

Evaluating the impact of work integrated learning on TVET construction students ' employability readiness from the perspectives of lecturers and industry

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Abstract

In the rapidly evolving construction industry, a critical gap exists between academic preparation and the practical skills required for successful employment. Consequently, students from TVET programs often feel underprepared for workplace realities, which affects their employability. Anchored in the employability framework, this study explores the significance of work-integrated learning approaches in bridging this gap, enhancing student readiness, and aligning educational outcomes with industry needs. Qualitative interviews with TVET lecturers and senior managers at construction companies that host our students were conducted using an interpretivist paradigm. A case study of N3 TVET Construction students was also undertaken prior to the phasing out of the N3 course. Thematic analysis revealed that while employers perceive students as lacking crucial knowledge and skills, lecturers also expressed concerns about preparation gaps and the need for clearer communication of industry expectations. The study recommends fostering collaboration with the construction industry in curriculum development to better equip students with relevant skills.

INTRODUCTION

In South Africa, the Technical and Vocational Education and Training (TVET) sector plays a crucial role in implementing Work-Integrated Learning (WIL) to prepare students for careers in construction trades. WIL serves as an essential link between theoretical knowledge and practical workplace experience, fostering workplace readiness —encompassing key skills such as self-management, interpersonal communication, critical thinking, and professional competencies—all vital to effective industry performance (Ojo, Ogbu, & Dalyop, 2025).

Despite these provisions, employers often find that graduates lack the necessary technical, cognitive, and behavioural communication skills essential for success in the workplace (Nkwanyane, Makgato, & Ramaligela, 2022). The building and construction sector demands practical competence, adaptability, and the ability to apply knowledge in real-world conditions—qualities that WIL aims to cultivate through structured learning experiences. However, the effectiveness of WIL may be undermined by top-down governance of TVET colleges, which can stifle innovation and reduce responsiveness to local labour market needs (Mthabela, 2024).

Acquiring competent construction skills is essential for enhancing students' employability and fostering economic growth and job creation (Selane & Odeku, 2024). This paper aims to investigate TVET lecturers' and construction industry employers' perceptions of TVET construction students' workplace readiness, focusing on the contributions and shortcomings of WIL in nurturing essential competencies in the construction sector. Understanding these perceptions is crucial for enhancing WIL design, fostering stronger industry partnerships, and aligning training outcomes with the realities of the South African labour market. The research will explore the following questions to identify actionable insights to enhance WIL and better prepare students for industry demands.

- What soft skills do TVET lecturers and construction industry employers perceive as essential for workplace readiness among TVET construction students?
- How can these perceptions improve the readiness of TVET construction students to meet industry standards and expectations?

LITERATURE REVIEW

TVET IN SOUTH AFRICA

The Natal Government Railways initiated the first technical education classes for railway apprentices in their workshops in Durban, marking the beginning of structured vocational training in South Africa (Sooklal, 2006, p. 19). Over time, these training initiatives evolved into technical colleges—now known as TVET colleges—that expanded their educational offerings from continuation classes to full-day schools, covering content from Grade 8 through to post-matriculation (Sooklal, 2006, p. 24).

Since 1995, various legislative reforms have significantly impacted the TVET sector. Notably, Terblanche (2017) highlights key changes, including the renaming of FET to TVET and the constitutional adjustments that placed these colleges under national jurisdiction, overseen by the Department of Higher Education and Training (DHET). In 2007, the DHET introduced the National Certificate Vocational (NCV) at public TVET colleges specifically to meet the skills demands of the South African economy. Young individuals who have successfully completed at least Grade 9 can enrol in a TVET College and pursue the NCV Level 2 program, whereas engineering studies that involve N1-N3 levels require a Grade 10 or higher school qualification.

For practical construction trades such as carpentry, plumbing, and bricklaying, Competency-Based Modularised Training (CBMT) has been integrated into the TVET framework, requiring N1-N3 students to undergo workplace training—recognized as Work-Integrated Learning (WIL)—before they qualify for their trade tests (Kanyane, 2016).

Despite TVET's role as the origin of WIL in South Africa, many programs currently lack a WIL component due to persistent challenges, such as insufficient employer placements and partnerships (Van Der Bijl & Taylor, 2016, p. 99). The White Paper emphasizes the critical need to strengthen employer partnerships at both systemic and college levels, which can aid in identifying work-integrated learning opportunities, facilitate student placements, and ensure staff receive regular industry exposure to stay informed about developments (Akala, 2018).

To address some of the challenges facing WIL, the Quality Council for Trades and Occupations (QCTO) is developing new occupational qualifications to replace NATED courses, such as N1-N3. This shift aims to enhance alignment with the workforce needs of the growing number of youths transitioning from school, as highlighted in the Post-School Education and Training Monitor (Mafaralala, 2020). This study, however, will focus on the workplace readiness of N3 construction students. Although the N3 program

has been discontinued, the insights gained from data collected prior to its phasing out remain relevant to understanding the work readiness of construction students in the context of forthcoming occupational programmes.”

WORKPLACE READINESS FOR TVET CONSTRUCTION STUDENTS

Workplace readiness is essential to organizational success and sustainability (Young & Ferand, 2025). Readiness encompasses both critical knowledge and soft skills (Mohammad et al., 2023). The work environment is becoming increasingly competitive, driven by a growing global demand for skilled labour (Siddique, Ahsan, Azzi, & Haas, 2022). Policies such as the White Paper on Post-School Education and Training underscore the need to foster partnerships between educational institutions and employers (Land & Aitchison, 2017). Fostering partnerships would help follow the work-readiness steps shown in Fig. 1.

Fostering partnerships can help implement critical steps toward work-readiness, as illustrated in Fig. 1. This figure illustrates the cyclical nature of work-readiness and the support adjustments required for the newly introduced occupational programs, particularly as TVET colleges expand their offerings to include NATED (National Accredited Technical Education Diploma) courses. However, challenges persist within this framework, including limited collaboration with industry stakeholders, inadequate placement opportunities, and insufficient preparation for students transitioning into workplace learning environments (Singh, Moodley & Cadigan, 2022).

To effectively tackle these issues, integrating practical experiences into construction curricula is essential for ensuring workforce readiness (Faisal, Khan, & Ishrat, 2025). Research has shown that students who engage in practical activities find their coursework more relevant to their career progression. Furthermore, aligning educational programs with labour market demands is critical, especially in skills-oriented fields like construction (Faisal, Khan, & Ishrat, 2025). Finally, maintaining a clear outline of essential skills is vital for enhancing the overall effectiveness of the TVET sector. Institutions must regularly update their skill outlines in line with industry feedback and emerging trends to develop graduates equipped to meet the challenges ahead (Mtshali, 2021). Specific actions could include establishing advisory committees with industry leaders to inform curriculum development and facilitating closer ties between colleges and local businesses to enhance student placements.

LECTURERS' PERSPECTIVES ON STUDENT READINESS

According to Oosthuizen, Spencer, and Chigano (2022), TVET colleges in South Africa primarily prepare students for the workplace. However, employers reported dissatisfaction with students' skills and abilities upon entering the workplace. Research according to (Oosthuizen, Spencer and Chigano, 2022) has found deficiencies in the qualifications and competencies of TVET lecturers, including a lack of workplace qualifications and experience and notes that TVET colleges are primarily tasked with

preparing students for the workplace, which indicates that lecturers must have adequate work experience and qualifications concluding that lecturers who lack workplace experience will find it difficult to link lesson content with practice in the workplace situation.

A recommendation by Mesuwini, Thaba-Nkadimene, Mzindle, and Makwara (2022) is that the engagement between TVET lecturers and industry should be formalized to enable the formation of a community of practice with diverse interests, contributions, and ideas on the utility of WIL.

As further noted by (Mesuwini & Mokoena, 2023) lecturers are pivotal in shaping students' learning experiences and benefit significantly from incorporating WIL into their teaching methods and by incorporating real-world experiences through WIL, lecturers can provide their students with relevant and practical knowledge and therefore WIL can make the learning process more engaging and interactive and thus demonstrating complex concepts, illustrate best practices, and assist students in understanding how to apply gained knowledge in real-life situations.

EMPLOYERS' PERSPECTIVES ON STUDENT READINESS

Assessing students' readiness for the construction field is crucial for their employability and organizational success (Radzi et al., 2025). While National Certificate (Vocational) [NC(V)] graduates receive favourable feedback, employers often prefer NATED graduates for their perceived job-readiness and opportunities (Yamada & Otchia, 2021).

Experts suggest that construction graduates should enhance their communication skills to convey project details effectively (Nahyan et al., 2019). Increased practical experience is also recommended to build leadership skills for managing technical challenges (Kasmuri et al., 2022).

Collaborations between TVET colleges and industry are vital for achieving shared training objectives (Ramli et al., 2021). Employers emphasize the importance of various competencies for workplace readiness, including:

- Technical Skills: Proficiency in construction practices.
- Safety Awareness: Understanding safety protocols.
- Effective Communication: Critical for teamwork and client relations.
- Teamwork: Ability to collaborate effectively.
- Reliability: Meeting deadlines consistently.
- Adaptability: Responding to changing project conditions. Recognizing these perceptions can enhance training programs and promote a more competent construction workforce.

TVET CONSTRUCTION STUDENTS

Research in South Africa shows that many construction graduates struggle to meet industry requirements due to inadequate practical exposure and workplace preparation (Ntola et al., 2024). Students report concerns about a lack of guidance, poor communication, and demanding schedules (Rohanai et al., 2025). They believe the curriculum, especially in Civil and Building Construction, needs revision to better align with industry demands, as it currently fails to prepare them for real-world challenges (Nkwanyana et al., 2022).

Moreover, a lack of dedicated workspace for individual practice often results in students being assigned to observe rather than gain hands-on experience (Mtshali, 2021), indicating a significant gap in their training. This situation calls for interventions, such as increased resources and improved infrastructure, to meet the needs of a 21st-century economy (Salleh & Sulaiman, 2020). Despite these challenges, students value practical classes and prioritize them over theoretical instruction (Du Plooy & Du Preez, 2022). However, limited resources restrict individualized support from lecturers, even as they strive to create meaningful learning experiences (Mtshali, 2021).

THEORETICAL FRAMEWORK

This study investigates TVET lecturers' and employers' perceptions of the workplace readiness of South African TVET construction students, using an employability framework that highlights the skills, attributes, and qualifications essential to enhancing graduates' employability (Pheko & Molefhe, 2017). The framework specifically identifies the skills that employers consider critical for evaluating a TVET construction student's preparedness for the workforce (Pheko & Molefhe, 2017). Additionally, it emphasizes that employability is a shared responsibility among training institutions, employers, current employees, and prospective employees, as illustrated in Fig. 1 (Pheko & Molefhe, 2017).

The industry expects TVET students to possess fundamental skills and knowledge, including analytical abilities, problem-solving, creativity, and mathematical skills (Nkwanyane, Makgato, & Ramaligela, 2022). These competencies are essential for enhancing employability, a critical factor for entering the industry (Nkwanyane, Makgato, & Ramaligela, 2022). However, a significant gap exists between industry expectations and TVET colleges' outputs, largely due to insufficient emphasis on employability skills. Key skills deemed necessary for success in the construction industry include personal qualities, teamwork, communication, problem-solving, leadership, information literacy, and technological proficiency (Auta & Onwusure, 2022). Addressing this gap is crucial for improving TVET graduates' readiness to meet industry demands.

RESEARCH METHODOLOGY

To investigate the construction industry's perceptions of the workplace readiness of TVET construction students, a qualitative approach was deemed appropriate. This method allows for exploring and developing nuanced insights into industry expectations and the challenges they encounter regarding student readiness (Hollsten, 2011).

The study focused on two senior managers from the construction industry based in the Western Cape, selected for their extensive experience in hosting both NC(V) and NATED TVET students. The Western Cape was chosen for its active construction sector and its relevance within South Africa's broader industry context. A purposive sampling method was employed to align with the study's objectives and enhance the rigor and reliability of the findings (Campbell et al., 2020). Two lecturers from the TVET colleges were specifically targeted for their direct engagement with students and involvement in training. This selection was critical to obtaining representatives' insights and ensuring a focused sample that allows for depth rather than breadth (Fredler & Karee, 2011).

Data were collected through semi-structured interviews with the two TVET lecturers and the two construction industry participants. Conducted at their preferred venues to accommodate schedules, these interviews lasted up to 45 minutes and featured six open-ended questions focused on TVET students' preparedness, including challenges and expectations.

Data analysis was conducted through thematic analysis, which facilitates the identification and interpretation of patterns within qualitative data and aligns well with the study's aims. Thematic analysis involved transcribing interviews to ensure an accurate representation of participants' views. Initial themes were identified and refined through iterative review, ensuring they accurately reflected the data and were linked to the research questions and existing literature (Terry et al., 2017). This process contributed to robust findings, facilitating a comprehensive discussion of results in relation to the literature and the research's overall purpose.

FINDINGS AND DISCUSSIONS

PREPARATION OF TVET STUDENTS

The analysis revealed a disconnect between theoretical training and practical readiness among TVET construction students. Participants expressed confusion about industry expectations. Participant 1 noted that the limited duration of student placements often means only a fraction of students can cope with real-world demands.

“Understanding of what is expected from them is lacking. The certificates they receive after graduation do not help, as they are not prepared”.

In contrast, Participant 2 acknowledged the theoretical foundation but emphasized its insufficiency for practical applications. “College knowledge is good, but the building site is far different”. These insights suggest that TVET students often enter the workplace underprepared, emphasizing the need for curriculum reform. This finding aligns with Nkwanyane et al. (2022) and corroborates the notion that curricula must prioritize industry-relevant skills.

SKILLS TO FOCUS ON IN TVET PREPARATION

Both participants stressed the urgent need to update the curriculum to align with industry practices. Participant 1 highlighted discrepancies in course content regarding waterproofing, pointing out that practical applications surpass the theoretical coverage.” TVET learning material needs attention. Waterproofing has four components, and industry–standard waterproofing adds four more”. This emphasizes an urgent need for improved educational materials that reflect actual industry conditions. Additional scholars suggest that integrating practical examples into the curriculum can significantly enhance students' understanding and skill application (Mkhize & Reddy, 2025).

CHALLENGES IN STUDENT MINDSET

A significant barrier identified was students' mindset towards their education. Participant 1 remarked. “TVET students’ mindset is problematic, they do not seem hungry for knowledge, they just want certificates”. This observation highlights the need for strategies that not only enhance curriculum relevance but also inspire genuine student engagement. A lack of enthusiasm for learning can hinder skill acquisition and industry readiness, reinforcing prior studies that indicate a mismatch between educational outcomes and employer expectations (Rohanai et al., 2025).

USE OF INDUSTRY FEEDBACK

Findings also underscored the importance of developing robust partnerships with industry leaders. Participant 1 noted the need to compile employer feedback on student performance: “Build relationships and partnerships with industry through feedback.” Utilizing feedback can significantly improve curriculum development, ensuring alignment with real–world expectations. Insights from the literature reinforce this observation, indicating that effective partnerships enhance educational quality (Yamada & Otchia, 2021).

FINDINGS FROM TVET LECTURERS

Insights from TVET lecturers further elucidate the challenges faced in adequately preparing students for the construction industry. Lecturer 1 reported efforts to provide practical exposure, stating: What we are doing is giving them at least one hour a week in the workshop to gain practical exposure to the topics they cover in class”. However, Lecturer 2 expressed concerns over insufficient Work Integrated learning (WIL) exposure, particularly in NATED programmes, noting “I don’t think that the students get enough WIL exposure whilst they are studying”. Both lecturers identified a significant deficiency in practical experience, with suggestions to enhance industry partnerships to better prepare students. “More stringent relationships should be fostered between the industry construction sector and the TVET college”. The lecturers’ feedback highlights the pressing need for more integrated practical experiences for students, aligning with the literature’s emphasis on the importance of WIL in vocational training (Oosthuizen et al., 2022).

IMPLICATIONS

Overall, the research indicates that TVET institutions must shift towards offering more practical exposure tailored to the construction industry’s demands. Implementing structured feedback systems

can help align curricula with industry expectations, thereby enhancing graduates' employability.

LIMITATIONS

However, the study is limited by its small sample size, which may not fully represent the diverse experiences of all TVET institutions. Further research with broader participation could provide a more comprehensive understanding of these dynamics.

HOW DOES THIS RESEARCH ADVANCE TVET EDUCATION?

The use of the employability framework advances TVET education by focusing more on the skills and attributes essential to enhancing TVET graduates' employability, based on feedback from both TVET lecturing staff and construction industry staff. The framework identifies the skills employers consider critical, enabling TVET colleges lecturers to prepare their students accordingly.

CONTRIBUTION OR VALUE OF THE STUDY

This study will contribute to the existing body of knowledge, particularly in the construction programs being conducted in TVET colleges that require more stringent practical exposure. The findings revealed that some TVET students are not ready for industry, as they lack many of the skills required. These findings suggest strong collaboration with industry, not only in the practical aspects but also in curriculum development.

CONCLUSION

In conclusion, this study examined TVET lecturers and employers' perceptions of the workplace readiness of TVET construction students. The findings highlighted that employers who host TVET construction students consistently complain that students enter the field unprepared due to a lack of soft skills such as communication, critical thinking, and problem-solving. The TVET lecturers are strongly of the opinion that students are not adequately exposed to the construction industry during their time at the college. Building strong partnerships is encouraged to address these challenges by engaging the industry in curriculum development. Establishing robust partnerships with industry can provide ongoing support and insights, helping TVET colleges understand what is expected of them when preparing their students.

Declarations

Ethics approval

Ethical approval for this study was obtained from the **Cape Peninsula University of Technology, Faculty of Education Ethics Committee (EFEC)** (Ethics Reference No. **EFEC B-2/2020**). The study was conducted in accordance with the **Cape Peninsula University of Technology's institutional ethical guidelines and regulations governing research involving human participants**. Written informed consent was obtained from all participants prior to data collection. Participation was voluntary, and participants were informed

of their right to withdraw from the study at any stage without penalty. To protect participants' privacy, confidentiality and anonymity were maintained throughout the research process.

Consent to publish

Not applicable

Data Availability

The datasets generated during and /or analyzed during the current study are not publicly available because they contain information that could compromise participant confidentiality but are available from the corresponding author on reasonable request.

Competing interests

The authors declare that they have no competing interests

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We would like to declare that we have utilised Grammarly to enhance the quality of this paper and to correct any grammatical errors.

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Figures



Figure 1

Cycles of work readiness and support. *Adapted from Borg and Scott-Young (2020).*

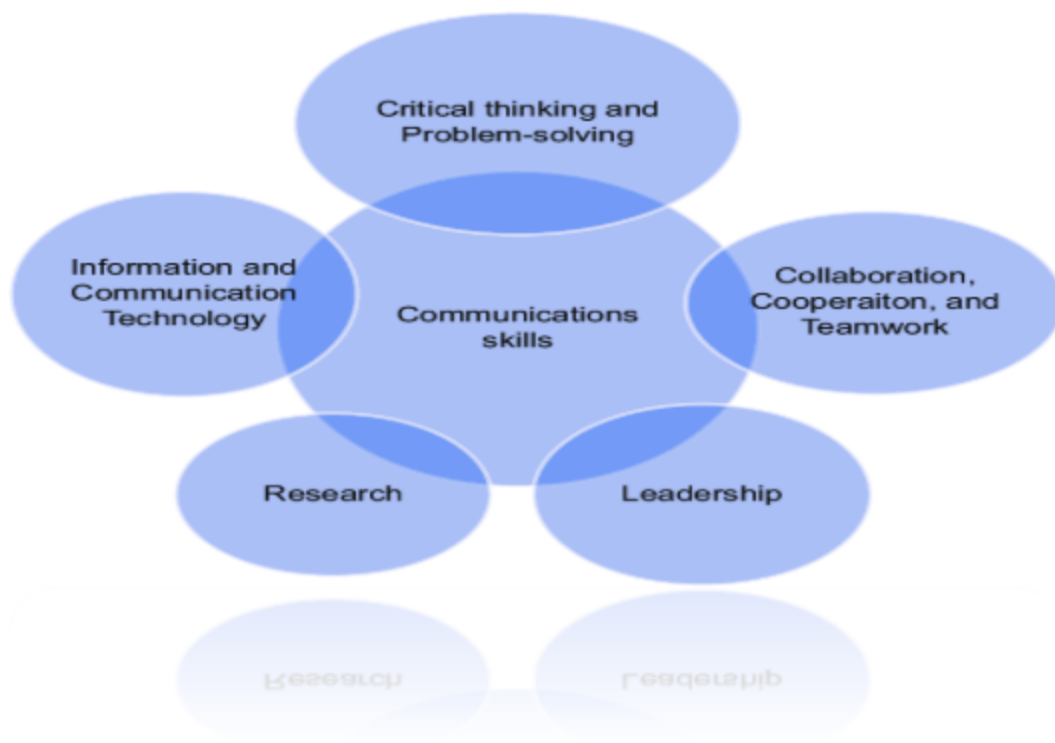


Figure 2

Employability Framework. Source: *Employability frame diagram (n.d), retrieved from ResearchGate.*