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WORK INTEGRATED LEARNING AND ENGINEERING EDUCATION: MERGING ACADEMIC LIBRARIES INTO AN ECOSYSTEM OF SUPPORT

ІНТЕГРОВАНЕ З РОБОТОЮ НАВЧАННЯ ТА ІНЖЕНЕРНА ОСВІТА: ОБ'ЄДНАННЯ АКАДЕМІЧНИХ БІБЛІОТЕК В ЕКОСИСТЕМУ ПІДТРИМКИ

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ABSTRACT

Purpose. *South African higher education institutions are increasingly under pressure to produce employable graduates. While technical skills are predominantly the focus in engineering education, transitioning to the workplace poses peculiar challenges. Soft skills commonly refer to a set of predetermined behaviors considered necessary in a professional work context. The latter is a subset of the affective domain in education, which encompasses the broader context in which transitioning from campus to the workplace occurs. The purpose of this study stems from a notable lack in the literature on considering the affective domain when planning workplace preparedness programs for South African engineering students.*

Мета. *Південноафриканські заклади вищої освіти все більше перебувають під тиском підготовки працездатних випускників. Хоча технічні навички є переважно основною темою інженерної освіти, перехід до робочого місця створює особливі труднощі. Гнучкі навички зазвичай відносяться до набору визначених моделей поведінки, які вважаються необхідними в професійному робочому контексті. Це є підґрунтям емоційної сторони в освіті, яка охоплює ширший контекст, коли відбувається перехід з університету до робочого місця. Мета цього дослідження випливає з великої нестачі літератури щодо врахування емоційної галузі під час планування програм підготовки фахівців до робочого місця для південноафриканських студентів-інженерів.*

Methodology. *Using Schlossberg's Transition Theory as a framework, this study employed an interpretive literature review to examine South African engineering students' transitioning to Work-Integrated Learning. The literature was analysed according to Schlossberg's theoretical framework, comprising a perusal of situational contexts during a transition, personal strengths and characteristics, institutional support structures, and coping strategies employed by individuals.*

Results. *The findings of the present study confirm that preparing engineering students for the WIL component should acknowledge the entire life transition process rather than relying on a generic list of "soft skills". In responding to a current lack of context-specific student preparation initiatives in South Africa, this study explores the role of academic libraries in facilitating digital storytelling as an emerging narrative pedagogy.*

Conclusions. *Work-Integrated Learning offers higher education institutions an opportunity to strengthen their reputations and success by showcasing students who have received sound industry preparation. A narrow conception of the affective domain in engineering education may disadvantage students and place an undue burden on industry mentors and relevant academic staff. Academic libraries are well-positioned to facilitate the contextualization of soft skills within the broader transition-to-workplace by enabling digital storytelling, while allowing engineering students to inform context-specific curricula for student preparation initiatives in South Africa.*

Keywords: *academic libraries, digital storytelling, engineering, higher education institutions, mental health literacy, narrative pedagogy, South Africa, work integrated learning.*

Методологія. *Використовуючи теорію переходу Шлосберга як основу, це дослідження застосувало інтерпретаційний огляд літератури для вивчення переходу південноафриканських студентів-інженерів до навчання, інтегрованого з роботою. Літературу було проаналізовано відповідно до теоретичної бази Шлосберга, що включає вивчення ситуаційних контекстів під час переходу, особисті сильні сторони та характеристики, структури інституційної підтримки та стратегії подолання труднощів, що використовуються окремими особами.*

Результати. *Результати цього дослідження підтверджують, що підготовка студентів-інженерів до компонента «навчання, інтегроване з роботою» має враховувати весь процес життєвого переходу, а не покладатися на загальний перелік «гнучких навичок». У відповідь на поточну відсутність контекстуально-орієнтованих ініціатив з підготовки студентів у Південній Африці, це дослідження вивчає роль академічних бібліотек у сприянні цифровому сторітеллінгу як новітній наративній педагогіці.*

Висновки. *Навчання, інтегроване з роботою, пропонує закладам вищої освіти можливість зміцнити свою репутацію та досягти успіху, демонструючи досягнення студентів, які отримали ґрунтовну галузеву підготовку. Вузьке розуміння емоційної галузі в інженерній освіті може поставити студентів у невигідне становище та призвести до надмірного навантаження на галузевих наставників та відповідний академічний персонал. Академічні бібліотеки мають гарні можливості для сприяння контекстуалізації гнучких навичок у межах ширшого переходу до робочого місця, забезпечуючи цифровий сторітеллінг, водночас дозволяючи студентам-інженерам формувати контекстуально-орієнтовані навчальні програми для ініціатив з підготовки студентів у Південній Африці.*

Ключові слова: *академічні бібліотеки, цифровий сторітеллінг, інженерія, заклади вищої освіти, грамотність у галузі психічного здоров'я, наративна педагогіка, Південна Африка, інтегроване з роботою навчання.*

INTRODUCTION

Work Integrated Learning

Work-Integrated Learning (WIL) is a pedagogy that integrates theoretical knowledge and practical skills through authentic workplace practices. In the context of engineering education, this pedagogy is characterised by a short period allocated to students to

master technical and affective skills simultaneously (Soobramoney & Govender, 2025). Increasingly, studies point to the need for WIL experiences to be carefully crafted with a view to enhance students' workplace readiness.

Work-Integrated Learning, as a concept, involves a triad comprising Higher Educational Institutions (HEIs), university students, and industry mentors (Soobramoney & Govender, 2025). The combination of theory and hands-on experience is a common denominator across all WIL definitions. The term “Work Integrated Learning” is interchangeably used to describe “experiential learning”, “work placements”, “internships” and “cooperative education”. This paper defines WIL as, "An educational approach consisting of authentic work-focused experiences as an intentional component of the curriculum”. The transition from university to the workplace is considered to be a crucial developmental period for students, during which they move from highly structured academic environments to increasingly complex labour markets (Eneje et al., 2025; Soobramoney & Govender, 2025). Life transitions in general refer to events that result in, “changed relationships, routines, assumptions, and roles” (Anderson et al., 2012).

The Affective Domain of Engineering Education

The affective domain of learning, also known as the emotional domain, is a well-recognized feature of learning theory. It encompasses students’ attitudes, values, motivations, and interests (Korsten et al., 2021). The latter manifests in behaviour, and has a large effect on engineering students’ professional development (Korsten et al., 2021; Soobramoney & Govender, 2025). The affective domain of learning is often misunderstood and conflated with soft skills. While these terms are closely related concepts (since both focus on non-technical attributes), the affective domain focuses on internal attitudes and values, while soft skills focus on observable behaviour.

When characteristics associated with the affective domain are ignored, students may well be less prepared for the workplace on an emotional level (Korsten et al., 2021). The affective domain, therefore, continually needs revisiting and upgrading to keep engineering students engaged and motivated during the WIL transition (Korsten et al., 2021). It is also important that universities and workplaces acknowledge the importance and consequences when students’ affective experience diminish, which affects emotional intelligence, motivation, sense of belonging, collaboration, confidence, curiosity, persistence, and professional ethics (Korsten et al., 2021; Visser & Law-van Wyk, 2021).

This paper explores the research question: “How can narrative pedagogy be used in South African academic libraries to support the transitioning to the WIL component of engineering education?”

BACKGROUND

The literature indicates a mismatch between the aspirations of engineering students, industry employers, and academic staff regarding WIL (Soobramoney & Govender, 2025). Exploring this mismatch is considered an important point of departure in this study and should provide valuable insights. In addition, this exploration aligns with Schlossberg’s Transition Theory, which underscores the importance of understanding the broader context in which engineering students find themselves as they transition to WIL (Anderson et al., 2022; Schlossberg, 2008).

Contradicting expectations often point towards systemic barriers that gradually influence each party's performance and motivation. Exploring the disconnect between students’, employers’, and academic staff’s expectations could be a logical starting point

for understanding the challenges that engineering students face during the WIL process. Misalignments and unmet expectations often lead to apprehension and anxiety, which, in turn, affect work performance. The build-up of pressure due to unmet expectations also raises fundamental questions about the long-term emotional consequences for all parties involved in the WIL component of engineering education.

Expectations of Engineering Students

Engineering students are afforded various opportunities during the WIL component of their studies to apply theoretical knowledge in practice. Additionally, WIL offers opportunities related to future employability, authentic work experience, and a platform for new collaborations. Studies, however, suggest that some engineering students in South Africa feel unprepared upon entering the workplace and report dissatisfaction with the workplace preparation offered by academic institutions (Molele, 2024; Soobramoney & Govender, 2025). While engineering students also perceive workplaces as unsupportive of their learning (Garraway & Friedrich-Nel, 2026), opportunities to gain workplace experience in South Africa are not guaranteed.

Many engineering students report a paucity of opportunities for gaining work experience through university placement programmes, a situation that is compounded by challenging economic conditions. Consequently, dissatisfaction with extended waiting times for industry placement is increasing among engineering students (Soobramoney & Govender, 2025). This is a significant concern in a low-income country such as South Africa, where many students come from disadvantaged backgrounds, and are facing multiple challenges related to economic pressures, limited resources, high unemployment rates, and intense competition for placements (Soobramoney & Govender, 2025).

Expectations of Industry Mentors

There are multiple definitions and perceptions recorded related to the competencies required from productive employees. Often, skills relevant to adapting to rapid technological change, emotional resilience, and good interpersonal skills are high on employers' wish lists (Dipitso, 2023). During WIL, engineering students often enter fully functioning and productive workplaces. However, a study in South Africa found that employers of engineering WIL students seem dissatisfied with their punctuality for work and absenteeism, which result in delayed projects and lost productivity (Soobramoney & Govender, 2025).

Apart from financial and logistical challenges, extant literature in South Africa is scarce in terms of exploring the actual reasons behind absenteeism among engineering students during WIL (Mapaling et al., 2024). Nonetheless, the effect of this on staff morale cannot be underestimated in the workplace. While industry mentors acknowledge the validity of students' expectations regarding development, training, and gaining workplace experience, they simultaneously report heavy workloads, lack of educational experience, and limited resources (Garraway & Friedrich-Nel, 2026; Soobramoney & Govender, 2025). A need exists for employers to develop appropriate processes for on-the-job learning and mentoring. Sadly, the literature suggests that some engineering students have become sceptical of industry mentors, which has a negative effect on their professional behaviour (Soobramoney & Govender, 2025).

Expectations of University WIL Project Leaders

University lecturers play a vital role in providing emotional and psychological support to students, who are regarded as valuable assets for prospective industry employers (Kankam & Baffour, 2021; Mostert et al., 2025) Engineering students, in this regard, often consider committed lecturers as role models, and report that they benefit from their encouragement (Mostert et al., 2025). Regrettably, studies also report on inexperienced WIL project leaders and infrequent visits by university staff to monitor students' workplace performance (Soobramoney & Govender, 2025).

While academic staff may expect engineering students to progress during the WIL component of their studies, some realities might be out of their control. This is especially relevant in low-income countries, such as those in sub-Saharan Africa, which are plagued by various systemic hurdles that affect infrastructure and resources. The latter have a direct impact on the monitoring and support of students in the workplace during the WIL process. Given the different expectations and realities among students, universities, and industry mentors, nagging doubts persist about whether students are indeed sufficiently prepared for the workplace with the skills needed for long-term workplace success.

METHODOLOGY

A non-empirical research design grounded in an interpretive literature review methodology was employed to provide a snapshot of current issues relevant to South African engineering students' transitioning to WIL. The researcher moved beyond a descriptive summary of the literature to interpret, synthesise, and contextualise themes. In this regard, the present study set out to generate conceptual insights into the research problem, while also identifying patterns and gaps in existing studies. Rather than aiming for exhaustive coverage or summarising of the literature, interpretive literature reviews offer opportunities for innovative reconceptualisations (Cresswell & Creswell, 2023).

Literature Identification and Selection

An analysis of extant literature revealed that studies tend to follow a typical trajectory, in which core observations are categorised across multiple stages of the study. The "theming" of information is appropriate for a wide range of qualitative studies, and represents a strategic choice when interrogating sources, considering the research question, and the study's goal (Creswell & Creswell, 2023). Schlossberg's Transition Theory defines a transition as, "any event, or non-event, which results in changed relationships, routines, assumptions, and roles" (Schlossberg, 2008). This theoretical lens guided the thematic analysis process in this study into the 4S categories: *situational* context associated with the transition, personal *strengths* and characteristics, *support* received during the transition, and coping *strategies* available (Schlossberg, 2008).

The literature review process consisted of five stages. Firstly, a timeframe was set for searching, screening, analysing, and reflecting on the research question's context. Thereafter, electronic databases and citation indexes were employed to identify relevant studies. Databases included Web of Science and Scopus, SAGE, PubMed, JSTOR, Taylor & Francis, Ebsco-Host, Google Scholar, and ScienceDirect. The following keywords were used to locate relevant literature: "work integrated learning", "engineering", "student*", "Higher Education", "universit*", "academic librar*", "affective", "soft skills", "transitioning", "South Africa", and "Africa*". Criteria for inclusion required that texts had to be published between 2021 and 2025, should be relevant to a South African and sub-Saharan context,

and had to be aligned with the present study's central research question. Studies conducted beyond South Africa were consulted in this study to complement, confirm, challenge, or elaborate on findings from local studies.

A summary of key papers informing this study, interpreted according to Schlossberg's Transition Theory, is presented in Table 1 below, listed by publication date. This audit trail of key information sources consulted aligns with best practices to improve trustworthiness by enabling easier traceability of sources.

Table 1

Key studies in an engineering Work Integrated Learning context aligned to Schlossberg's Transition Theory

Publication date and author/s	Focus and location of the study	Schlossberg's Transition Theory categories
2025, Mostert et al.	Resilience of engineering students (SA)	Personal strengths, coping strategies
2025, Eneje et al.	WIL and engineering education (Sub-Saharan Africa)	Institutional support & social networks
2025, Soobramoney & Govender	Challenges for engineering students during WIL (SA)	Situational context, institutional support & social networks, coping strategies
2024, Meintjies	Mental well-being of Science students (SA)	Personal strengths, Institutional support & social networks,
2024, Mapaling et al.	Engineering students and academic resilience (SA)	Personal strengths
2024, Molele et al.	Gaps in managing WIL programs (SA)	Situational context, institutional support & social networks,
2023, Mashiyane et al.	Engineering education (sub-Saharan Africa)	Institutional support & social networks
2023, Dipitso	Engineering students and employability (SA)	Institutional support & social networks
2023, Bantjes et al.	National survey on the well-being of university students (SA)	Situational context, coping strategies
2021, Korsten et al.	Engineering students and academic stress (SA)	Situational context, Personal strengths, coping strategies
2021, Eloff et al.	Engineering lecturers supporting emotional well-being (SA)	Institutional support & social networks
2021, Kankam & Baffour	Academic Libraries promoting Mental Health Literacy (Ghana)	Personal strengths, Institutional support & social networks, coping strategies
2021, Visser & Van Wyk	Emotional well-being among university students (SA)	Situational context, coping strategies

Trustworthiness of Findings

Strategies aimed at ensuring trustworthiness were grounded in recognised principles of qualitative research. The credibility of the findings was ensured through the researchers' years of experience with engineering students and academic lecturers, as well as through daily observations, informal discussions, and involvement. Detailing the research process and procedures, while providing the rationale for interpretations and the inclusion of literature, contributed to the dependability of the findings. In addition, the researcher ensured dependability through transparency by following the prescribed standard practices for literature review studies, grouping related concepts into categories and then into broader themes, thereby helping to form a coherent interpretation of the research problem. Thick descriptions and the extensive examination of selected literature through stating implicit assumptions as well as opposing arguments addressed the future transferability of findings in this study.

LITERATURE REVIEW AND DISCUSSION

Schlossberg's Transition Theory emphasises the importance of understanding the situational context relevant to life's transitions (Anderson et al., 2022; Schlossberg, 2008). The following section interrogates and interprets core elements relevant to engineering students' transitioning into the WIL component of their studies.

From Campus Certainty to a Transition Shock

During WIL, students exchange a nurturing educational environment for the workplace where self-directed learning is required. This new professional environment requires students to transition on various levels. Most often, relocation to a different geographic area poses challenges, compounded by efforts to achieve financial independence and adapt to a new workplace social context. Transitions are often described as "culture shocks", a term that illustrates the effects on students as they attempt to adapt to complex processes and procedures within a new environment. Mashiyane et al. (2023) refer to a "transition shock," in which the WIL experience is often associated with a psychological and social disruption, leading to feelings of insecurity and a heightened sense of self-doubt. The literature suggests that engineering WIL students are often unprepared for the complexity of workplace problems.

Employability and the "Incompatible Psychological Contract"

Rousseau (1995) refers to an "incompatible psychological contract," which implies a failure of two sets of expectations to coincide, illustrating a tacit deal that entails unspoken imprints and is considered realistic if it is not broken. Upon entrance to WIL, employers often assume that students have the psychosocial capacity to manage organisational dynamics and maintain motivation under pressure.

This is especially concerning in the engineering discipline, where workspaces valorise endurance, excessive working hours, and constant availability as measures of dedication and professionalism. These expectations might come at a cost, as career transitions are often associated with a considerable risk of burnout among engineers due to the highly pressurised working environment. When a psychological contract is violated, this may lead to disengagement and lower commitment. An intentional redesign of this "psychological contract" through open dialogue about shared expectations is therefore critical in the workplace.

The paradox of Preparation

The Engineering Council of South Africa (ECSA) plays a crucial role in establishing standards for engineering education and practice in the country. In this context, engineering programmes are regulated by professional bodies that inform curricula (Soobramoney & Govender, 2025). The importance of technical competencies in engineering education is uncontested and underpins all aspects of students' training. Increasingly, however, studies question the rationale for focusing disproportionately on technical skill sets, as these do not fully determine future employment success.

A paradox arises when students enter the WIL component of their qualification and realise that a structure specifically designed to prepare them for the world of work suddenly reveals their lack of emotional preparedness. This is the case even when the development of soft skills has been incorporated into engineering curricula. It could be argued that engineering students often seem to be at the mercy of academic staff and university systems that lack sufficient awareness and understanding of their holistic development and workplace preparation (Soobramoney & Govender, 2025).

The Narrative of "They are Unprepared"

The "ill-prepared graduate" has become a popular narrative in discussions of student employability and workplace readiness. Employers often interpret students' behaviours as a lack of motivation, a poor work ethic, or a lack of resilience. These interpretations are further compounded when communication styles and cultural norms differ in professional workplace contexts, such as those found in South Africa. Professionalism is, after all, culturally and contextually constructed, with behaviours that are seen as inappropriate in one organisational cultural setting being entirely acceptable – if not highly desired – within another. Many of these perceived challenges could, therefore, be viewed as developmental gaps rather than as deficits that may not develop gradually. Therefore, expectations of immediate workplace capability should be replaced with approaches aligned with progressive development milestones over time.

IDENTITY FORMATION AND GENERATIONAL FRAMES

The notable transition from student to aspirant professional engineer signals an identity-related transition. Transition theories emphasise the importance of personal strength during significant life transitions, which require rebuilding meaning, identity, and belonging (Schlossberg, 2008). For engineering students, the internal labour of adapting one's self-concept to professional roles in a diverse work environment is frequently undervalued. It is therefore important that all parties involved acknowledge the importance of professional identity development of engineering students for a workplace context.

This is especially relevant in a context where employees are expected to work together and share company goals through teamwork, daily interactions, and engagement. Increasingly, this happens in the context of multigenerational workforces. During the WIL component of their studies, students are required to learn how to translate academic behaviours into effective work behaviours while collaborating effectively with people with diverse skills, personalities, and backgrounds. Industry mentors, however, admit to encountering immature "youth mindsets" in South African workplaces, which can lead to a host of non-work-related challenges (Soobramoney & Govender, 2025).

A popular explanation as to why students are struggling to adapt to the workplace is rooted in generational stereotypes, depicting them as less motivated, overly reliant on

technology, and lacking a sense of time (Slabbekoorn, 2026). Workplaces across disciplines have gradually accepted a culture of 24/7 availability, which occasionally raises concerns about students' perceived "lack of stamina". Gen Z is a term commonly used to describe "digital natives," and refers to a generation that grew up entirely in the digital age. Currently, most students in HEIs fall in this category, confirming that by 2030, Gen Z will take up a significant share of the working population in South Africa.

Consequently, educational programmes are increasingly shaped by this younger generation's unique communication styles, learning preferences, and workplace expectations (Slabbekoorn, 2026). Notably, this generation seeks a workplace culture that fosters open communication, collaboration, and psychological safety. This phenomenon points toward a possible shift in values and expectations regarding sustainable work environments and suggests that many students enter the workforce with specific expectations regarding work–life balance (Slabbekoorn, 2026). Failure to acknowledge these perceptions towards the workplace may lead to a continuous framing of students' struggles as attributable to their generation.

The Soft Skills Controversy

Employers increasingly value both hard (technical) and soft (interpersonal) skills of employees in contributing to organisational goals (Soobramoney & Govender, 2025). The term "soft skills" is closely related to the affective domain, which has become widely used to gauge preparedness of students for the 21st century. Soft skills typically refer to written and oral communication skills, critical thinking skills, time management, collaboration, teamwork, problem-solving, project management skills and creativity. South African studies on soft skills among engineering students reported poor time management, which often spills over into concerns about punctuality and meeting deadlines during the WIL period (Soobramoney & Govender, 2025).

Additionally, engineering students in South African workplaces seem to struggle to resolve disagreements and conflicting viewpoints, particularly due to a lack of self-articulation skills needed for respectful, constructive argument (Mapaling et al., 2024; Soobramoney & Govender, 2025). Rather than considering the absence of these soft skills as indicative of deficiencies in engineering students' abilities, this absence indicates wider areas of support required, which should commence before entering the WIL component.

Not all soft skills, however, can be mastered with equal ease or in a predetermined amount of time. Developing emotional intelligence, perseverance, and the ability to adapt to change requires a longer trajectory to develop (Soobramoney & Govender, 2025). Resilience under pressure is increasingly identified as important in the workplace, yet it remains unexplored in engineering education in South Africa (Mostert et al., 2025). Despite the importance of such skills for employability, the affective domain is frequently taken for granted rather than intentionally developed in university settings.

MENTAL HEALTH AND WELL-BEING OF ENGINEERING STUDENTS

Mental health and well-being are positively linked to the affective domain in education. Improved mental health is often associated with a better quality of life, where one's emotions are understood and managed through effective coping skills, emotional regulation, and increased help-seeking behaviour (Anderson et al., 2022; Schlossberg, 2008).

The prevalence of mental illness, however, is on the rise across the globe, with many people being unaware that they have a diagnosable disorder. High levels of severe

mental disorders have been recorded among undergraduate students across disciplines in South Africa, with key challenges including mood-related disorders such as anxiety and depression (Bantjes et al., 2023; Korsten et al., 2021). While studies increasingly urge South African HEIs to prioritise mental health and wellness education and awareness, this has not been a priority among policymakers, and a need exists for interventions related to experiences of depression, anxiety, substance use, and suicide or attempted suicide (Meintjies, 2024).

Engineering students in HEIs have been identified as a vulnerable group in terms of challenging mental health (MH) conditions. Despite growing concerns about these students' mental health and well-being, this topic remains poorly researched (Korsten et al., 2021). MH conditions are commonly diagnosed according to the internationally recognised Diagnostic and Statistical Manual for Mental Disorders (DSM). While the DSM is a well-recognised reference source, some SA populations also prefer to obtain traditional explanations for mental illness conditions. Sadly, many South Africans do not have access to health services and tend to normalise serious mental conditions by labelling most conditions as mere "stress" (Kometsi et al., 2020). Consequently, people tend to wait too long before seeking help for their condition.

Engineering Students and Help-Seeking Behaviour

The importance of coping skills and self-regulation in the context of stressful life events is increasingly emphasised in the literature and on social media platforms. Self-reported coping skills among engineering students often include a preference for talking to peers or family members. The latter seems, by far, the preferred help-seeking option rather than contacting professionals with a view to address mental health challenges (Andrews et al., 2020). In South Africa, high levels of stigma often deter individuals from disclosing mental health concerns (Kankam & Baffour, 2021; Kometsi et al., 2020). Stigma among engineering students has also been recognised as a major barrier to seeking mental health support (Andrews et al., 2020). Concerningly, engineering students often perceive high stress levels and mental health challenges as essential parts of the engineering culture (Mostert et al., 2025). This "culture of suffering" is passed on to incoming students through interactions, advice, instructors, and departmental norms.

Engineering Students and Workplace Stress

University students across disciplines in South Africa show high rates of anxiety and panic disorders (Bantjes et al., 2023; Korsten et al., 2021). In addition, diagnosable conditions such as depression among engineering students are on the increase. Anxiety as a condition can be a result of frequent worries about competence, performance, and workplace acceptance. Life transitions are often considered "anxiety-inducing" events associated with burnout and imposter syndrome as students strive to navigate stressful environments (Slabberkoorn, 2026). Furthermore, the term "imposter syndrome" is often used to describe a psychological pattern where high-achieving individuals doubt their skills and capabilities, leading to anxiety. For engineering students, imposter syndrome manifests as persistent feelings of falsity, despite evidence of success and competency (Chakraverty, 2020).

Sustained high stress levels, also, contribute to unhealthy workplaces that often expect employees to navigate intense competition among themselves. South African engineers report overall feelings of fear as they enter unfamiliar workplace environments, face industry expectations, and are expected to work with modern equipment and technology (Soobramoney & Govender, 2025). In addition to anxiety, reports confirm high

rates of depression across universities in South Africa (Bantjes et al., 2023; Meintjies, 2024). A high risk of suicidal ideation among engineering students further exacerbates the risk of suffering from depression (Korsten et al., 2021; Soobramoney & Govender, 2025).

Loss and Its Emotional Toll

The transition from a relatively unstructured environment to a structured workplace is often associated with a strong sense of loss and relates to various challenges experienced during this period. One of the most underexamined and stigmatised aspects of students' transition is grief. Grief, as a term, refers to, "psychological distress associated with loss, which often accompanies fear of more losses to come" (Holly & Slaton, 2025). In the context of this study, grief is associated with non-death losses, which often evoke strong emotions relevant to new life transitions accompanied by loss of supportive social environments. A strong link exists between a sense of belonging and academic performance (Andrews et al., 2020). In this regard, losses can also include disillusions, failure, and disappointment (Holly & Slaton, 2025).

A build-up of feelings associated with loss subsequently affects students' well-being, resilience, and professional conduct. Common reactions to feelings of loss include social isolation, which gradually affects physical and mental health. Loss and grief are still largely unexplored in the engineering WIL literature. Further exploration is needed by encouraging engineering educators to be thoughtful about what is being lost and by whom (Andrews et al., 2020; Holly & Slaton, 2025). The onus of transitioning to the workplace can therefore not be placed solely on a student's resilience and/or adaptation skills; it should also consider systemic issues and how organisations and institutions support students.

FINDINGS

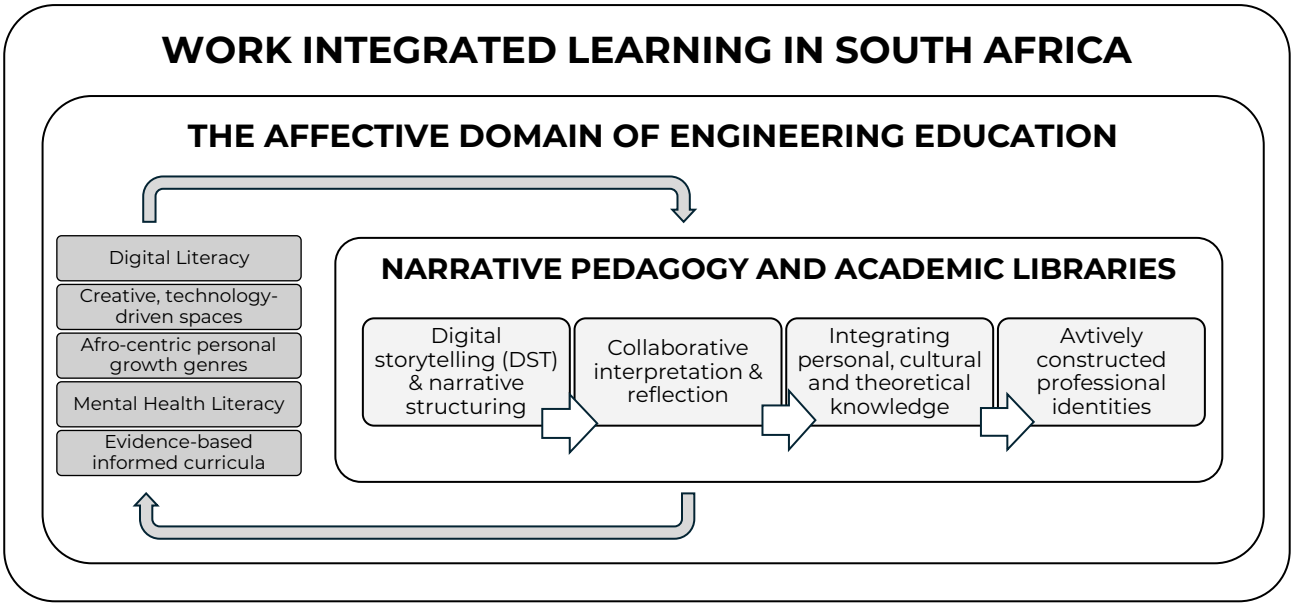
The transition to Work Integrated Learning is complex and multidimensional. In South Africa, engineering students' voices are scarce regarding their perceptions of the broader situational context in which the transition to WIL takes place. Literature also suggests that engineering students are not prepared in alignment with the framework outlined in Schlossberg's transition theory and lack support for the various personal and social influences at play during the WIL transition. This notion has also been confirmed in a recent study confirming a current vacuum in engineering student preparation programs in South Africa (Garraway & Friedrich-Nel, 2026).

Narrative pedagogy is gradually recognized as an innovative approach in Science, Technology, Engineering, and Mathematics (STEM) (Kumar et al., 2026). Across African cultures, this pedagogy offers benefits in boosting resilience, self-reflection, and behavior change. This study highlights ample opportunities for academic libraries to contribute to the debate on engineering student preparedness by building on existing liaisons with faculty, core roles in information and digital literacy, and advocacy for mental health literacy. Figure 1 depicts shifting from a broad context in which academic libraries should be situated to a more specific frame that emphasizes supporting the affective domain in engineering education.

An additional frame elaborates on how academic libraries can expand narrative pedagogy by facilitating digital storytelling. New roles and opportunities are suggested for academic libraries to become involved in this context, which are discussed in the next paragraphs.

Figure 1

Roles proposed for academic libraries in facilitating narrative pedagogy in engineering education.



Firstly, the findings suggest an ecosystem of shared responsibility in Higher Education Institutions. This entails an ecosystem of support within universities, which can help to build the technical workforce needed to drive future economic growth. While the challenges of engineering WIL students are typically assumed to be personal, a closer look at the reality of the situation suggests a possible structural mismatch between industry needs and students' current preparation in HEIs.

This misalignment is crucial to understand and refocus graduate preparedness as a collective, systemic issue rather than an individual failure. Instead of focusing on whether engineering students are "ready," a more appropriate question could be: "To what extent are systems aligned so that readiness can develop over time?" This calls for awareness that academic libraries, academic staff, employers, policymakers, and students themselves need to come together to address the mismatch—a role beyond the capability of any single entity or group, but rather a collective responsibility grounded in shared understanding.

While literature and policies identify the partnership between educational institutions and industry employers as a critical area in WIL, literature on expanded collaboration *within* academic institutions is scarce. This is especially relevant to academic libraries, and the notion that workplace readiness should be co-produced. Libraries on the African continent are therefore required to lead students in becoming content creators, which involves constructing logically coherent arguments through digital media.

Content creation and Digital storytelling (DST) are central to a narrative pedagogy approach that utilizes technology to clarify complex and abstract concepts (Cabrera et al., 2025). Academic libraries are therefore required to upskill in facilitating digital storytelling techniques by simultaneously leveraging established technological infrastructures to inform evidence-based services for engineering students.

Secondly, the findings suggest the importance of mental health literacy education for engineering students. A key function for libraries across the globe is emerging: that of raising awareness of, and education on Mental Health Literacy (MHL). The latter is a

multidimensional construct signalling a working knowledge of mental health and wellness. Jorm et al. (1997) define MHL as, "knowledge and beliefs about mental disorders which aid in their recognition, management or prevention". Consequently, MHL is positively associated with improved help-seeking, resource-acquisition behaviours, self-care, and coping skills (Carvalho et al., 2022). Increasingly, academic libraries are urged to make strong commitments in encouraging students to report mental health issues and seek support (Andrews et al., 2020) and to capitalize on the high premium students place on their neutrality on campus.

Additionally, academic libraries should expand the quantity and genres of information resources. The mandate of academic libraries in universities is to support faculty information needs by acquiring relevant resources and providing information literacy training tailored to those needs. This mandate is outlined in policies that govern most services offered (Kankam & Baffour, 2021). Findings suggest that academic libraries should increasingly be prepared to support students' emotional aspects of student transitions and their effects (Kankam & Baffour, 2021).

The benefits of information resources for stimulating expressive writing, journaling, bibliotherapy, and self-improvement reading materials have been well documented. For academic libraries to fulfill the new roles proposed in this study, future acquisitions should include Afro-centric genres to address self-regulation, improve interpersonal relationships, and manage stress, such as working manuals and self-help resources (Carvalho et al., 2024).

Thirdly, findings confirm a golden opportunity for academic libraries to develop psychologically safe spaces for creative mood-regulating activities to improve self-regulation, coping skills, and mental health. The literature shows that university students increasingly expect academic libraries to create neutral, dedicated wellness spaces to foster a sense of belonging and de-stress.

Safe spaces are particularly important for WIL students who are vulnerable to censure from both workplace supervisors and university lecturers (Garraway & Friedrich-Nel, 2026). Increasingly, makerspaces are utilized in academic libraries, where physical spaces are equipped with digital tools that foster creativity, informal knowledge sharing, learning, and critical thinking among engineering students.

Additionally, moving beyond primarily Western-based approaches toward collective social well-being is necessary. In a South African context, academic libraries are well-positioned to encourage creative expression by leveraging the locally developed Mmogo Method™. Here, non-experts can facilitate and accommodate students' socially constructed perceptions and artefacts of mental health (Baart & Roos, 2022). This method aligns with the recognised need to incorporate physical and group activities into mental health and wellness events. These expectations align with emerging trends where library spaces are reinvented to create informal environments that encourage creative expression.

IMPLICATIONS FOR HIGHER EDUCATION INSTITUTIONS

The WIL component of engineering education entails significant responsibilities and dedication in the South African context, which is marked by limited capacity and financial constraints (Soobramoney & Govender, 2025). The combination of academic libraries and engaged faculty can help to ameliorate system-level challenges, underscoring the need for broader cooperation within HEIs (Andrews et al., 2020). An appreciation for incremental growth, supported by exposure designed to develop

sustained professional success, is receiving wider global acceptance. Such approaches oppose a deficit-based approach, in which engineering students are expected to be professionally competent upon entering the WIL component of their studies.

RECOMMENDATIONS FOR FUTURE RESEARCH

While this literature study leaned towards public higher education institutions in South Africa, the rapidly increasing number of private institutions offering specialised, industry-focused qualifications is a salient area for future studies. It is therefore recommended that future case studies examine the application of narrative pedagogy in South African academic libraries. In addition, studies should explore different engineering fields individually, such as mechanical, civil, and electrical engineering, and compare them.

LIMITATIONS OF THE STUDY

Findings and recommendations yielded by this interpretive literature review did not aim to provide a comprehensive or statistically representative account of the available literature across higher education institutions and private institutions offering engineering qualifications in SA.

CONCLUSION

While the affective domain of engineering education is considered critical for long-term career success, the literature suggests it is often poorly aligned with preparing engineering students for WIL. A current narrow conception, mainly focused on a predetermined list of "soft skills" in engineering education, could constitute a disservice to engineering students and overburden industry mentors in SA.

The importance of accounting for the broader context in which the transition to WIL takes place supports the notion that academic libraries serve as conduits between engineering students and faculty through facilitating digital storytelling techniques. Hereby enabling engineering students to become content creators for future WIL preparation programs aligned with multigenerational and multicultural workplaces in South Africa. A more nuanced understanding of student preparedness for WIL can only be achieved if all parties involved understand and prioritise this broader conception of transitioning from campus to the workplace.

CONFLICT OF INTEREST

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No artificial intelligence tools were used in the preparation of this manuscript.

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