

# Enhancing Students' Vital Skills for Work at Technical Vocational Education and Training

Lucy Elizabeth Wanjugu Schnobel<sup>1</sup>, Vimbi Petrus Mahlangu<sup>2\*</sup>

<sup>1</sup>Department of Educational Leadership and Management, College of Education, University of South Africa, 1 Preller Street, Muckleneuk, Pretoria, 0003, South Africa, 33886385@mylife.unisa.ac.za

<sup>2\*</sup>Department of Educational Leadership and Management, College of Education, University of South Africa, 1Preller Street, Muckleneuk, Pretoria, 0003, South Africa, mahlavp@unisa.ac.za

**Citation:** Lucy Elizabeth Wanjugu Schnobel & Vimbi Petrus Mahlangu, (2024), Enhancing Students' Vital Skills for Work at Technical Vocational Education and Training, *Educational Administration: Theory and Practice*, 30(10) 625-631

Doi: 10.53555/kuey.v30i10.7015

## ARTICLE INFO

## ABSTRACT

Internal Summative Assessment Task (ISAT) is an educational tool included as a practical requirement in TVET curriculum for students to acquire skills of a particular trade. This tool has not been well utilized at (TVET) Colleges consequently, limiting the National Certificate (Vocation) (NC(V) graduates' professional prospects. This research explored prospects of acquiring (WIL) by managing Internal Summative Assessment Task as a tool that would enhance in-house practical work by preparing set tasks to be done at college in workshops to assist National Certificate (Vocation) students to qualify as capable mid-level artisan. Mixed methods convergent design was used to understand the possibility of how ISAT would be managed at (TVET) Colleges to provide additional in-house practical hours. Data was collected and analyzed separately for both methods qualitative and quantitative using in-depth interviews, with survey questionnaires were distributed to 181 TVET students. Observations were also done during ISAT and gave perspective for this research. The findings showed that students felt more could be done with the ISAT tool to expand their possibilities of employment. If the proposed (ISAT) model is implemented, it would enhance their qualification and allow a total of 400 hours of in-house practical work by end of their three years training hence qualifying as employable mid-level artisans at a (TVET) College.

**Keywords:** National certificate (vocational); skills; in-house practical; employability

## INTRODUCTION

### A. SIGNIFICANCE OF SKILLS FOR WORK

South Africa considers technical schools, TVET colleges, and Community Education and Training Colleges (CETC) to be important strategies for addressing poverty, unemployment, and inequality. 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. (Makgato & Afeti 2020).

- 1) Skills development:** Many students register in National Certificate Vocational programmes to learn job skills (DHET, 2020), 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). Well-designed TVET curricula have the potential to greatly enhance workforce development. To enhance the generation of a skilled workforce and stimulate economic growth, the South African government (SA) plans to broaden the range of courses offered by TVET colleges (Rasool, 2021).
- 4) Skills for work:** Sector Skills Councils (SSCs) are a crucial tool for the development of flexible and market-driven planning in TVET (LIMP, 2017). This facilitates the establishment of a shared understanding of the skills necessary for certain vocations, ensuring that these needs align with the demands of the labour market

by fostering connections between TVET providers and industry (LIMP, 2020). We aim to mitigate skills gaps and shortages, offer guidance on the skills required by the TVET system, participate in standard development, enhance productivity, enhance the skills of their sector workforces, and enhance the quality of learning resources (LIMP, 2020).

**5) TVET graduates and employment status:** TVET college programmes have potential to alleviate poverty by enhancing the employability prospects of national certificate (vocational) students however, this is not the case since South Africa has high rate of youth unemployment.

**6) 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.

## METHODOLOGY

This study aimed to evaluate the current ISAT model, which TVET colleges in South Africa use for the NC (V) curriculum, by exploring a fresh perspective on the model. Specifically, we accomplished this by conducting an analysis of the existing ISAT model and putting forward additional suggestions for reorganising the ISAT management for WIL. The researchers augmented this by examining the practical training aspect of the current ISAT paradigm. This ensured that students who successfully completed a three-year program at a TVET college received a TVET NC (V) certificate of superior quality. Reason of the strategy, the researchers were able to simultaneously observe and interview a number of different subjects, as well as administer survey questions using a non-experimental design. Through the utilisation of a mixed-methods concurrent research approach, the researchers were able to get a profound grasp of the study problem and the existing circumstances, in addition to acquiring comprehensive data and conclusive results. Investigators typically opt for a mixed-methods research design because it allows them to acquire a more in-depth understanding of the subject matter of their investigation. According to Creswell and Plano Clark (2015), this entails combining qualitative and quantitative research approaches within the context of a single study or a series of studies. Combining qualitative and quantitative research allows for the integration of different kinds of knowledge, resulting in a more thorough understanding. It is possible to strengthen the evidence for a claim through the process of triangulation, which involves collecting data that supports the claim from a variety of sources and then bringing them together. There is a possibility that the researchers would experience challenges when it comes to balancing and evaluating the outcomes of qualitative and quantitative data analysis during the stages of interpretation and interpretation. For the purpose of our investigation, we decided to proceed with a mixed-methods convergent approach. Our approach included a triangulation method of data analysis, data categories, and a strategy for data collection that incorporated any procedures that may be required. According to Walliman (2021), the final concluding stage may produce convergent results, but this is contingent upon the particulars of the mixed-methods study design of the research. Since it allows for a greater degree of flexibility, a mixed-methods approach is an excellent choice for answering this research issue. Both methodologies were employed in order to identify fundamental principles, which ultimately led to the attainment of a trustworthy result (Malmqvist, Hellberg, Möllås, Rose, & Shevlin, 2019). There is a tendency for this convergence design to be associated with the triangulation approach. In this methodology, the researchers compared two sets of findings or circumstances with the objective of overcoming the shortcomings of both qualitative and quantitative research by capitalising on the strengths of both (Bryman, 2016). However, despite the extensive reading and publication of 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. For students to be able to accomplish this goal, they need to acquire a minimum of 384 recorded practical hours.

## 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

Research Question	Themes	Sub-themes
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 to 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.

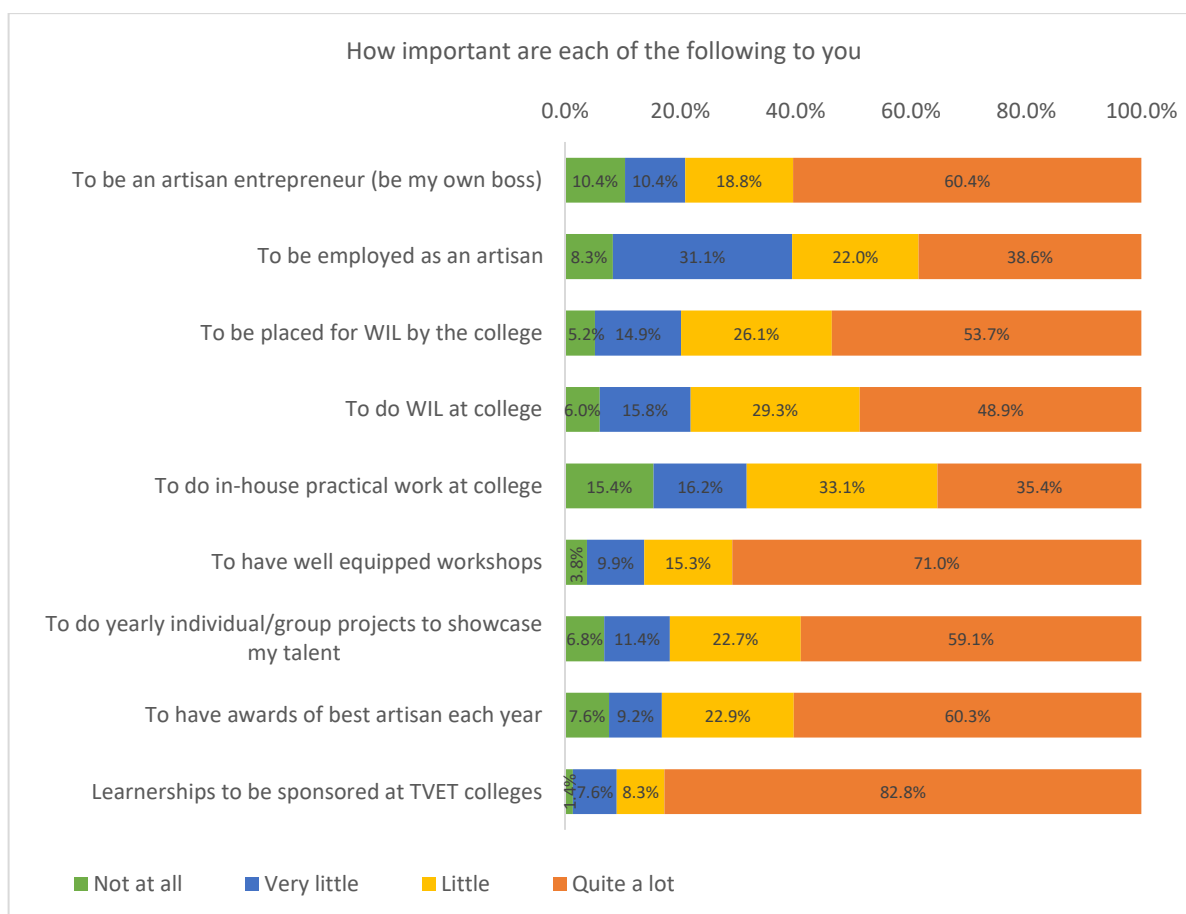
**1.4 Enhancement of students' vital work experience:** Determining skills required for vital work experience requires good management skills and a leader that has a vision of enhancing quality and vital skills. Hence, this research explored the possibility of using what TVET colleges have to skill its 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 that offers training in line with what industry requires to be able to offer employment to those holding a mid-level qualification, it complies with the ubuntu principles.

**1.5.1 Restructuring of workshops and class schedules** Every employee must possess a certain level of skills and should not only be proficient but also knowledgeable. NC(V) is a curriculum that was developed with the intention of turning out to be a practical instrument that can be used by the artisans of this country.

## B QUANTITATIVE ANALYSIS

Data was collected from N=181 students of a TVET college in Mpumalanga from both business studies and engineering programmes. The questionnaire was short but was designed to collect rich data. Analysis indicates that most students viewed ISAT as an important and valuable assessment tool. This tool has been recognized as a valuable resource for learnerships and WIL and can greatly benefit individuals seeking employment or pursuing entrepreneurship. If administered correctly as some of the TVET colleges in the country have managed to do, it could spark interest and allow talent and creativity to be revealed. It is worth mentioning that many individuals also believed that it could be considered for a trade test.



**Fig. I. Importance of various statements relating to qualifications.**

N = varied for each statement, ranged between 130 and 145

The last question the bar graph yielded intriguing findings. The variation in the number of respondents who answered the questions can be attributed to either the proximity to the end of the questionnaire or their fatigue from reading the questions and alternatives. A significant number of students would choose being supported by TVET colleges, closely followed by the option of having well-equipped workshops. The requirement to engage in WIL at college was desirable, despite the necessity of having well-equipped workshops for this purpose. The desire for autonomy and self-direction was reported by 60% of individuals. This demonstrates that upon completing their studies at a TVET college, individuals aspire to become skilled artisans and aim to be well-prepared for the workforce or business.

## B. OSERVATIONS

One important observation that the researcher noted was that practical experience is vital for the youth to either find employment or start an entrepreneurial endeavour. The observations of the workshops at the college revealed that students were very involved and focused on the task at hand. The students were so involved in this task and the lecturers confirmed that they found students more committed during this time since they enjoy working with their hands and experiencing a finishing of a final product. The capacity to communicate and find solutions to difficulties was one of the most valuable skills that students picked up when they were working on their practical projects in the workshops. They participated in group activities that helped them understand and make use of the information they were learning. The quantitative data collected revealed that students would be happy to have extra in-house practical time and challenges that would assist them to perfect their skills.

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.

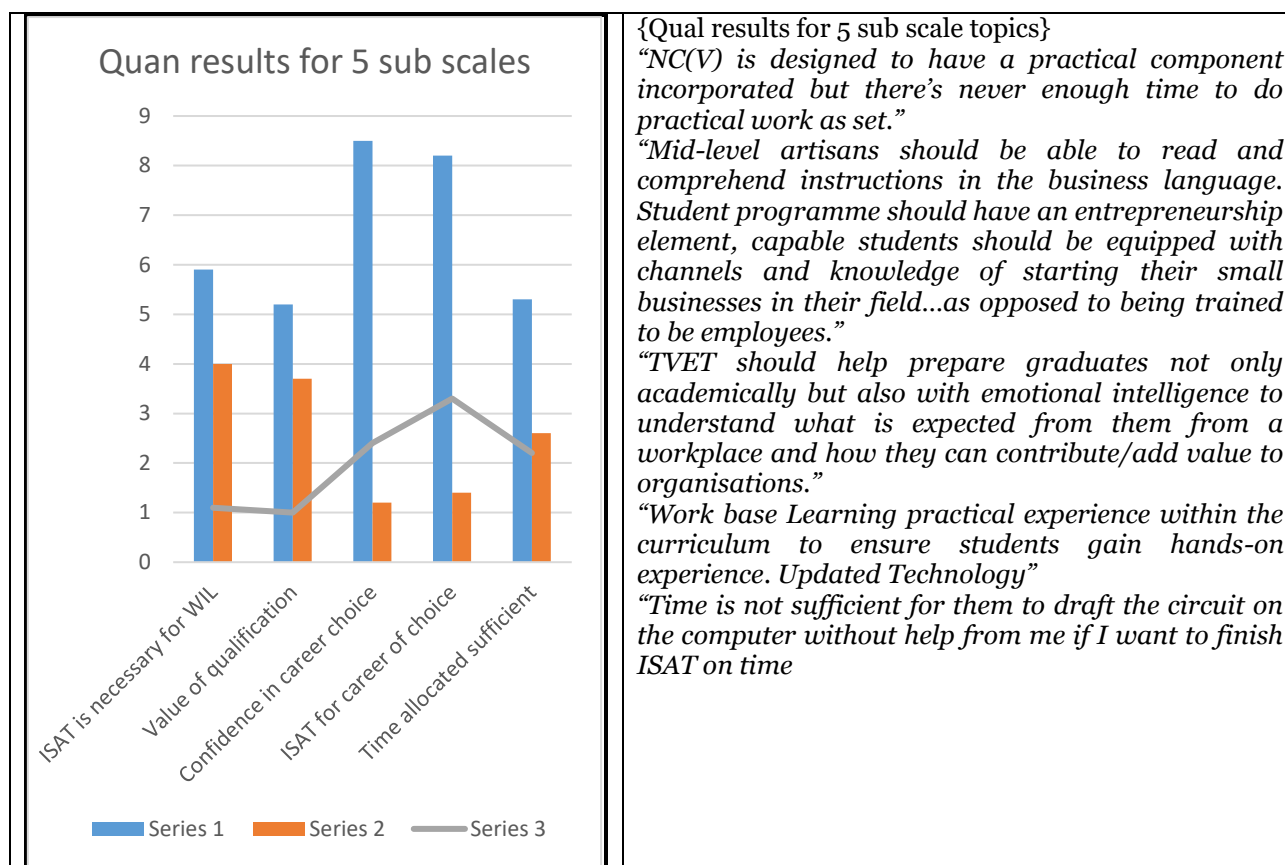
Further research could be done to facilitate how this tool could be used for trade test. What can be done as exploration to add to the NC(V) curriculum. Another model could be added to this one developed to make it not only unique for Mpumalanga, but other TVET colleges that have not been fortunate to have relationship with industries. Each province has different needs and resources differ; hence, each province would have their own unique way of administering extra time to ISAT.

## DATA ANALYSIS

This study employed a mixed-methods convergent design, which integrates both quantitative and qualitative research methods into a single project. This study utilized a convergent parallel design, allowing the researcher to gather data of both quantitative and qualitative kinds at the same time, giving equal importance to both. We conduct a separate analysis of the results, make comparisons, and subsequently combine them to create a unified entity. Typically, the researcher associates this approach with a triangulation exercise, comparing two sets of data or scenarios, focusing on identifying strengths and compensating for deficiencies (Bryman, 2016). The capacity to communicate and find solutions to difficulties was one of the most valuable skills that students picked up when they were working on their practical projects in the workshops. They participated in group activities that helped them understand and make use of the information they were learning.

For a clearer perspective, see a joint figure for convergent design:





**Fig. II. Joint figure for convergent design**

Both data presented above shows convergence in realities facing many TVET colleges where students value the tool that is available at TVET colleges to equip them with the necessary skills however it has short falls. Sithole (2019), found that TVET colleges need to focus on is its purpose, function and role in equipping the next generation of students with necessary skills to meet the needs of the society than equipping a privilege few. Convergent results were presented in a joint figure, and this was possible because the questions asked for both instruments were similar. Although, some few questions were divergent, they did not change the results since the weaknesses were offset by the strengths of the approach chosen.

## CONCLUSION

This is what this tool should offer student however, the current tool does not sufficiently provide this for many TVET student who graduate after 3 years at a college. 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 amass a minimum of 384 recorded practical hours. This task should be completed prior to graduation within the designated three-year period of their study. Level 4 students would have an additional 16 hours of in-house practice time to finalise an individual project of their own. These students (Level 4) will have acquired 400 hours of in-house practical time thus preparing them for gainful employment or giving them the confidence to strike out on their own as business owners or employees. This approach involves leveraging existing resources and budgets to improve the quality of qualification, rather than implementing a new curriculum that may put many talented and qualified students at a disadvantage. (Rowe & Zegwaard, 2017).

The quantitative data collected revealed that students would be happy to have extra in-house practical time despite the many challenges, that would assist them to perfect their skills. As realised through data collected, in-house practical experience is vital hence, TVET providers are seeking QCTO qualifications to provide practical experience. The only problem is that it will take a long time to have well established workshops with heavy duty machinery that are expensive, and many students will not be accommodated at TVET colleges. This will not be a solution to current youth unemployment.

## REFERENCES

1. Bryman, A., & Buchanan, D. A. (Eds.). (2018). Unconventional methodology in organization and management research. Oxford University Press.

2. Department of Higher Education and Training., 2020. Revised 2020–2025 Strat Plan [https://www.dhet.gov.za/SiteAssets/Planing%2cPolicy%20and%20Strategy DHET Revised 2020-2025 Strat Plan .pdf](https://www.dhet.gov.za/SiteAssets/Planing%2cPolicy%20and%20Strategy%20DHET%20Revised%2020-2025%20Strat%20Plan.pdf)
3. Labour Market Intelligence Partnership., (2020). Skills supply and demand in South Africa. [https://www.dhet.gov.za/SiteAssets/The Report on Skills Supply and Demand in South Africa - 2020.pdf](https://www.dhet.gov.za/SiteAssets/The%20Report%20on%20Skills%20Supply%20and%20Demand%20in%20South%20Africa%20-%202020.pdf)
4. Rasool, H., (2021). Rapid assessment of skilling and reskilling needs arising from the effects of COVID-19: South Africa.
5. Creswell, J.W. and Plano Clark, V.L., 2015. Designing and conducting mixed methods research (3<sup>rd</sup> ed.). Thousand Oaks: SAGE.
6. Department of Education, 2006. National policy regarding further education and training programmes: approval of the documents, policy for the national certificates (vocational): qualifications at levels 2 to 4 on the national qualifications framework (NQF). [Online]. Available at: [https://www.gov.za/sites/default/files/gcis\\_document/201409/28677.pdf](https://www.gov.za/sites/default/files/gcis_document/201409/28677.pdf)
7. Department of Education., 2007b. National Certificate Vocational. Subject and assessment guidelines, national policy on the conduct, Administration and management of the assessment of the National Certificate Vocational as promulgated.: Pretoria: Government Printer.
8. Makgato, M. and Afeti, G., 2020. New models for technical and vocational education and training. Hershey: IGI Global.
9. Malmqvist, J., Hellberg, K., Möllås, G., Rose, R. and Shevlin, M., 2019. Conducting the pilot study: A neglected part of the research process? Methodological findings supporting the importance of piloting in qualitative research studies. *International Journal of Qualitative Methods*, 18, p.1609406919878341.
10. Neal, T., & Kuppaswami, D., 2020. Skills in demand: Theory of change. [Online]. Available at: <http://creativecommons.org/licenses/by-sa/4.0>
11. Sabharwal, M., 2012. Education, employability, employment and entrepreneurship: Meeting the challenge of the 4Es. Dordrecht: Springer Netherlands.
12. The UN High Level Political Forum on Sustainable Development, 10-19 July 2023, New York
13. Walliman, N., 2021. Research methods: The basics. New York: Routledge.
14. Wuttaphan, N., 2017. Human capital theory: The theory of human resource development, implications, and future. *Life Sciences and Environment Journal*, 18(2), pp.240-253.
15. Rasool, H., 2021. Rapid assessment of skilling and reskilling needs arising from the effects of COVID-19: South Africa.