



Teacher's Views on the Relevance of Technical and Vocational Education and Training (TVET) College Curricula to Labour Market

Themba Nkwanyane^{1*}, Moses Makgato², Sylvia Ramaligela³

^{1,2} Department of Technology and Vocational Education,
Tshwane University of Technology, Soshanguve North Campus, Private Bag X07,
Pretoria North, 0116, SOUTH AFRICA

³ Department of Mathematics Science and Technology Education,
University of Limpopo, The Registrar Academic-Turfloop Campus, Private Bag X1106,
Sovenga, 0727, SOUTH AFRICA

*Corresponding Author

DOI: <https://doi.org/10.30880/ojtp.2020.05.02.004>

Received 10 July 2020; Accepted 10 August 2020; Available online 30 September 2020

Abstract: The main objectives of Technical and Vocational Education and Training (TVET) colleges is to impart skills and develop the youth and young adults with relevant skills for transition into the labour market. The realisation of these objectives can be met if TVET colleges offer relevant and responsive curricula in line with current labour market trends. The aim of this study was to present the findings of teacher's views on the relevance of National Certificate Vocational (NC V) civil engineering curriculum to labour market. A qualitative case study was employed in this study. This research study was conducted through a semi-structured interviews with twelve teachers from four TVET colleges in South Africa. Activity theory framework was employed as a lens to study teachers' views on the relevance of curricula content. Study findings revealed that: 1. Teachers perceive that NC V civil engineering curriculum does not provide adequate skills for the labour market 2. The NC V civil engineering curriculum need to be revised and updated as a matter of urgency. Therefore there is an urgent need to review and update the NC V civil engineering curriculum in line with labour market development. The researcher recommend that NC V civil engineering curriculum reviewal process need to involve the Department of Higher Education and Training (DHET), subject specialist, industry experts and all other stakeholders. Failure to address this issues will result in South Africa's TVET colleges offering irrelevant and outdated curricula content which lags behind in the modern era of technological advancement.

Keywords: TVET, National Certificate Vocational, curriculum responsiveness, labour market

1. Introduction

The relevance of Technical and Vocational Education and Training (TVET) colleges to the labour market sector is essential for the upliftment of the economy and provision of crucial skills. Moreover, the quality provision of technical vocational education is vital for the development of skills and knowledge to meet the rapid changes of the labour market. Developed countries such as Germany have an advanced vocational education system in line with the rapid advancement of the labour market (Kuczera & Jeon, 2019). This developed countries constantly review their college curricula for relevance and responsiveness with technological changes as well as with labour market changes. However, developing countries encounter challenges to review and update their TVET college curricula for relevancy with labour

market and technological changes. Research studies have indicated that developing countries TVET college curriculum are not relevant with the needs and requirements of the labour market (Albashiry, Voogt & Pieters, 2015). However, developing countries encounter challenges to review and update their TVET college curricula for relevancy with labour market and technological changes. Research studies have indicated that developing countries TVET college curriculum are not relevant with the needs and requirements of the labour market (Albashiry, Voogt & Pieters, 2015).

Technical and vocational education and training across the globe is viewed as a key for skills acquisition that prepare individuals for entry into the labour market. Moreover, vocational education and training provides valuable skills to individuals for entry into the labour market as well as improve their chances for a successful career path (Nzonzo, 2017). Essentially, vocational education and training refers to the measures in which individuals attain skills for better employment and better earnings. South Africa is no exception to this as more emphasis is put on vocational education and training. For instance, the department of higher education and training (DHET) declared in the White Paper for Post School education that the main objective of TVET colleges is to empower and provide the youth and young adults with the skills and knowledge for transition into the labour market (DHET, 2013).

However, South Africa's TVET college sector does not provide adequate skills as required by the White Paper due to challenges such as lack of curriculum responsiveness to the labour market (Lolwana, 2016). This challenges are overwhelming as the TVET sector lacks quality training (Badenhorst & Radile, 2018). Previous studies conducted in South Africa's TVET sector revealed that curriculum is outdated and does not align with industry development (Papier, 2017). For instance, the TVET curriculum is reported to be higher and too complex for students hence this indicates the lack of curriculum upgrading (Badenhorst & Radile, 2018). Therefore, the responsiveness of TVET colleges to the labour market cannot be achieved due to a lack of regular upgrading of the curriculum.

A relevant vocational education curriculum content is a curriculum which should provide students with the opportunity to develop vocational skills in their chosen occupations (Hiim, 2017). For this reason, TVET colleges must ensure that vocational curriculum offered are relevant and respond to labour market requirements (Engelbrecht, Spencer & van der Bijl, 2017). To ensure that TVET curriculum remains relevant with the labour market changes continuous renewal and constant involvement of labour market in the redesign process is required (Albashiry, Voogt & Pieters, 2015). Similarly, curriculum planners need to review TVET curriculum at interval of five years to maintain the relevancy of the curriculum (Ngure, 2013). To that end, TVET colleges must respond effectively to labour market changes as well as with technological advancement such as the fourth industrial revolution.

2. Responsiveness of TVET Colleges to the labour market

The need for technical vocational education and training across the globe are enormous because of the changes that takes place in the labour market (OECD, 2010). Hence, it is imperative for any country to make great effort to develop and advance their TVET college sector in order to enhance its relevance to the labour market. Majority of countries across the globe recognize that TVET college sector play an important role for economic development. Countries such as Germany, Switzerland and Australia have a well-developed TVET college sector that play a central role in the economy (Protsch, & Solga, 2016).

Technical and vocational education and training refers to the study of techniques related to occupations in various sectors of the economy that provides basic knowledge and skills necessary for entry into the labour market. In the same vein Maclean and Pavlova (2013) concur that vocational education provide basic knowledge in humanities and sciences by providing skills to students for work in various occupations as well as to be problem solvers. Hence, it is important for individuals to acquire vocational education qualifications to improve their employment prospects (OECD, 2010). Therefore, by attaining vocational qualifications individuals acquire skills that are needed in the labour market and are afforded opportunity for self-employment (Amedorme & Fiagbe, 2013, Okwelle & Deboom, 2017). However, TVET institutions need to respond effectively to labour market requirement as well as changes that takes place in the labour market sector. For this reason, this study sought to explore teacher's views on the relevance of technical and vocational education and training (TVET) college curricula to labour market.

3. Technical and Vocational Education and Training (TVET) college partnership with the labour market

Majority of countries in Europe TVET education system involve the private sector and labour market play a leading role to ensure that TVET college sector uplift the economy (UNESCO, 2018). Country such as Finland vocational curricula are drawn up in conjunction with partners from different fields which comprises representatives and experts from the labour market as well as teachers and students. The quality of vocational education depend on the involvement, and the cooperation of TVET colleges and the labour market (Odora, 2011). In order for vocational education to be effective partnership with the labour market must be established to enable TVET institutions to comply with the labour market requirements (Eze & Okorafor, 2012).

However, it is argued that in African countries there is no formal involvement between labour market and TVET college sector (Lolwana, 2016). Similarly Badenhorst and Radile (2018) concur that in South Africa, the TVET college sector suffers from inadequate partnership with the labour market. Therefore, the lack of partnership between TVET

institutions and the labour market, results in TVET offering curriculum that is not relevant to labour market requirements (OECD 2019, Ranhman & Raihan, 2013). Technical and vocational institutions suffers mostly as the partnership between TVET institutions and the labour market is not effective. Due to the lack of industry partnership, there is a mismatch of skills as students possess qualifications that do not meet requirements of the labour market. Similarly, research findings of Chamadia and Shahid (2018) assert that skills taught in TVET institutions do not match with skills demanded by the labour market. Therefore, the employability of TVET graduates is affected by mismatch of skills as the acquired skills do not match appropriately with the demands of the labour market (Pongo, Effah, Owusu, Obinnim & Sam, 2014).

Ranhman and Raihan (2013) assert that closer relationship between TVET institutions and the labour market is very important in order to align TVET curriculum with the skills need of the labour market. To this end, the involvement and collaboration between the TVET institutions and the labour market should be established so that TVET curriculum are in line with labour market requirements. In this regard, the involvement of the labour market in the TVET college sector is imperative to enhance quality of training and to ensure that required skills are compatible with the labour market requirements (Odora 2011, Ngure 2018).

4. Research question

This study aimed to understand the teacher's views on the relevance of NC V civil engineering curricula to labour market. Therefore, this study was guided by the following research question.
How is the curricula content in the NC V civil engineering programme being relevant and responsive towards the labour market?

5. Methodology

In order to investigate the teacher's views on the relevance of NC V civil engineering curricula to labour market this study employed a qualitative approach. Qualitative research approach was selected as the researcher sought to explore and understand the teacher's views from their location. Purposive and convenience sampling was utilized to select twelve teacher's from four TVET colleges to take part in the study. The four TVET colleges covered in the study comprised two TVET colleges in Gauteng province, one TVET college in North West province and one TVET college in Limpopo province in the Republic of South Africa. A face to face semi-structured interviews was conducted with the twelve teachers. The interview session was recorded with a tape recorder and lasted about 15-30 minutes. Qualitative data was analyzed manually by transcribing the interviews. Responses supplied by teachers were sorted separately through grouping similar patterns, words and categorizing similar views. Verbatim quotations were used to report results and to retain the original data. Data were then coded according to a process of open coding, analyzed and discussed thematically.

To ensure that study findings are true and reflected participant's views, trustworthiness of interview schedule was attended to by making sure that credibility, transferability, confirmability and dependability of interview were addressed in this study. To ensure credibility of the study, the researcher accurately transcribed the interviews and the interviews transcripts were taken back to the research participants for verification purpose. The research participants confirmed the contents of the transcript as true reflection of their views. To confirm transferability, prior to commencement with the study a pilot study was carried out at a different TVET institution. This was done to ensure that study findings can be applied to similar situation and deliver similar findings (du Plooy-Cilliers, Bezuidenhout & Davis, 2014). Confirmability of the interviews was established by making sure that all the data collected was accurately captured and interpreted correctly during data collection stage. The researcher ensured dependability by making sure that all the research process steps were followed and all the records of the research were made available.

Ethical issues in social studies are one of the key imperatives as it requires that consent and participation is obtained from the participant who are to take part in the research (Cohen, Manion & Morrison, 2011). Participants were not to be coerced to take part in the study, it was their own will to participate in the study. In order to begin with the research study permission was requested directly from the four TVET college principals. Upon approval the study commenced immediately with data collection. Informed consent letter were distributed to research participants and the research objectives was explained to participants.

6. Activity Theory Framework

Activity theory (AT) is one of the most common framework that researchers across different fields utilize to analyse studies. The activity theory investigates human activity in a specific setting such as workplace or learning institution. Hence, to investigate teacher's views on the relevance of TVET college curricula to labour market this paper adapted activity theory framework as modified by Engeström. The activity theory system consist of components such as (1) mediating artefacts (tools), (2) object, (3) division of labour, (4) community, (5) rules and outcomes (6) subject (Engeström, 2001).

The components of the activity system are clarified by Engeström (2001) as follows; mediating artefacts mediate the object of activity. They can be external materials (e.g. a textbook or computer) or internal, symbolic (e.g. language). Tools take part in the transformation of the object into an outcome. Object is the raw material or problem space at which the activity is directed and which is molded into outcomes with the help of physical and symbolic, external and internal tools. The division of labour is the division of tasks and roles among members of the community. The divisions of power and status refers to the participants of an activity system who share the same object. Community refers to the participants of an activity system who share the same object. Rules are explicit and implicit norms that regulate actions and interactions within the system. Subject is the individual or group whose viewpoint is adopted.

This study focused only on the five components of the activity system. The five components were adapted and applied in the study as follows: Mediating artefacts refers to the NC V civil engineering curricula which is used as a tool to mediate learning. The focus of this study was to discover if the NC V civil engineering curricula content offered in TVET colleges is relevant and responsive to the labour market. Object refers to the NC V civil engineering content knowledge that is transferred to the students. The main emphasis is on students to acquire skills and knowledge for transition into the labour market. The division of labour refers to the partnership between TVET colleges with the labour market. The study focused on finding out if the NC V civil engineering curriculum is aligned with the labour market requirements. Community refers to all the TVET institutions that were involved in the study. Only four TVET colleges were part of this study. Subject refers to the teachers who play an active role to execute activity of teaching and learning. Thus the study sought to establish teacher's views on the relevance of TVET college curricula to labour market.

7. Results

Results are presented to understand teacher's views on the relevance of NC V civil engineering curriculum to the labour market. The first part of the interviews explored subjects that teacher's offer in their respective colleges.

7.1 Subjects offered by teachers

This section sought to understand vocational subject that teachers offer in their respective TVET colleges. Majority of teachers indicated that they teach more than one subject with combination of subjects in different levels. Teacher's responses are as follows:

I'm teaching Carpentry and Roof-work level 2 level 3 and level 4 for the same subjects
Plant and Equipment level 2 and level 3 Materials level 3 Construction Supervision level 4
Construction planning level 2, 3 and 4 plus materials level 4

The following themes were used to present results that emerged from face to face semi-structured interviews with the teachers.

7.2 No adequate practicals for the workplace

Teachers were asked whether the NC V civil engineering curricula provides adequate skills for the labour market. Majority of teachers indicated that NC V civil engineering curricula does not provide adequate skills for the labour market. Teachers acknowledge that they do not have enough time to conduct practical activities. Their responses are the following:

- We not do enough practical work we only have three hours per week per subject so this is not enough practice for the students.
- Not really they spend most of the time in class rather than doing practicals.
- In most cases we are not having enough time to do this practical skills.
- I cannot say they are adequate they still need to be taught most of the skills that are needed in a workplace.

7.3 Curricula content need to be revised

Teachers were required to state their views about the relevance of NC V civil engineering curriculum design to students'. The majority of teachers acknowledged that NC V civil engineering curriculum is difficult for students and must to be revised. Some of their responses are the following:

- It needs some revision yes it needs to be revised so that it keeps abreast with the development in industry.
- I think this curriculum design is very heavy for NC V students looking at the entrance requirements.
- It does not suit all the students and the standard of NC V is too high for student.

7.4 Expectation of the industry

Teachers were required to elaborate whether NC V civil engineering curriculum is aligned with labour market requirements. Most of the teachers alluded that NC V civil engineering curriculum is not aligned with labour market requirements. Below are some of their responses:

- Is having challenges industry is like they don't believe that students from the NC V have been trained at the college to be ready to work so we still have that challenges to close the gap between the college and the industry.
- People from the industry have raised complaints that they find that our students do not meet their expectations but in terms of theoretical theory they are okay students are okay but the problem is the practice the practicals.
- Not that much industry is too high expectations.
- It doesn't give them enough for the workplace because they spend only a small portion of time in the workshop.

7.5 Inadequate time for practical activities

Teachers were required to elaborate whether practical activities conducted in the college workshop address all the aspects required in the labour market. Majority of teachers indicated that NC V civil engineering curriculum does not address all the aspects required in the labour market. Teachers acknowledged that time is not adequate enough to cover practical's activities in the workshop instead they focus more on theory in class. Some of their responses are the following:

- The year is too short we only teaching them skills the time is not adequate enough.
- It does not address aspect that are required in industries they don't get full practical because of time allocated.
- Is not address all the requireds in industries.
- In the college here we don't have all the resources to say now we can train this students so that they can be ready to go to the industries.

8. Discussion

The study findings indicated that TVET colleges in South Africa are faced with a number of challenges. This study established that TVET colleges do not conduct adequate practical activities. The NC V curricula content does not provide adequate skills required for the labour market. This is due to the lack of adequate time to conduct practical activities in the college workshop. Hence, students lack practical skills, lack basic mathematical skills and lack design skills for entry into the labour market. These views are consistent with a study of Papier (2017) who found out that employer's expressed concern about the quality of training in TVET institutions as graduates lack practical skills when they are taken into the labour market. However, skills such as communication, thinking and problem solving are regarded as a top priority by the labour market sector (Haron *et al.*, 2019).

Furthermore, the NC V civil engineering curricula content is found to be outdated. The outdated curricula content include sections or topics such as timber formwork, measuring and building using the old method, engineering drawing, and mechanical concepts such as automotive repair. In the NC V curriculum timber formwork to erect columns is used instead of steel formwork. Therefore, the timber formwork must be updated to steel formwork that is currently used in the industry. The old method of measuring and building structures is still utilized in the NC V curriculum, whereas in the industry digital measuring instruments are used. It is vital to update the old method of measuring and building structures with the latest modern technology used in the industry. Moreover, the NC V curriculum contains engineering drawing content which is the discipline of mechanical engineering. To update this content effectively building drawing which is more into civil engineering need to be added into the NC V curriculum.

Moreover, findings indicated that NC V curriculum content was not aligned with labour market requirements. The expectation of the industry are very high. As a result, the NC V curriculum does not meet the expectation of the industry. The NC V curricula content lacked to equip students with adequate practical skills, technical skills and does not expose students to modern technology used in the labour market sector. The labour market sector requires TVET students to possess requirements such as ability to comply with occupational health and safety; ability to use tools and equipment effectively; ability to communicate effectively with others; be able to read, interpret drawings and calculate quantities. This findings are supported by Engelbrecht, Spencer and van der Bijl (2017) as the authors maintained that large part of learning in NC V curriculum is grounded on theory work in the classroom.

With regard to the relevance of NC V curricula content, the study findings revealed that curricula content must be revised and updated urgently. This is due to the curriculum being difficult and at a higher level for the students. For instance, in the subject such as plant and equipment findings indicated that civil engineering students are taught complex content of mechanical engineering such as automotive repair and engineering drawing which is irrelevant to civil engineering field. Therefore, it is advisable to reduce the content of mechanical engineering and update with the modern sections of civil engineering such as building drawing and green technology in buildings. Similar research supports this view that NC V curriculum is pitched at a higher level and the contents are too complex for students (Badenhorst & Radile, 2018).

9. Conclusion

This study sought to explore teacher's views on the relevance of TVET college curricula to labour market. The results of the study discovered that NC V civil engineering curricula content is not relevant and responsive towards the labour market requirements. The relevance and responsiveness of South Africa's TVET colleges to the labour market cannot be achieved due to a number of factors such as: 1. Inadequate practical activities for the workplace are prevalent in TVET colleges 2. The NC V civil engineering curricula content is inadequate and does not provide the required skills for the labour market 3. The NC V curricula content is too complex and is pitched at higher level for students 4. The curricula content is not aligned with the labour market requirements 5. Time allocated for practical activities in college workshop is insufficient to cover all skills required by the labour market. The rapid changes of the labour market and the continuous advancement of technology has brought remarkable changes in the TVET college sector. Hence, there is an urgent need for TVET college sector in South Africa to review and update the NC V civil engineering curricula content in line with labour market requirements. These changes need to be addressed in line with the fourth industrial revolution. The curriculum review process needs to involve the Department of Higher Education, TVET colleges, industry experts, curriculum experts and all other stakeholders. Failure to address this imbalance will result in TVET colleges to offer irrelevant and unresponsive curricula that is not in line with demands of the labour market.

Acknowledgement

We are thankful to all quarters who have contributed to the research.

References

- Albashiry, N. M., Voogt, J. M., & Pieters, J. M. (2015). Teacher collaborative curriculum design in technical vocational colleges: a strategy for maintaining curriculum consistency? *The Curriculum Journal*, 26(4), 601-624
- Amedorme, S.K. & Fiagbe, Y.A.K. (2013). Challenges Facing Technical and Vocational education In Ghana. *International Journal of Scientific & Technology Research*, 2(6): 253-255
- Badenhorst, J. W., & Radile, R. S. (2018). Poor performance at TVET Colleges: Conceptualising a distributed instructional leadership approach as a solution. *Africa Education Review*, 15(3), 91-112
- Chamadia, S., & Shahid, M. (2018). Skilling for the future: evaluating post-reform status of "skilling pakistan" and identifying success factors for TVET improvement in the region. *Journal Of Technical Education And Training*, 10(1)
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research Methods in Education*. 7th edn. London: Routledge
- DHET, D. (2013). *White Paper for Post-School Education and Training: Building an expanded, effective and integrated post-school system*. Department of Higher Education and Training, Pretoria, South Africa
- du Plooy-Cilliers, F., Davis, C., & Bezuidenhout, R. (2014). *Research matters*. Cape Town: Juta, 25-31
- Engelbrecht, M., Spencer, J., & van der Bijl, A. (2017). Relevance for work in the Western Cape tourism industry of the National Certificate Vocational in tourism education at TVET colleges. *Industry and Higher Education*, 31(5), 328-334
- Engeström, Y. (2001). Expansive learning at work: Toward an activity theoretical reconceptualization. *Journal of education and work*, 14(1), 133-156

- Eze, T. I., & Okorafor, A. O. (2012). New approaches to the development of technical, vocational education and training (TVET) curriculum for improved labour productivity. *International Journal of Education Research*, 12(1), 101-108
- Haron, M. A., Hussain, M. A. M., Zulkifli, R. M., Nashir, I. M., & Ma'arof, N. N. I. (2019). EMPLOYABILITY SKILLS NEEDED BY VOCATIONAL COLLEGE GRADUATES: FEEDBACK FROM THE INDUSTRY. *Journal of Technical Education and Training*, 11(4)
- Hiim, H. (2017). Ensuring curriculum relevance in vocational education and training: Epistemological perspectives in a curriculum research project. *International journal for research in vocational education and training*, 4(1), 1-19
- Kuczera, M., & Jeon, S. (2019). Strengthening collaboration and consolidation of vocational education and training provision in Sweden
- Lolwana, P., & Ngcwangu, S. (2016). Understanding barriers to youth skills development and employment in South Africa
- Maclean, R., & Pavlova, M. (2013). Vocationalization of secondary and higher education: pathways to the world of work. *Revisiting global trends in TVET: Reflections on theory and practice*, 40
- Ngure, S. W. (2013). Where to Vocational Education in Kenya? Is Analysing Training and Development Needs the Answer to the Challenges in this Sector? *Journal of Education and Vocational Research*, 4(6), 193-204
- Ngure, S. (2018). A Proposed National Model of Vocational Education and Training for Micro and Small Enterprises in Kenya. *International Journal of Vocational Education and Training Research*, 4(1), 28
- Nzozzo, J. C. (2017). Vocational education training and graduate employability in South Africa: an interlinkage in need of exploration. *International Journal of Sustainable Society*, 9(1), 4-19
- Odora, R. J. (2011). Employers' perceptions regarding the quality of technical education and training in Southern Africa: a case of the Botswana Technical Education Programme. *Journal for New Generation Sciences*, 9(2), 87-100
- Oecd, O. E. C. D. (2010). *Factbook 2013: Economic, environmental and social statistics*. Organization for Economic Cooperation and Development, Paris
- Okwelle, P. C., Deebom, M. T., Harcourt, P., & Okwelle, P. C. (2017). Technical vocational education and training as a tool for sustainable empowerment of youths in Niger Delta, Nigeria. *International Journal of Innovative Social & Science Education Research*, 5(1), 29-38
- Papier, J. (2017). Improving college-to-work transitions through enhanced training for employment. *Research in Post-Compulsory Education*, 22(1), 38-48
- Pongo, N. A., Effah, B., Osei-Owusu, B., Obinnim, E., & Sam, F. K. (2014). The impact of TVET on Ghana's socio-economic development: A case study of ICCES TVET Skills training in two regions of Ghana. *American International Journal of Contemporary Research*, 4(1), 185-192
- Protsch, P., & Solga, H. (2016). The social stratification of the German VET system. *Journal of Education and Work*, 29(6), 637-661
- Rahman, M. M., & Raihan, M. A. (2013). Eradicating Prime Problems of TVET for Ensuring Worth Human Resources in Bangladesh. *International Journal of Engineering Sciences & Research Technology*, 2(10), 2872-2879

Terblanche, T., & Bitzer, E. (2018). Leading curriculum change in South African technical and vocational education and training colleges. *Journal of Vocational, Adult and Continuing Education and Training*, 1(1), 104-125

UNESCO. International Centre for Technical and Vocational Education and Training (UNESCO-UNEVOC) National Centre for Vocational Education Research (NCVER). (2018). TVET country profile: Australia