employers and MA students involved in WIL (Simulations) and WIL (Placement) programmes, thereby augmenting the understandings of stakeholders' expectations and experiences.

6.10 Recommendations for future research

Participating WIL (Simulations) academics maintained that the authentic delivery of WIL (Simulations) for the MA curriculum is warranted when it is externally validated by appropriate industry partners, underscored by relevant digital tools and delivered through a combination of paper-based, virtual-based and live-based simulation modes for theory and practice integration. Building on this inquiry, possible future avenues for research could include:

- The proposed WIL (Simulations) framework for MA could be empirically evaluated for its effectiveness in developing work-readiness skills by implementing it within MA programmes.
- Conducting longitudinal studies focused on tracking MA graduates who have completed WIL (Simulations) modules to gauge their subsequent occupational outcomes and experiences when transitioning from higher education to formal employment.
- Future studies could further employ quantitative designs such as pre- and post-WIL (Simulations) surveys for students to assess skills development and workplace readiness.
- The proposed WIL (Simulations) for management accounting framework could be adapted and tested for its effectiveness across other accounting education disciplines such as auditing, financial accounting, and taxation within other forms of HEIs to assess the framework's scalability and transferability.
- Further research could include students, accounting professional bodies, employers and perhaps also first-year employees who did undergo WIL training in their studies.

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ANNEXURE A: Research ethics approval certificate

UNISA university of south africa

College of Accounting Sciences_RERC

NHREC Registration # : (if applicable)
Ref #: 2275
Name: Mr Sifiso Ngonyama
Student #: 36047740
Staff #:

Date: 07/12/2023

Dear: Mr Sifiso Ngonyama

Decision: Ethics Approval from 6 December 2023 to 5 December 2026

Researcher: Mr Sifiso Ngonyama

Tshwane University of Technology (Garankuwa Campus); Building 12-147; Zone 2 Botsi Street; 2827

Garankuwa

36047740@mylife.unisa.ac.za 012 382 0560

Supervisor: Professor Christina Shuttleworth shuttcc@unisa.ac.za

Co-Supervisor: Dr Nico Booyse booysnj@unisa.ac.za

Co-Researcher(s):

Email address:

PhD (Acc Sci) ethical clearance application for Sifiso Ngonyama (36047740)

Qualification: PhD (Accounting Sciences)

Thank you for the application for research ethics clearance by the College of Accounting Sciences_RERC for the above mentioned research study Ethics approval is granted for three years.

The **low risk application** was **reviewed** by College of Accounting Sciences_RERC on 6 December 2023 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Accounting Sciences_RERC.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.

6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.

7. No field work activities may continue after the expiry date (5 December 2026). Submission of a completed research ethics progress report will constitute an application for renewal, for Ethics Research Committee approval.

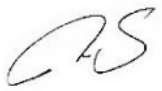
Additional Conditions

1. Disclosure of data to third parties is prohibited without explicit consent from Unisa.
2. De-identified data must be safely stored on password protected PCs.
3. Care should be taken by the researcher when publishing the results to protect the confidentiality and privacy of the university.
4. Adherence to the National Statement on Ethical Research and Publication practices, principle 7 referring to Social awareness, must be ensured: "Researchers and institutions must be sensitive to the potential impact of their research on society, marginal groups or individuals, and must consider these when weighing the benefits of the research against any harmful effects, with a view to minimising or avoiding the latter where possible." Unisa will not be liable for any failure to comply with this principle.

Note

The reference number 2275 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Kind regards,



Prof Lourens Erasmus
Chair of College of Accounting Sciences_RERC
E-mail: erasmlj1@unisa.ac.za



Dr Chisinga Ngonidzashe Chikutuma
Executive Dean / By delegation from the Executive Dean of College of Accounting Sciences_RERC
E-mail: chikucn@unisa.ac.za, mosalgk@unisa.ac.za

ANNEXURE B: Institutional gatekeeper approval (i)

Tshwane University of Technology
We empower people

Research Ethics Committee

The TUT Research Ethics Committee is a registered Institutional Review Board (IRB 00005968) with the US Office for Human Research Protections (IORG# 0004997). Furthermore, it has Federal Wide Assurance for the Protection of Human Subjects for International Institutions (FWA 00011501). In South Africa it is registered with the National Health Research Ethics Council (REC-160509-21).

May 20, 2024

REC Ref #: REC2024=04=022 (UNISA)
Name: SF Ngonyama
Student/Staff #: 960598

Ms/Mr SF Ngonyama
C/o Prof CC Shuttleworth
University of South Africa

Dear Ms/Mr SF Ngonyama,

Gatekeeper Permission: Final Approval

Name: SF Ngonyama
Project Title: Creating a simulated WIL framework towards narrowing the gap between theory and practice for UoT management accounting graduates
Qualification: Doctor of Philosophy in Accounting Sciences, Unisa
Supervisor: Prof CC Shuttleworth
Co-supervisor: Dr NJ Booyse

Thank you for submitting the project documents for review by the Research Ethics Committee (REC), Tshwane University of Technology (TUT). In reviewing the documents, the comments and notes below are tabled for your consideration, attention and/or notification:

- **Documents Submitted for TUT Ethics Clearance**
  - The revised documents are in order.

The Tshwane University of Technology Research Ethics Committee reviewed the revised project documents on May 20, 2024. **Gatekeeper permission** has been granted to the project.

The proposed research project may now continue with the provision that:

1) The researcher/s will conduct the study according to the procedures and methods indicated in the **approved proposal**, particularly in terms of any undertakings and/or assurances made regarding the confidentiality of the collected data.
2) The proposal will be submitted to the Committee for prospective ethical clearance if there are any substantial **deviations** and/or changes from the approved proposal.
3) The researcher/s will act within the parameters of any applicable **national legislation, professional codes of conduct**, institutional guidelines and scientific standards relevant to the specific field of study. Strict adherence to the following South African legislation, where applicable, is especially important: Protection of Personal Information Act (Act 4 of 2013), Children's Act (Act 38 of 2005) and the National Health Act (Act 61 of 2003).
4) The researcher will inform the REC as soon as possible of any **adverse events** involving research participants that may have occurred during the course of the study. It includes the actions and/or processes that were implemented to mitigate and/or prevent any further injuries and/or adverse outcomes.
5) The researcher will inform the REC of any **new or unexpected ethical issues** that may have emerged during the course of the study, as well as how these ethical issues were addressed. The researcher must consult with the REC for advice and/or guidance in any such event.
6) The current ethics approval expiry date for this project is **May 19, 2026**. No research activities may continue after the ethics approval expiry date. An application for the extension of ethics approval must be submitted for projects that need to continue beyond the expiry date.
7) It is a strict requirement for the researcher to submit a progress report before **May 19, 2025.**

Note:
The reference number [top right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants.

Yours sincerely,



Prof JN Agumba
Acting Chairperson: Research Ethics Committee
[TUTRef#2024=04=022=Ngonyama SF]

ANNEXURE C: Institutional gatekeeper approval (ii)



INSTITUTIONAL PLANNING AND QUALITY ENHANCEMENT

S F NGONYAMA

PERMISSION FOR SIFISO FUMANI NGONYAMA TO CONDUCT HIS RESEARCH AT CUT ENTITLED "CREATING A SIMULATED WIL FRAMEWORK TOWARDS NARROWING THE GAP BETWEEN THEORY AND PRACTICE FOR UNIVERSITY OF TECHNOLOGY MANAGEMENT ACCOUNTING GRADUATES."

Dear Mr Ngonyama

This is to confirm that you have been granted permission to conduct research at the central university of technology for your doctoral research project entitled "Creating a simulated WIL framework towards narrowing the gap between theory and practice for university of technology management accounting graduates."

The conditions of the conditional permission are:

- The research will not interrupt any of the official activities at The Central University of Technology.
- You will supply us with the copy of your report.
- The cost of all related activities will be covered by yourself.
- Recruitment of participants is the sole responsibility of yourself.
- The voluntary nature of the potential participants decision to consent to participate should be strictly observed.
- You should not disclose a potential participant's decision to participate or otherwise to any other party.
- Permission does not compel, in any sense, participation of staff members or students in your research.



Senior Director: Institutional Planning and Quality Enhancement

Mr. I Mokhele 25/04/2024

ANNEXURE D: Interview schedule for DBR Phase 2

SECTION A: BIOGRAPHICAL INFORMATION	
A1.1	Qualifications and position
	Please describe your highest academic qualification(s), professional body affiliation(s) and position at your UoT
A1.2	Industry experience
	Do you have any industry experience in the field of financial management? If so, please elaborate on your professional experience and number of years in industry.
A1.3	Years of academic experience
	Please state the number of years in academia and involvement in programmes with a WIL component
A1.4	Modules involved with in the current programme
	Briefly outline the modules you are responsible for within the programmes with a WIL component at the university
A1.5	Training for WIL practices
	Have you had any training on WIL design, offering and assessment? If so, kindly elaborate

In all questions, the term “financial management” includes “management accounting”, “cost accounting”, “managerial finance”, etc.

SECTION B: PHASE 2-PROTOTYPING	
Theme B1	**Core objectives, impact and influence of WIL**
B1.1	Please share your understanding of the core objectives of simulated WIL for financial management programmes?
B1.2	In your opinion, what impact does simulated WIL have on developing soft-skills for students towards enhancing work-readiness and overall quality of the programme?
B1.3	In your opinion, do you believe that the simulated WIL component of the programme integrates with other modules in the qualification? If so, please elaborate

SECTION B: PHASE 2-PROTOTYPING	
Theme 2	**Theory-Practice integration through simulations**
B2a	Instructions and guidelines
*B2.1	Describe the level of clarity and detail your department provided you with on the set of instructions and guidelines to teach WIL in the form of simulations? Do you feel these guidelines support your ability to offer simulations?
B2.2	If no instructions or guidelines were provided for teaching WIL in the form of simulations, what suggestions do you have?
B2.3	Are there any specific areas within the instructions and guidelines that you found challenging? If so, please elaborate with an example

*Participants who answer “no” for question B2.1 will only be asked B2.2

SECTION B: PHASE 2-PROTOTYPING	
Theme 2	**Theory-Practice integration through simulations**
B2b	Simulated activities
B2.4	Can you describe your understanding and significance of integrating theoretical learning and practice for financial management at UoTs
B2.5	In the current teaching framework, what tasks and activities are done by students to integrate theoretical concepts into your practical simulations for soft-skills development?
B2.6	Can you provide your experience when integrating theory and practice using simulations for financial management?
B2.7	Are there any other suggestions that you may have that may improve the integration of theory and practice for financial management students during the simulation classes?

SECTION B: PHASE 2-PROTOTYPING	
Theme 3	**Technology**
B3	**Technological resources/ software**
B3.1	Can you describe how the use of technology enhanced offering simulated WIL for financial management?
B3.2	In your experience, what technological resources or software are vital when offering simulations specifically for financial management industry?

SECTION B: PHASE 2-PROTOTYPING	
Theme 4	**Implementation**
B4	**Challenges when implementing simulations**
B4.1	Briefly discuss your experience when implementing simulated WIL compared to traditional lectures for financial management.
B4.2	Describe the resources provided to academics to ensure that simulated WIL for financial management is successfully implemented
B4.3	Were there any of the following challenges faced when implementing simulated WIL for financial management: Environmental? Technological? Instructional? If so, please elaborate.
B4.4	In your opinion, do you believe that industry experience is essential for academics offering WIL?

SECTION B: PHASE 2-PROTOTYPING	
Theme 5	**Evaluation and assessment**
B5	**Assessment and feedback strategies for simulated WIL**
B5.1	What are the current assessment strategies for the simulated WIL in financial management to ensure that students apply theoretical knowledge and skills to real-world scenarios and industry expectations?
B5.2	Can you describe how the current assessment strategy accounts for diversity of students' experience?
B5.3	Can you describe how potential ethical concerns, such as assessment biasness, are accounted for in the current assessment strategy?

B5.4	What assessment challenges have you experienced when assessing students for simulated WIL in financial management? If so, what are your suggestions to improve simulations for future students?

SECTION B: PHASE 2-PROTOTYPING	
Theme 6	**On-going reflection and monitoring**
B6	**Reflection and monitoring activities on current simulated WIL**
B6.1	Can you describe the current reflective and monitoring practices for simulated WIL in financial management?
B6.2	Are there regular reviews and/or evaluations after each cycle of students to gauge progress and formal feedback on the running of simulated WIL in financial management? If so, please elaborate
B6.3	Describe a scenario where you collaborated with stakeholders such as other colleagues, head of department, faculty board members, advisory committee members, etc. on the teaching practices of simulated WIL for financial management.

ANNEXURE E: Interview schedule for DBR Phase 3

SECTION C: PHASE 3-REFLECTION ON THE CONSTRUCTED FRAMEWORK	
Theme 1	**Theoretical underpinnings**
C1	Reflections on theoretical inputs used to construct the WIL framework
C1.1	Theoretically, how well does the constructed simulated WIL framework align with the experiential teaching and learning objectives for financial management programmes?
C1.2	If you compare the constructed simulated WIL framework for financial management with the existing simulated education models, do you believe it incorporated essential experiential learning aspects? Please elaborate.
C1.3	Should the constructed simulated WIL framework for financial management be expanded in terms of theory for practical exposure? If so, please elaborate

SECTION C: PHASE 3-REFLECTION ON THE CONSTRUCTED FRAMEWORK	
Theme 2	**Feasibility**
C2	Reflections on feasibility for the constructed WIL framework
C2.1	Practically, how well does the constructed simulated WIL framework align with the experiential teaching and learning objectives for financial management programmes?
C2.2	What inconsistencies, gaps or practical limitations have you identified in the constructed simulated WIL framework for financial management? If noted, please elaborate
C2.3	Would you suggest adjustments to improve the feasibility of the constructed simulated WIL framework for financial management?

SECTION C: PHASE 3-REFLECTION ON THE CONSTRUCTED FRAMEWORK	
Theme 3	**Stakeholder perspective**
C3	Reflections on stakeholder views for the constructed WIL framework
C3.1	In your opinion, in what way will potential employers and industry partners find the constructed simulated WIL framework for financial management useful for entry-level graduates?
C3.2	What suggestions do you have to enhance the acceptance of the constructed simulated WIL framework for financial management with university stakeholders?

SECTION C: PHASE 3-REFLECTION ON THE CONSTRUCTED FRAMEWORK	
Theme 4	**Policy improvement**
C4	Reflections on WIL policies for the constructed WIL framework
C4.1	How can the constructed simulated WIL framework for financial management impact the current WIL policy at your university? Please elaborate
C4.2	Do you perceive that the constructed simulated WIL framework for financial management could pose any challenges for WIL policies at your university? If there are, do you have suggestions on how they can be mitigated?

C4.3	Do you believe that the constructed simulated WIL framework for financial management could be valuable to enhance WIL policy at your university? Please elaborate

ANNEXURE F: Participant information letter

UNISA university of south africa

PARTICIPANT INFORMATION SHEET

Ethics approval reference number: 2275
Research permission reference number: 36047740

31 January 2024

Title: Creating a simulated WIL framework towards narrowing the gap between theory and practice for universities of technology management accounting graduates

Dear Prospective Participant

Simulated work integrated learning (WIL) research

My name is Mr Sifiso Ngonyama and I am doing research with Prof Bienkie Shuttleworth (main supervisor), a professor in the Department of Management Accounting and Dr Nico Booyse (co-supervisor), the Masters and Doctoral coordinator in the Department of Management Accounting towards a PhD in Accounting Sciences at the University of South Africa. We have funding from the Tshwane University of Technology's University Capacity Development Programme (UCDG) for research costs regarding the current study. We are inviting you to participate in a study entitled *Creating a simulated WIL framework towards narrowing the gap between theory and practice for universities of technology management accounting graduates*.

WHAT IS THE PURPOSE OF THE STUDY?

This study is expected to collect important information that could contribute to the growing body of knowledge on WIL by examining the benefits and effectiveness of incorporating simulations within a South Africa context. Through investigating the potential of simulations to bridge the gap between theory learning and practice, this research has the prospective to enlighten curriculum development, progress WIL practices, and finally improve the employability and industry-readiness of management accounting graduates.

WHY AM I BEING INVITED TO PARTICIPATE?

Potential participants of the current study were purposively selected, and all contact details were obtained through the Central University of Technology's Research Officer: Ethics and Integrity.

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Participation from academic staff is crucial for the current study as it pertains to universities of technology offering simulated WIL for programmes with management accounting as a major module and will involve two rounds of interviews. By volunteering to partake in this study, you will be assisting in contributing knowledge in the use of simulations for accounting education that may enhance experiential learning strategies for Universities of Technology in South Africa.

WHAT IS THE NATURE OF MY PARTICIPATION IN THIS STUDY?

The study involves audio recordings of semi-structured interviews focused on the design, offering and assessment of simulated WIL aimed at enhancing soft skills for management accounting graduates within a university of technology environment. The expected duration of the interview will be between 40 to 60 minutes per participant. Participants are also provided with the option to participate virtually through online platforms such as Microsoft Teams ® or Zoom ®.

CAN I WITHDRAW FROM THIS STUDY EVEN AFTER HAVING AGREED TO PARTICIPATE?

Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason.

WHAT ARE THE POTENTIAL BENEFITS OF TAKING PART IN THIS STUDY?

The use of simulated WIL within management accounting streams is an under-researched area within South Africa's accounting education research. By participating in this research study, you will be assisting in providing empirical evidence for simulated education to enhance student employability and industry readiness for the management accounting graduate. The findings of the current study may further benefit universities of technology and other similar institutions in developing, offering and managing an effective WIL curriculum, integrating simulations in a way that amplifies educational outcomes.

ARE THERE ANY NEGATIVE CONSEQUENCES FOR ME IF I PARTICIPATE IN THE RESEARCH PROJECT?

The current research study is low risk as potential harm or discomfort to participants is minimal to non-existent. The interview process will follow Unisa's stipulated research ethical guidelines to ensure that participants' well-being and dignity is protected throughout the data collection process. Additionally, the topic is not ethically sensitive as it aims to explore higher education pedagogies in offering work integrated learning through simulations for management accounting

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gradates. I, as the researcher ascertain that the research instrument of choice (interviews) is non-evasive and will ensure that the data collection process will involve minimal psychological or physical distress with no health risks posed to participants.

WILL THE INFORMATION THAT I CONVEY TO THE RESEARCHER AND MY IDENTITY BE KEPT CONFIDENTIAL?

Your name will not be recorded anywhere, and no one will be able to connect you with the answers you give. Your answers will be given a code number, or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings. Your answers may be reviewed by people responsible for making sure that research is properly conducted, including the transcriber, external coder, and members of the Research Ethics Review Committee. Otherwise, records that identify you will be available only to people working on the study, unless you give permission for other people to see the records. Anonymous data given by participants may be used for other purposes, such as a research report, journal articles and/or conference proceedings where a report of the study may be submitted for publication, but individual participants, nor their institutions, will not be identifiable in such a report.

HOW WILL THE RESEARCHER(S) PROTECT THE SECURITY OF DATA?

Hard copies of your answers will be stored by the researcher for a period of ten to fifteen years in a locked cupboard/filing cabinet for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval, if applicable. Thereafter, hard copies will be shredded and/or electronic copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme].

WILL I RECEIVE PAYMENT OR ANY INCENTIVES FOR PARTICIPATING IN THIS STUDY?

In adherence to the principle of fair procedures aimed at minimising the likelihood of coercion or undue influence in the research process, participants will not be receiving any payments or incentives other than refreshments during the interviews.

HAS THE STUDY RECEIVED ETHICS APPROVAL

This study has received written approval from the College of Accounting Sciences' (CAS) Research Ethics Review Committee, Unisa. A copy of the approval letter can be obtained from the researcher if you so wish.

HOW WILL I BE INFORMED OF THE FINDINGS/RESULTS OF THE RESEARCH?

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
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If you would like to be informed of the final research findings, please contact Mr SF Ngonyama on (012)-382-0773/079-817-6227 or email NgonyamaSF@tut.ac.za. The findings are accessible for a period of six months. Should you require any further information or want to contact the researcher about any aspect of this study, please contact (012) 382 0773/ 079 817 6227 or email NgonyamaSF@tut.ac.za. Should you have concerns about the way in which the research has been conducted, you may contact Prof Bienkie Shuttleworth at Shuttcc@unisa.ac.za or Dr Nico Booyse at Booysnj@unisa.ac.za. Contact the research ethics chairperson of the College of Accounting Sciences' (CAS) Research Ethics Review Committee, Prof Lourens Erasmus on 012 429 8844 or erasmlj1@unisa.ac.za if you have any ethical concerns.

Thank you for taking time to read this information sheet and for participating in this study.
Thank you.



Mr Sifiso Ngonyama

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

ANNEXURE G: Voluntary informed consent form

CONSENT TO PARTICIPATE IN THIS STUDY

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the <insert specific data collection method>.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname…… (please print)

Participant Signature……..Date……

Researcher's Name & Surname……(please print)

Researcher's signature……..Date……

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ANNEXURE H: Confidentiality agreement with transcriber

UNISA university of south africa

UNISA RESEARCH ETHICS 3rd Party Confidentiality Agreement
(Transcriber, Co-coder, Statistician and/or Fieldworkers)

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

After completing the required fields, please sign the form. After this form has been signed by the transcriber, co-coder, statistician or fieldworker, it should be given to the principal researcher for submission to the relevant UNISA Research Ethics Committee.

The transcriber, co-coder, statistician and/or filedworker should keep a copy of the *Confidentiality Agreement* for their records.

B. CONFIDENTIALITY OF A RESEARCH STUDY

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the informed consent documentation) without permission. Confidential information relating to human participants in a research study may include, but is not limited to the personal information listed below:

a) information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, color, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person;
b) information relating to the education or the medical, financial, criminal or employment history of the person;
c) any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other assignment to the person;
d) the biometric information of the person;
e) the personal opinions, views or preferences of the person;
f) correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence;
g) the views or opinions of another individual about the person; and
h) the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

As a third party you will have access to research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that include confidential information. Participants have revealed information to the researcher(s) since they have been assured by the researcher(s) that every effort will be made to maintain their privacy throughout the study. That is why it is of the upmost importance to maintain confidentiality when conducting your duties as a transcriber, statistician, co-coder and/or fieldworker during the research study. *Below is a list of expectations you will be required to adhere to in your role as a third party in this study. Review these expectations carefully before signing this form.*

C. THIRD PARTY EXPECTATIONS

To maintain confidentiality, I agree to:

1. Keep all research information that I collect or that is shared with me confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal researcher of this study;

2. Ensure the security of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) while it is in my possession. This includes:
   - Keeping all data and/or transcript documents and digitized interviews on a password protected computer with password-protected files;
   - Closing any programs and documents when temporarily away from the computer;
   - Keeping any printed transcripts or data in a secure location such as a locked file cabinet;
   - Permanently deleting any digital communication containing the data.

3. Not make copies of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) unless specifically instructed to do so by the principal researcher;

4. Give all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) and research participant information, back to the principal researcher upon completion of my duties as a transcriber;

5. After discussing it with the principal researcher, erase or destroy all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that cannot be returned to the principal researcher upon completion of my duties in this study.

Name of 3rd party involved in research activities: Mrs Madelien Prinsloo

Research activity responsible for (transcribing interviews, co-coding of data, statistical analysis, collecting data, etc.): Transcription services

Title of Research Study: Creating a simulated work integrated learning framework to align theory and practice for universities of technology management accounting graduates

Name of Principal Researcher: Mr Sifiso Ngonyama

By signing this form, I acknowledge that I have reviewed, understand, and agree to adhere to the expectations described above. I agree to maintain confidentiality while performing my duties as acquired

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

by the principal researcher. I recognise that failure to comply with these expectations may result in legal action.

Signature of 3rd party

9/10/2024
Date

Madelein Prinsloo
Print Name

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

ANNEXURE I: Confidentiality agreement with qualitative advisor

UNISA university of south africa

UNISA RESEARCH ETHICS 3rd Party Confidentiality Agreement
(Transcriber, Co-coder, Statistician and/or Fieldworkers)

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

After completing the required fields, please sign the form. After this form has been signed by the transcriber, co-coder, statistician or fieldworker, it should be given to the principal researcher for submission to the relevant UNISA Research Ethics Committee.

The transcriber, co-coder, statistician and/or filedworker should keep a copy of the *Confidentiality Agreement* for their records.

B. CONFIDENTIALITY OF A RESEARCH STUDY

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the informed consent documentation) without permission. Confidential information relating to human participants in a research study may include, but is not limited to the personal information listed below:

a) information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, color, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person;
b) information relating to the education or the medical, financial, criminal or employment history of the person;
c) any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other assignment to the person;
d) the biometric information of the person;
e) the personal opinions, views or preferences of the person;
f) correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence;
g) the views or opinions of another individual about the person; and
h) the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

As a third party you will have access to research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that include confidential information. Participants have revealed information to the researcher(s) since they have been assured by the researcher(s) that every effort will be made to maintain their privacy throughout the study. That is why it is of the upmost importance to maintain confidentiality when conducting your duties as a transcriber, statistician, co-coder and/or fieldworker during the research study. *Below is a list of expectations you will be required to adhere to in your role as a third party in this study. Review these expectations carefully before signing this form.*

C. THIRD PARTY EXPECTATIONS

To maintain confidentiality, I agree to:

1. Keep all research information that I collect or that is shared with me confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal researcher of this study;

2. Ensure the security of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) while it is in my possession. This includes:
   - Keeping all data and/or transcript documents and digitized interviews on a password protected computer with password-protected files;
   - Closing any programs and documents when temporarily away from the computer;
   - Keeping any printed transcripts or data in a secure location such as a locked file cabinet;
   - Permanently deleting any digital communication containing the data.

3. Not make copies of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) unless specifically instructed to do so by the principal researcher;

4. Give all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) and research participant information, back to the principal researcher upon completion of my duties as a transcriber;

5. After discussing it with the principal researcher, erase or destroy all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that cannot be returned to the principal researcher upon completion of my duties in this study.

Name of 3rd party involved in research activities: Dr Charmaine Williamson

Research activity responsible for (transcribing interviews, co-coding of data, statistical analysis, collecting data, etc.): Quality assurance on qualitative coding

Title of Research Study: Creating a simulated work integrated learning framework to align theory and practice for universities of technology management accounting graduates

Name of Principal Researcher: Mr Sifiso Ngonyama

By signing this form, I acknowledge that I have reviewed, understand, and agree to adhere to the expectations described above. I agree to maintain confidentiality while performing my duties as acquired

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu



4 February 2025

Signature of 3rd party

Date

Charmaine Williamson (Dr)

Print Name

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

ANNEXURE J: Confidentiality agreement with language editor

UNISA university of south africa

UNISA RESEARCH ETHICS 3rd Party Confidentiality Agreement
(Transcriber, Co-coder, Statistician and/or Fieldworkers)

A. INSTRUCTIONS

Please read through the entirety of this form carefully before signing.

After completing the required fields, please sign the form. After this form has been signed by the transcriber, co-coder, statistician or fieldworker, it should be given to the principal researcher for submission to the relevant UNISA Research Ethics Committee.

The transcriber, co-coder, statistician and/or filedworker should keep a copy of the *Confidentiality Agreement* for their records.

B. CONFIDENTIALITY OF A RESEARCH STUDY

Confidentiality is the treatment and maintenance of information that an individual has disclosed in a relationship of trust and with the expectation that it will not be divulged to others in ways that are inconsistent with the understanding of the original disclosure (the informed consent documentation) without permission. Confidential information relating to human participants in a research study may include, but is not limited to the personal information listed below:

a) information relating to the race, gender, sex, pregnancy, marital status, national, ethnic or social origin, color, sexual orientation, age, physical or mental health, well-being, disability, religion, conscience, belief, culture, language and birth of the person;
b) information relating to the education or the medical, financial, criminal or employment history of the person;
c) any identifying number, symbol, e-mail address, physical address, telephone number, location information, online identifier or other assignment to the person;
d) the biometric information of the person;
e) the personal opinions, views or preferences of the person;
f) correspondence sent by the person that is implicitly or explicitly of a private or confidential nature or further correspondence that would reveal the contents of the original correspondence;
g) the views or opinions of another individual about the person; and
h) the name of the person if it appears with other personal information relating to the person or if the disclosure of the name itself would reveal information about the person.

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

As a third party you will have access to research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that include confidential information. Participants have revealed information to the researcher(s) since they have been assured by the researcher(s) that every effort will be made to maintain their privacy throughout the study. That is why it is of the upmost importance to maintain confidentiality when conducting your duties as a transcriber, statistician, co-coder and/or fieldworker during the research study. *Below is a list of expectations you will be required to adhere to in your role as a third party in this study. Review these expectations carefully before signing this form.*

C. THIRD PARTY EXPECTATIONS

To maintain confidentiality, I agree to:

1. Keep all research information that I collect or that is shared with me confidential by not discussing or sharing this information verbally or in any format with anyone other than the principal researcher of this study;

2. Ensure the security of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) while it is in my possession. This includes:
   - Keeping all data and/or transcript documents and digitized interviews on a password protected computer with password-protected files;
   - Closing any programs and documents when temporarily away from the computer;
   - Keeping any printed transcripts or data in a secure location such as a locked file cabinet;
   - Permanently deleting any digital communication containing the data.

3. Not make copies of research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) unless specifically instructed to do so by the principal researcher;

4. Give all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) and research participant information, back to the principal researcher upon completion of my duties as a transcriber;

5. After discussing it with the principal researcher, erase or destroy all research information (e.g. audio or video recordings, DVDs/CDs, transcripts, data, etc.) that cannot be returned to the principal researcher upon completion of my duties in this study.

Name of 3rd party involved in research activities: Mr Brian Kenneth Carlson

Research activity responsible for (transcribing interviews, co-coding of data, statistical analysis, collecting data, etc.): Language editing

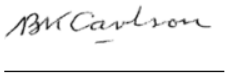
Title of Research Study: Creating a simulated work integrated learning framework to align theory and practice for universities of technology management accounting graduates

Name of Principal Researcher: Mr Sifiso Ngonyama

By signing this form, I acknowledge that I have reviewed, understand, and agree to adhere to the expectations described above. I agree to maintain confidentiality while performing my duties as acquired

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

by the principal researcher. I recognise that failure to comply with these expectations may result in legal action.



Signature of 3rd party

24/09/2025
Date

BRIAN KENNETH CARLSON
Print Name

Form adapted from the confidentiality agreement developed by the University of St Thomas IRB, retrieved from https://www.stthomas.edu

ANNEXURE K: Report on quality assurance for qualitative coding

Report on Quality Assurance of Coding Process & project unit followed for the study of a simulations Work-Integrated Learning (WIL) framework for South African Universities of Technology (UoTs) within programmes.

PhD Candidate

Sifiso Ngonyama

Report compiled by Dr Charmaine Williamson

Academic Advisor to Postgraduate Studies

1

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1. INTRODUCTION

Methodological integrity assurance serves the scholarship of the PhD Candidate in the pursuit of trustworthiness (Nowell et al, 2017) and considering too that Fife and Gossner (2024:9) advocate for "critical sounding boards" through involving coders beyond the researcher himself. Mr Sifiso Ngonyama (the candidate), supported by his supervisors, requested that Dr Williamson do a quality assurance on his project unit (PU) of coding. This request was made after an in-person discussion, on the 4 February, 2025, with the candidate together with Professor Shuttleworth and Dr Nico Booyse. The session on the 4 February included discussions around the study itself, which is designed-based research (DBR) in two phases as well as specifically, coding. The session covered provide guidance on human coding and also insights regarding AI coding. These insights are informed by the years of experience of the qualitative advisor on coding, teaching of ATLAS.ti and coding, as well as own research activities.

In addition to reviewing the coding of the PU, Dr Williamson (the advisor) was also provided with a draft of the candidate's Chapter 5 which was deemed as the early write-up of the coding process and data analysis. The candidate also provided the merged PU for Phase 1 and Phase 2 of the DBR, the merged code book in Excel and the Code and Quotation report for the merged PU.

Quality assurance does not involve re-coding the coding of the candidate or any coding done on the PU. Independent/second coding status may not be claimed. Quality assurance entails ascertaining that the codes are descriptively accurate of the data and fit for purpose for the study. This involves 1) reviewing the code book (in this case, 3585 codes and 3364 quotations); 2) ad hoc sampling of reviewing codes against quotations for their descriptive accuracy, viewing merging decisions, and then, in this case, given that chapter 5 was in draft form, 3) checking that the themes had been supported by aligned codes: *namely are there codes that support the contents of the write-up of themes?* The latter action deepens trustworthiness. The candidate would be advised as well to extract sample codes and link them to the themes.

2. PROCESS FOLLOWED FOR QA

1) Reviewing the code book (in this case, 3585 codes and 3364 quotations)

Dr Williamson reviewed the code book. The number of codes, as well as the claim of the candidate who states that the coding was done using Open AI and intentional AI in ATLAS.ti has been verified. The code book has been compiled of codes that are stand alone and codes in response to intentional coding prompts. The intentional coding prompts are transparent and are contained in Annexes 2-7, which are the Reports linked to the themes.

In the review of the PU, it is evident that Code Categories are also present. The linking of codes to quotations has been done through AI which is declared by the candidate and also emerging as part of current practices (see for instance: Christou, 2023; Hitch, 2023). The candidate also states that human-centric coding happened in later cycles

when codes were intensively reviewed, were categorized, merged and/or renamed. Evidence of this is also present in the PU, in that there are specific quotations that have sound 'meaning parameters' and that are linked to codes, and also in the naming of the code categories, in particular.

The study follows DBR and therefore the coding process for the two phases is also noted below:

For phase 1, inductive coding has been declared and Open AI coding inductively 'reads' the data and assigns codes, therefore consistent with the candidate's use of inductive processes.

For phase 2, deductive coding has been declared and intentional AI coding through the use of prompts to AI to search on the basis of the candidate's determination of key questions to be asked in line with DBR and the evidence of Phase 1. Within ATLAS.ti, this creates deductive searching based on an *a priori* prompt. This was also very much in evidence.

The overall code book provided based on the use of AI coding includes a detailed coverage of descriptive codes. Within the PU itself, the candidate's review of the codes and arrangement into code categories which become themes show analytical processes. (see: Williamson, et al, 2025, for the differentiation between descriptive and analytical processes).

2) Ad hoc sampling of reviewing codes against quotations for their descriptive accuracy and viewing merging decisions

The linking of quotations to codes in the case of AI coding is descriptively accurate and an hoc sample was reviewed. However, with the use of AI that also did the linking to quotations (coding), to comment on the candidate's sense-making thereto would not fall into the remit of this discussion. It is not immediately evident what is an AI code and a human-centric code.

ATLAS.ti does automatic comments when codes are merged and an ad hoc group of these were reviewed with the merging decisions seeming sensible and logical.

3) Checking that the themes had been supported by aligned codes.

This is the substantive QA and this was done on the basis of the merged PU, first against **DBR Phase 1** and followed by Phase 2.

In the PU, the candidate has created code categories for all the themes and the code categories are well supported through accurate codes which are denotatively linked to quotations. Open coding is therefore in evidence.

In chapter 5, the candidate provided tables to show the main themes for Phase 1. The candidate presents tables that have the following headings for **DBR Phase 1**:

- Theme

- Description: explanation of the theme
- Content Areas: appear to be sub-themes
- Key findings: appear to be presentation of data at a 'finding' level
- Evidential Extracts: Verbatim supporting quotes

Theme	Description	Content areas	Key findings (Presentation of Data)	Evidential extracts	CODING: Codes for Theme X Sample of codes related to key findings and content areas

As part of the overall QA of chapter 5, the naming of these headings is probed by the advisor, based on their inconsistency with the model/s for data analysis. These headings need to be re-visited for coherence.

The QA then drew ***reports*** from the merged PU *per theme*, given that the candidate had named the code categories based on the themes. Please note that the code categories are merged and therefore based on the coding for both DBR 1 and 2. Some of the theme reports from ATLAS.ti include stand alone codes and some include intentional codes which make them very long and difficult to include in a column. The advisor therefore advises the reading of Annex 1 in the light of cross referencing to the full reports (Annex 2-7) in order to make a selection of codes as per recommendation (3) below.

As part of the QA, the advisor took the Tables for DBR Phase 1 and then added in a column to align codes to these themes and colour coded them according to the key findings, which aggregate to the themes (however also see above, where some columns refer to the composite reports as Annexes). *See Annex 1 for QA of DBR Phase 1*. The cutting and pasting of codes into this QA column are a little clumsy as Excel rows and columns are pasted into word. Annex 1 is therefore intended for internal use. Should the candidate follow the advisor's advice, well-formatted reworks would be done in chapter 5.

The themes have sufficient and accurate coverage of codes to support them, but again the QA of chapter 5, it is advised that the themes be better explained. With regard to the coding evidence to aggregate to themes, the advisor is confident that the themes are supported by relevant codes. There are many codes and these codes do point to the narrative written up by the candidate. There is also diversity in the codes which do (or could) provide themes that have deepened variation and complexity.

In summary, therefore, three areas need attention for DBR Phase 1:

1) Consistency of the headings with the data analysis method or scholarly explanation of the headings in the table;

2) Themes considered as longer, more explanatory sentences;

3) Addition of a sample of codes to the tables to show that coding has been done and that the themes are supported by codes and code categories.

For **DBR Phase 2**, narrative discussions are provided for the themes and the themes also have sub-themes. For QA of DBR Phase 2, the advisor used the Excel ***reports per theme*** (Annex 2-7) and matched the sub-themes to the list of codes. Sub-themes in bold show a very close match to the related code. Additionally, in terms of the QA, based on the deductive intentional coding, many of the codes are immediately evident in pointing to the theme. These are shown in Annex 2-7 in red text.

The sub-themes are aggregated to the theme and the codes within the sub-themes are descriptive and accurately point to the sub-theme. Again, there is also diversity in the codes which do (or could) provide themes that have deepened variation and complexity. Recommendations, consistent with Phase 1 are also presented for Phase 2.

1) Themes considered as longer, more explanatory sentences;

2) Addition of a sample of codes to show that coding has been done and that the themes are supported by codes and code categories. This could be done in an Annex or with including an exemplar of codes before each theme such as is done on pages 113 of the article by: *Williamson, C. and Shuttleworth, C., 2021. A Social Innovation Model as Bridge-Builder Between Academia and Research Management. Journal of Research Administration, 52(2), pp.100-127.*

A brief reference point is provided in Annex 8 as the logic for DBR Phase 2. The main QA appears in the Annexes 2-7.

3. MAIN VIEWPOINTS ON QA

The performance of this QA reflects an openness by the candidate and supervisors to have the data analysis process viewed by an external advisor. This, in itself is commendable. On a scholarly level, QA is closely linked to trustworthiness and the candidate may indeed write up dimensions of trustworthiness referencing the QA process with extracts of this report included in supplementary Annexes in the final submission.

In terms of the specific mandate of this QA, noting that AI was also involved, the advisor assures that all themes are supported by the coded data. The advisor cannot and may not comment on the substance of the themes (see: Williamson et al, 2020), as aggregated or formed through the codes, given the lack of disciplinary knowledge as well as for ethical reasons. While noting this, the advisor does advocate that the candidate, in his review of the QA of chapter 5 as well as this report and the Annexes which link codes to the specific theme, consider a further cycle of code review that would point to theoretical codes consistent with Kolb's theory. This does not necessarily mean a full return to the merged PU, but instead a review of the ***Reports per theme*** and for instance, the bold codes. This may lead to a revisiting of linked quotations, specifically around Phase 2 and discerning if these codes point to key concepts that are contained within the theories. Could the codes stand "as is" and be

used to write up the theoretical contribution to Kolb's work? Or do the codes need to be renamed for the theoretical contribution? This theorization would come after the advised work has been done (see: comments on chapter 5) where the themes are more linked to the framework in a more linear trace-ability. The framework contains Kolb's theory at the core and it would be worthwhile for the candidate to review the framework in its completed stage and ask, not only about what the contribution is for Work-Integrated Learning for University of Technology's curricular, but what this framework means, going forward for Kolb's theory itself. Currently, the study has strong descriptive and also analytical elements. An exercise such as this which I have advocated would improve the interpretive dimensions of the study (see: Williamson et al, 2025 for the discussions of interpretive core coding required for studies).

4. MEETING BETWEEN CANDIDATE, QA CONTRACTOR AND SUPERVISORS

Subsequent to the QA of the coding, an extensive meeting took place jointly including the three parties above. The Candidate had considered the QA and I was impressed at how he had integrated the thinking from the QA and conceptually made his own sense of the QA in relation to his data. The descriptive-to-analytical elements were discussed and the candidate received guidance from his supervisors and input from the QA contractor as well. Again, the candidate took detailed notes, reflected our advising back to us in order to check the accuracy and logic. This gave us the opportunity to ascertain his own conceptual clarity on our feedback, which again was at a high level. The candidate was very clear about taking the work forward under his own remit and fully owning the PhD process and contribution. However, he expressed confidence that the QA exercise had added to trustworthiness of the study (the various areas as discussed by Nowell et al., 2017) and that the meeting reported herein was helpful for him to speak out the integration and his learning. The reflective researcher was thus very much in evidence at the meeting which is also a trustworthiness consideration for qualitative research. His supervisors will have on-going review of his work and would continue to add/action the points from the meeting, provided any further guidance. I therefore trust that the candidate has progressed successfully to the submission phase.

5. CONCLUSION

I value the opportunity to have performed this QA and the transparency of the scholarship that informed the request for the QA to be performed. My best wishes for the study going forward.

6. SIGNATURE:



August 2025

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See: Annexes 1-8 as separate attachments

ANNEXURE L: Codebook extracts

	Description	Content areas	Key findings (Presentation of Data)	Evidential extracts	CODING: Codes for Theme 1 Sample of codes related to key findings and content areas
Core objectives of WIL	WIL (Simulations) as a replica of real-world work scenarios within a controlled educational environment in order to develop skills based on mimicking live experiences.	Skills development	• **Limited practical exposure** at universities which focus on theoretical learning leads to skill deficits in MA/FM programmes. • **Simulations** suggested as a cost and time effective alternative for actual workplace practical exposure. • Simulations are effective for skills such as **problem-solving** and integrated learning. • Simulations are **underutilised** in South Africa's finance education to ensure skilled professionals	*"Soft skills development emphasised through strategic case studies and business simulation that can be used or adapted by accounting educators to **develop and assess professional skills**"* (Rudman & Kruger-van Renen 2014:201) *"results show that simulation is a valuable teaching tool that can also be used by universities at tertiary level for skill development in management accounting areas"* (Bishop 2020:2) *…The many advantages for students who engage in WIL include **skills development**, including increased competence and*	○ Academic-Practical Integration ○ Access to Information ○ Accommodating Students ○ Accounting Skills ○ Adaptability ○ Addressing Educational Gaps ○ Advanced Skill Development ○ Alignment with Professional Standards ○ Analytical Skills ○ Application of theoretical knowledge ○ Assessing Students ○ Attendance ○ Basic Resources ○ Basic Skills Enhancement ○ Benchmarking ○ Bridge theory-practice gap ○ Broad guidelines ○ Business Perspective ○ Career Preparation ○ Case studies ○ Challenges exposure ○ Clarification ○ Collaboration with Industry ○ Communication Skills Development ○ Computer Skills

				increased technical knowledge and skills" (HEQSF 2013:6)	○ Confidence Building ○ Conflict resolution ○ Continuous Improvement and assessment ○ Critical Thinking Skills Development ○ Curriculum alignment ○ CV Writing ○ Data analytical skills ○ Decision-making Skills ○ Demonstration of skills ○ Develop practical skills ○ Developing skills ○ Diversity considerations ○ Engage students ○ Enhance Employability ○ Enhance learning ○ Enhance soft skills ○ Enhancing readiness for the workforce ○ Enthusiasm ○ Equipping practical skills ○ Ethical Considerations ○ Evaluation ○ Excel Proficiency ○ Experiential learning ○ Exposure to Work Environments ○ External Stakeholders ○ Feedback loops enhancements ○ Financial Management Skills ○ Group Projects ○ Guiding Students ○ Handling unexpected situations ○ Hands-on Experience ○ Improved Understanding

					○ Independent Learning Skills ○ Industry collaborative efforts ○ Integrate theory and practical learning ○ Job Opportunities ○ Knowledge Enhancement ○ Learning Outcomes Expansion ○ learning styles ○ Lecturer Training ○ Limited Impact ○ Management Accounting Skills development ○ Monitoring Progress ○ Online learning platforms ○ Positive impact on skill development ○ Practical Skills Development ○ Preparation for workforce ○ Presentation Skills ○ Problem-Solving Skills ○ Professional Competencies ○ Progress Monitoring ○ Project-based Learning ○ Public Speaking Skills ○ Qualification Gap ○ Readiness for workforce ○ Realistic Work Setting ○ Reasons for SWIL: Lack of Alignment ○ Reflexive practice ○ Regulatory Compliance ○ Relevant Skills ○ Report Writing Skills ○ Resource utilization ○ Responsibility ○ Rubric

					○ Safe learning environment ○ Seamless Transition ○ Self-directed Learning ○ Shared Understanding ○ Sharing Ideas ○ Significant Impact ○ Simulated Experience ○ Skill Development and Enhancement ○ Skill Gaps ○ Soft skills development ○ Software Skills Enhancement ○ Stakeholder Involvement ○ Student Engagement ○ Teaching Practices ○ Teamwork Skills ○ Technical Skills Development ○ Technology Impact ○ Technology Utilization ○ Theoretical Knowledge Integration ○ Time Management Skills ○ Traditional learning environment ○ Transition into professional roles (2) ○ Uncertainty ○ Understanding and application improvement ○ Value Recognition ○ Varied Learning Abilities ○ Work Environment Preparation
		Professional identity formation	• WIL offers practical experience that may **contribute towards**	*"The significance of WIL (or variations of WIL) for students' **professional development and***	○ Alignment with Professional Standards ○ Benchmarking ○ Ethical Considerations ○ Career Preparation

			career development and **employability.** • **Alignment** with professional standards and expectations is key when designing WIL curriculum • Strong emphasis on **pervasive skills** required by professional bodies	***employability*** *is widely accepted by both employers and the higher education sector" (*HEQSF 2013:6) *"Academic staff select professional concepts and skills for their students to study, devise methods of teaching and assessment that are* ***appropriate to students' professional development****"* (CHE 2011:9)	○ Bridge theory-practice gap Business Perspective Professional Competencies Work Environment Preparation Transition into professional roles Theoretical Knowledge Integration Regulatory Compliance ○ Job Opportunities ○ Knowledge Enhancement ○ Learning Outcomes Expansion Analytical Skills Soft skills development Self-directed Learning ○ Presentation Skills ○ Problem-Solving Skills ○ Professional Competencies ○ Project-based Learning ○ Public Speaking Skills Adaptability ○ Enhance soft skills ○ Stakeholder Involvement Diversity considerations ○ Enhancing readiness for the workforce

		Industry partnerships	• Emphasis on Higher Education to **engage with workplace partners** for WIL as it is **not possible to simulate industry issues** without industry partners. Industry partners provide???	*"WIL cannot occur **without partners who represent the different knowledge fields**. the effectiveness of WIL depends to a major extent on the **commitment of both academic and professional partners**…"* (CHE 2011:51) "*The role of workplace partners includes co-assessing or moderating students' work, particularly in cases where the problem is significant assessment task…*" (CHE 2011:53)	Collaboration with Industry ○Industry collaborative efforts ○ Self-directed Learning ○ Shared Understanding ○ Sharing Ideas ○ Stakeholder Involvement ○ Student Engagement
Impact and Influence of WIL (Simulations)	The impact and influence that WIL (Simulations) has on academic and professional contributions	Enhanced student confidence	• Simulations appear to have a **positive impact** on students' confidence and understandings of Financial Management and Management Accounting within a real-world context	*"audit simulation enhanced their communication and language proficiency skills and helped them to develop more self-confidence."* (de Villiers 2016:494) *"The results shown in Table 1 confirm that the learners in this study experienced a business simulation as a significantly more positive*	Confidence Building Management Accounting Skills development

				learning experience than either an average lecture or an average case study discussion." (Wolmarans 2006:362) *"it appears that a number of benefits may be derived from using management accounting simulations and business plan projects, inter alia, a better understanding of management accounting concepts and real-world management ."* (Rudman & Kruger-van Renen 2014:205)	
		Employability	• Core emphasis on WIL to ease students' **transition** from higher education to employability within industry. • Suggestions for higher education institutions to design WIL (Simulations) **centred on employability**	*"Simulations for WIL preparedness can be designed with an employability focus aiming to develop WIL readiness skills."* (Iipinge, Batholmeus & Pop 2020:532) "*Programmes that include WIL offer opportunities for students to prepare for, and learn from, the workplace,*	Alignment with Professional Standards Benchmarking Ethical Considerations Career Preparation Bridge theory-practice gap Business Perspective Professional Competencies Work Environment Preparation Transition into professional roles Theoretical Knowledge Integration

				to transfer discipline-based theory and a wide variety of skills learned in their formal education to an authentic context as a colleague and employee, with all the responsibilities and expectations such a role entails." (HEQSF 2013:13)	Regulatory Compliance Job Opportunities Knowledge Enhancement Learning Outcomes Expansion Analytical Skills Soft skills development Self-directed Learning ○ Presentation Skills ○ Problem-Solving Skills ○ Professional Competencies ○ Project-based Learning ○ Public Speaking Skills Adaptability ○ Enhance soft skills ○ Stakeholder Involvement Diversity considerations ○ Enhancing readiness for the workforce
		Curriculum	• WIL is **compulsory** under the revised HEQSF (2011) for vocational programmes. • Emphasis on educators to design WIL (Simulations) curriculum that is **innovative** and	"…*curriculum development that aligns disciplinary demands with workplace relevance, and thereby enhances, rather than compromises, the academic quality of the programme…*" (CHE 2011:16)	○ Experiential learning ○ Exposure to Work Environments Career Preparation

			scenario-based to align with industry (WIL Curriculum gaps) • UoTs in South Africa offer **career-orientated** and **experiential learning** qualifications. • DHET (2013:10) emphasised that WIL (Simulations) **should not be confused** with WIL (Placement) (practical training) as students do not have to perform to real-world standards	*"WIL may take various forms including simulated learning…The selection of appropriate forms of WIL depends on the nature and purpose of the qualification type, programme objectives and outcomes, the HEQF level at which the WIL component is pegged, institutional capacity to provide WIL opportunities…."* (HEQSF 2013:11) *"…77.6% indicated that the simulation should be extended to cover other core financial accounting, auditing and taxation areas, and should be a means of teaching the practical application of the subjects."* (Rudman & Kruger-van Renen 2014:205)	

Theme 2- Theory-Practice integration within education/curriculum? through simulations

	Description	Content areas	Key findings	Evidential extracts	CODING: Codes for Theme 2 Sample of codes related to key findings and content areas
Theory-Practice gap	The challenges and opportunities on addressing the disconnect between academic knowledge and practical application within a professional setting	Simulated activities	• **Practical exposure** in mainly theoretical accounting programmes is a concern. • **Innovative educational approaches** for simulations such as games, strategic case studies, role-play were suggested. • **Integration** of what? with all modules within accounting programmes	*"The act of simulating something **entails representing certain key characteristics** of the selected workplace and includes such things as laboratories, patient models, mock meetings, flight simulations…."* (CHE 2011:76) *"Various simulation, role-plays and on-the-job activities can be used to simulate the actual workplace performance."* (CHE 2011:42) *"**Strategy simulations** have close ties between the industry and company circumstances in experiential learning…"* (Hough 2012:982)	○ Bridge Theory-Practice Gap ○ Bridging theory-practice gap ○ Case studies ○ Clarity ○ Clear Instructions ○ Combination of theoretical and practical learning ○ Current Challenges ○ Detail ○ Engaging tasks ○ Existence of practices ○ Exposing to real-world challenges ○ Exposure to Operations ○ Exposure to Tasks ○ Financial Management ○ Future work environments ○ Guidelines ○ Hands-on Practice ○ Honest conversations ○ Identifying tasks ○ Improve integration ○ Industry-relevant training ○ Instructions ○ Integration ○ Integration of theory into practice ○ Learning Environment Issues ○ Learning in Practice

			was emphasised. • **Ethical** and **confidential** handling of simulated activities	***Game-based accounting simulations**: "seen as effective learning aids since skills development occurred both within a formal, mark-bearing game and in an informal game with no bearing on the students' marks"* (Malan & Van Dyk 2021:1) *"…respondents indicated that they thought the management accounting simulation incorporating a business plan project was a useful part of their studies…"* (Rudman & Kruger-van Renen 2014:205-206)	○ Merging theory and practice ○ Not Practical Tasks ○ Practical Application ○ Practice tasks ○ Prepare for work scenarios ○ Preparing for Real-world Scenarios ○ Professional environments ○ Projects ○ Provide practical experience ○ Reference theory in practice ○ Replicating working environment ○ Resemble workplace activities ○ Shift in practices ○ Simulated environment ○ Soft skills development ○ Struggle with application of theory ○ Task engagement ○ Tasks ○ Tasks and activities ○ Theoretical and Practical Learning ○ Understanding work environments ○ University of Technology ○ Use of varied literacies ○ Virtual Environments ○ WIL ○ Work Environment Experience ○ Workforce Expectations ○ Workforce Exposure ○ Workplace Coping ○ Workplace Readiness ○ Workplace scenarios

					○ What are the theory-practice gap activities done through simulated work-integrated learning?: Ethical Practices
		Simulations relevance	• **Alternative** skills-transfer methods such as simulations within accounting programmes were justified.	*"**Interconnectivity** - Everything is connected: school and work life, school and home; media and communication channels."* (Hough 2012:984) *"skills development that is not obtained through practical exposure at training office auditing firms, should rather be developed at tertiary level through the same **replacement tools** currently used by these firm."* (Bishop 2020:22)	*As above and below*

Code	Code Groups	DBR Phase 2	DBR Phase 2	DBR Phase 2	DBR Phase 2
◦ Code category 7: Theme 1-Objectives, Impact and Influence	DBR Phase 2 codes				
◦ Academic-Practical Integration	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
◦ Access to Information	DBR Phase 2 codes				
◦ Accommodating Students	DBR Phase 2 codes		*Limited WIL (Placement) in MA opportunities*		
◦ Accounting Skills (2)	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
◦ Adaptability	DBR Phase 2 codes				
◦ Addressing Educational Gaps	DBR Phase 2 codes				
◦ Advanced Skill Development	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
◦ Alignment with Professional Standards	DBR Phase 2 codes	*Industry standards alignment*			
◦ Analytical Skills	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
◦ Application of theoretical knowledge	DBR Phase 2 codes				
◦ Assessing Students	DBR Phase 2 codes				
◦ Attendance	DBR Phase 2 codes				
◦ Basic Resources	DBR Phase 2 codes				
◦ Basic Skills Enhancement	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
◦ Benchmarking	DBR Phase 2 codes		*Limited WIL (Placement) in MA*		

				opportunities		
	◦ Bridge theory-practice gap	DBR Phase 2 codes		*Limited WIL (Placement) in MA opportunities*		
	◦ Broad guidelines	DBR Phase 2 codes				
	◦ Business Perspective	DBR Phase 2 codes	*Industry standards alignment*	*Limited WIL (Placement) in MA opportunities*		
	◦ Career Preparation (2)	DBR Phase 2 codes	*Industry standards alignment*			
	◦ Case studies	DBR Phase 2 codes				
	◦ Challenges exposure	DBR Phase 2 codes				
	◦ Clarification	DBR Phase 2 codes				
	◦ Collaboration with Industry	DBR Phase 2 codes	*Industry standards alignment*			
	◦ Communication Skills Development	DBR Phase 2 codes				
	◦ Computer Skills	DBR Phase 2 codes				
	◦ Confidence Building	DBR Phase 2 codes				
	◦ Conflict resolution	DBR Phase 2 codes				
	◦ Continuous Improvement and assessment	DBR Phase 2 codes				
	◦ Critical Thinking Skills Development	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
	◦ Curriculum alignment	DBR Phase 2 codes				
	◦ CV Writing	DBR Phase 2 codes				
	◦ Data analytical skills	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
	◦ Decision-making Skills	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
	◦ Demonstration of skills	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
	◦ Develop practical skills	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
	◦ Developing skills	DBR Phase 2 codes				

	◦ Diversity considerations	DBR Phase 2 codes				
	◦ Engage students	DBR Phase 2 codes				
	◦ Enhance Employability	DBR Phase 2 codes		*Limited WIL (Placement) in MA opportunities*		
	◦ Enhance learning	DBR Phase 2 codes				
	◦ Enhance soft skills	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*		
	◦ Enhancing readiness for the workforce	DBR Phase 2 codes				
	◦ Enthusiasm	DBR Phase 2 codes				
	◦ Equipping practical skills	DBR Phase 2 codes	*MA skills development and enhancement*	*Positive impact on skills development*	*Limited WIL (Placement) in MA opportunities*	
	◦ Ethical Considerations	DBR Phase 2 codes				
	◦ Evaluation	DBR Phase 2 codes				

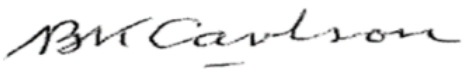
ANNEXURE M: Language editing certificate

8 Nahoon Valley Place
Nahoon Valley
East London
5241
6 October 2025

TO WHOM IT MAY CONCERN

I hereby confirm that I have edited the following thesis using the Windows 'Tracking' system to reflect my comments and suggested corrections for the student to action and produce a clean and correct copy:

Creating a simulated work-integrated learning framework to align theory and practice for universities of technology management accounting graduates by Sifiso Fumani Ngonyama, to be submitted for the degree of Doctor of Philosophy in Accounting Sciences at the Tshwane University of Technology.



Brian Carlson (B.A., M.Ed.)
Professional Editor

Email: bcarlson521@gmail.com
Cell: 0834596647

Disclaimer: Although I have made comments and suggested corrections, the responsibility for the quality of the final document lies with the **student** in the first instance and not with myself as the editor.