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Research Article

Technical Vocational Education and Training in South Africa: Work Integrated Learning Prospects

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ABSTRACT

Implementing Work-Integrated Learning (WIL) through internal summative assessment tasks has the potential to improve practical work within the College. Designing specific tasks for college workshop time could help students in National Certificate (Vocation) develop into skilled mid-level artisans. The Internal Summative Assessment Task (ISAT) is an educational instrument that is part of the TVET curriculum. It is a practical requirement that helps students develop specific trade skills. Based on data collected and examined independently for both qualitative and quantitative approaches through in-depth interviews and distribution of survey questionnaires to 181 TVET students. We also conducted observations during ISAT sessions, which yielded valuable insights for this investigation. The results indicated that students at a TVET college are content with both the institution and the courses provided. Nevertheless, they expressed a desire for further enhancements to the ISAT instrument to broaden their employment prospects. The study suggests that TVET stakeholders should consider the option of providing workshops with affordable tools that are adequate for facilitating creativity and critical projects. They should also be willing to engage in discussions with qualified artisans who can offer valuable advice. Recommendations of additional time to improve the ISAT tool were made, to equip individuals with the necessary skills and knowledge to navigate the global, local, and labour markets effectively.

Keywords: Internal summative assessments task; work integrated learning; technical vocational education and training.

INTRODUCTION

SIGNIFICANCE OF WORK-INTEGRATED LEARNING FOR TVET COLLEGE

A. Work integrated learning for TVET students

Work-integrated learning aims to close the disparity between theoretical knowledge gained in academia and practical experience in the professional realm. The objective is to assist students in cultivating pragmatic abilities, implementing theoretical information, and augmenting their preparedness for the labour market. This enhances their odds of employability (Wuttaphan, 2017).

1) Skills development: Many students register in National Certificate Vocational programmes to learn job skills (DHET 2023), yet in South Africa, TVET students have failed to develop these skills (Neal & Kuppuswami 2020).
2) Employment prospects: To reduce poverty and achieve long-term industrialization, it is important to build a skilled workforce of people who are good at both technical and business skills. The UN's highest level of politics (2023L/1).
3) Measure of employment: Enhancing skills training programmes with valuable skills for work and quality education, employment prospects would not be a reason (Sabharwal 2012).
4) TVET graduates and employment status: TVET college programmes have potential to alleviate poverty by enhancing the employability of national certificate vocational students however, this is not the case since South Africa has high rate of youth unemployment. South Africa considers technical schools, TVET colleges,

and Community Education and Training Colleges (CETC) to be important strategies for addressing poverty, unemployment, and inequality. (Makgato & Afeti 2020).

B. Internal Summative Assessment Tasks (ISAT) for Technical Vocational Education and Training (TVET) Curriculum

It is an internally administered assessment that assesses a variety of competencies in assigned tasks that need to be evaluated. The evaluation and direct observations aim to examine cumulative information acquired over the year (DoE, 2007b).

1) ISAT for structure: A programme that is mandatory to assist students who enrol for Level 2-4 acquire practical skills for their career. There are short assessment tasks assigned for each level to assess hands-on activities or tasks carried out throughout the year. The time allocated is minimal to enable sufficient work experience (Ishaq, 2021)
2) ISAT for work integrated learning: The practical learning component for national certificate vocational graduates it encompasses knowledge and skills the goal being that they would use their acquired skills in the job market (DHET, 2007).
3) Managing ISAT for work integrated learning: Summative assessment's goal is to determine a learner's comprehensive attainment in a specific domain of learning at a given moment. This culminating experience provides valuable insights into a learner's proficiency in a particular subject matter, knowledge, or ability (Reddy et al., 2015).
4) Proposed model to enhance work integrated learning: This model is meant to add additional practical hours to allow projects that are meaningful. Current practical time is +/- 1:30 however, this study proposes +/- 400 hrs. This is for collaborative projects as well as individual projects. Records/proof collected in a portfolio; a certificate awarded.
5) Redefining Tvet colleges: They could offer the one thing that it was meant to offer national certificate vocational students to enhance their NQF Level 4 certificates and allow employability. Students could be entrepreneurs too if these creative minds are given opportunities to showcase their talent (DoE, 2006).

METHODOLOGY

The aim of this study was to investigate a different perspective on the current ISAT model implemented at TVET colleges in South Africa for the national certificate (vocational) curriculum. We will achieve this by reviewing the current ISAT model and proposing additional ways to reorganize the ISAT management for WIL. Reviewing the phenomenon of practical training in the current ISAT model enhanced this, ensuring that students who complete a three-year programme at a TVET college obtain a high-quality TVET national certificate (vocational) certificate. The method enabled the researcher to administer non-experimental design survey questionnaires, observe, and interview various participants concurrently.

By employing a mixed-methods concurrent research methodology, the researcher acquired a profound understanding of the research problem and current circumstances, along with comprehensive data and conclusive outcomes. Researchers gain a deeper comprehension of a research topic; investigators frequently choose a mixed-methods research design. This involves integrating qualitative and quantitative methodologies within a single study or a series of studies (Creswell & Plano Clark, 2015). Combining quantitative and qualitative research allows for a comprehensive understanding by integrating various types of knowledge. Triangulation is a method of bolstering evidence for a claim by gathering data that supports it from multiple sources and bringing them together. At the interpretation and theorization stages, the researcher may face difficulties balancing and assessing the results of qualitative and quantitative data analysis.

For this research, we opted for a mixed-methods convergent approach, which involves a triangulation method of data analysis, data categories, and a strategy for data collection that includes any necessary procedures. The final concluding stage may provide convergent results, depending on the specifics of the mixed-methods study design. (Walliman, 2021). This research question is well-suited to a mixed methods approach because of the flexibility it provides. Both approaches were used to find underlying principles to arrive at a reliable conclusion (Malmqvist et al., 2019). This convergent design tends to be associated with triangulation methodology, where the researcher aims to compare two sets of findings or situations with the aim of overcoming the weaknesses of both qualitative and quantitative research by capitalizing on the strengths of both (Bryman, 2016).

Nevertheless, despite extensive studies being read and published, no study has yet investigated this potential. The primary obstacle lies in effectively equipping TVET college graduates (NCV) with vocational expertise and providing them with hands-on practical experience in their desired field. To achieve this, students must accumulate a minimum of 384 recorded practical hours.

Results and Discussions

During the data collection process for this study, the researcher employed a range of diverse methods in conjunction with each other. The researcher collected data in the field of education using questionnaires, interviews, observations, document analysis, produced data, and secondary or already existing data collection methods. Serafini (2022) asserts that presenting information from a wide variety of sources, which overlap, is

a fundamental principle of educational research, aiming to create a more comprehensive and nuanced picture of the phenomenon under investigation.

Despite the simultaneous acquisition of the quantitative and qualitative data, they underwent independent analysis based on the time orientation criterion. It is possible for these phases to be identical, parallel, nested, or multilayer, depending on the connection requirement. Participants provided the necessary information to validate the ISAT as a tool worthy of in-house practical skills.

To ensure the credibility and dependability of the findings, the data collection method relied on survey questionnaires completed by 181 students for quantitative data analysis and methodological triangulation for qualitative data analysis. This required employing a variety of methods, such as observing students at the workshop while they were working on their practical assignments, conducting in-depth interviews (both group and individual), and obtaining written replies from employers and business owners, in addition to reviewing documents that were pertinent to the investigation. Tables 1 and Figure present the data in accordance with the topics and headings of the questionnaires. The next step involves presenting a comprehensive explanatory discussion of the themes and sub-themes. Given the mixed-method design, illustrations and graphs aid in the interpretation and analysis of the data.

A. QUALITATIVE ANALYSIS

TABLE 1: THEMES AND SUB-THEMES

Research Question	Themes	Sub-themes
1. What are the hours of practical work graduates from TVET colleges need for vital work experience as perceived by lecturers?	5.5.1 Theme 1: Hours required by graduates for practical work for vital work experience as perceived by lecturers.	5.5.1.1 In-house practical tasks 5.5.1.2 Properly equipped workshops 5.5.1.3 Trained artisan lecturers 5.5.1.4 Another in-house practical programme
2. What are the hours of practical work graduates from TVET colleges need for vital work experience as perceived by employers?	5.5.2 Theme 2: Hours required by graduates for practical work for vital work experience as perceived by employers	5.5.2.1 Tasks relevance for employment 5.5.2.4. Additional training given
3. Is there an interface as defined by TVET college stakeholders? If so, what is its nature?	5.5.3 Theme 3: an interface exists between vital practical experience acquired and vital practical experience required. 5.5.3 Theme 4: The nature of the interface.	5.5.3.1 Centres for specialisation 5.5.3.2 Higher qualification requirements
4. What can TVET providers and employers do to enhance students' vital work experience?	5.5.4 Theme 5: Enhancement of students' vital work experience	
5. How can ISAT be a tool used to provide an in-house vital practical experience?	5.5.5. Theme 6: ISAT model as a tool for WIL	5.5.5.1 Restructuring of workshops and class schedules

1.1 Hours required by lecturers for vital work experience: Graduates who want to qualify at a level as an artisan, requires having done some form of practical work under a supervisor that can attest to the craftsmanship of the individual. The lecturers agreed that the current number of hours designated to practical time is less than 300 which would be deemed sufficient by many industries.

1.1.1 In-house practical tasks: Findings confirmed that practical work is an essential component for a career choice as an artisan. Time currently allocated for in-house practical work is insufficient to allow capability of the career choice. Certain tasks can be prepared by lectures, they might require the students to work in groups of two, three or four. The tasks could also be brainstormed by the students drawing their inspiration from the social needs that present themselves around their communities. However, they would have a do an individual project in their final year, with the supervision of their lecturers. This will be recorded and awarded points in relation to the various capabilities achieved through handling a task either in a group or individually.

1.1.2 Properly equipped workshops: one essential and necessary part of this success, would be to have properly equipped workshops. Lecturers felt that they could equip workshops with essential tools required for practical work easily and cheaply. This can be done as one of the practical projects as one of the trained artisan lecturers confirmed. For mid-level qualifications one can equip a workshop to afford these students with in-house practical experience.

1.1.3 Trained artisan lecturers: lecturers that qualified artisan felt that they would enjoy their time at the workshops guiding the students according to the level of their qualification ranging from basic skills that an artisan should have to competence that would allow them to be hired by the surrounding industries that are in this community.

1.2 Hours required by employers for vital work experience: The employers do not think the national certificate (vocational) is of quality as it replaced one qualification that they identified with as it required students to be placed for 18 months at an industry to gain work integrated learning.
1.2.1 Tasks relevance for employment: Hence, they have deemed this qualification as not relevant for their companies. The tasks are relevant, but it lacks sufficient practical hours. There are always many students graduating and not sufficient workplaces to place them to do their practical work. Practical Skill: Hands-on experience, Digital Literacy: Being familiar with technology in that industry, Soft Skills: Time Management, Problem-solving and critical thinking.
1.2.2 Additional training given: Both the employers and entrepreneurs opinions as TVETs should help prepare graduates not only academically but also with emotional intelligence to understand what is expected from them from a workplace and how they can contribute/add value to organizations. Characteristics that will increase one's employability besides qualifications. These are learnt when working in a group doing a project together. They learn to negotiate, collaborate, support and the most important phrase 'together we can do More, faster & efficient'.
1.3 An interface exists between vital practical experience acquired and required: The TVET colleges have placed themselves in a good position with the industries and have made strides regarding meeting industries requirements in terms of skills.
1.3.1 Centers for specialization: At these centers, all focus is on the National Accredited Technical Education Diploma students and little or none is given to the NC(V) students for whom the curriculum was designed.
1.3.2 Higher qualifications required: Industries do not know the qualification offered and the prefer bachelor's degree as this is what they can understand its nature and can relate to since they have a degree too. However, it also presents an opportunity to share the national certificate (vocational) as a preferred mid-level qualification.
1.4 Enhancement of students' vital work experience: Determining skills required for vital work experience requires good management skills and a leader that has a vision of enhancing quality and vital skills. Hence, this research explored the possibility of using what TVET colleges have to skill its students to give them options and not rely on only companies and large industries for work integrated learning and employment.
1.5 ISAT model as a tool for work integrated learning: A TVET college offering industry-aligned training, equipping individuals with a mid-level qualification that enables them to secure employment, adheres to the values of Ubuntu.
1.5.1 Restructuring of workshops and class schedules: Each worker must have specific skills and be knowledgeable in their fields. The development of NC(V) aimed to provide skilled workers in this country with a practical tool. This was the intention behind the development of NC(V)

B. QUANTITATIVE ANALYSIS

A total of 181 students participating in business studies and engineering programmes at a technical and vocational education and training college in Mpumalanga where data was collected. The questionnaire was brief, but it was devised to collect a substantial amount of information. According to the findings of the analysis, most students considered the ISAT to be an important and valuable assessment tool. Employing this tool, acknowledged as a significant resource for learnerships and work-integrated learning (WIL), can greatly benefit those seeking employment or interested in starting their own business. Proper implementation, as demonstrated by some technical and vocational education and training (TVET) institutes in the country, can stimulate students' attention and uncover their talents and creative abilities. A significant number of participants expressed the belief that it could serve as a trade test.

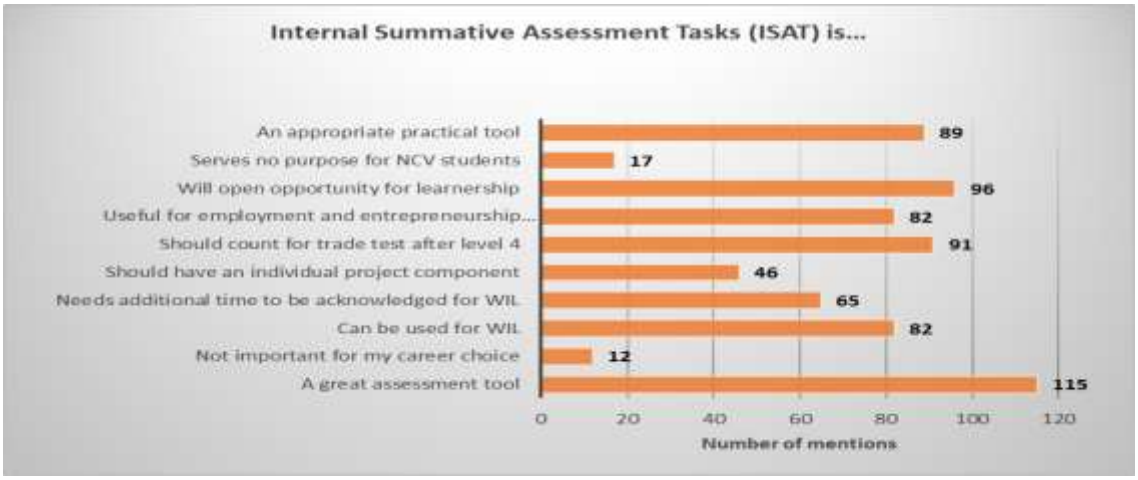

Fig. 1. Statements on ISAT

FUTURE SCOPE

The graph above demonstrates that ISAT serves as an excellent tool for career development. It is essential for them to gain any opportunity to acquire work-integrated learning to advance their career. Take note of the fact that students have a strong desire to gain the abilities necessary to get jobs. This is an essential point to emphasise. They rely on the technical and vocational education and training (TVET) colleges in their community to help them improve their situations. When colleges only alter the courses, they provide without taking into account the possibility of enhancing the existing qualification, we are betraying the very students who have placed their faith in the providers of technical and vocational education and training (TVET).

The perfect model would work as shown below:
Model for in-house practical hours.

- Level 2 – 2 months = 128 hours (8 weeks)
- Level 3 – 2 months = 128 hours (8 weeks)
- Level 4 – 2 months = 128 hours (8 weeks) + 16 hours (1 week) = 144 hours
- Total – 6 months in three years = 384 hours + (16 hours for Level 4) of mandatory own project. In total this will give NC(V) mid-level students a total of (400 hours) of in-house practical training by the time of graduation.

Researchers may conduct additional studies to facilitate the application of this tool for trade testing. Could we undertake exploratory actions to enhance the NC(V) curriculum? Further models might be established to make this approach distinctive not only for Mpumalanga but also for other technical and vocational education and training (TVET) colleges that have not been lucky enough to have relationships with companies. As a consequence of the fact that every province has its own distinct set of requirements and resources, every province would have its own one-of-a-kind method of distributing additional time to the ISAT.

CONCLUSION

Students should be able to benefit from this tool in the manner described above. However, the technology that is currently available does not adequately provide this for a significant number of students who graduate from a college after three years of study. Despite reading and publishing numerous papers, no research has yet evaluated this potential. The most significant challenge is successfully equipping graduates of technical and vocational education and training (TVET) colleges with vocational skills and providing them with hands-on practical experience in the subject that they wish to pursue. Students are required to accumulate a minimum of 384 recorded practical hours to accomplish this goal. It is expected that this task will be finished before the student graduates within the allotted time frame of three years for their education. An additional sixteen hours of in-house practice time would be made available to students at the level 4 level so that they could complete an independent project of their own. Students who have completed Level 4 will have gained 400 hours of practical experience inside the organization, which will either equip them with the skills necessary to secure gainful employment or instil in them the self-assurance necessary to start their own businesses or work for themselves. Instead of establishing a new curriculum that could potentially put many brilliant and qualified students at a disadvantage, this strategy entails making use of the resources and funds that are already in place to further increase the quality of qualification.
In addition to exposing students to concepts that are relevant to the real world, work-integrated learning (WIL) gives students the opportunity to put their knowledge to use and participate in activities that are pertinent to their future careers, thus increasing their employability (Rowe and Zegwaard 2017).

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