Exploring Academic Performance Leading to Engineering Students' Dropout in the Context of South African Technical Vocational Education and Training Colleges.

PATRICK MAREME SEROKA

Department of Educational Leadership and Management, University of South Africa, South Africa, 47100044@mylife.unisa.ac.za

MMALEFIKANE SYLVIA SEPENG

Dept Education Leadership and Management, University of South Africa, South Africa, sepenms@unisa.ac.za, https://orcid.org/0000-0002-4472-169X

Abstract

The major goal of this study was to determine the root causes of a Technical Vocational Education Training College's high failure and dropout rates. A high dropout rate for engineering students has been experienced in the past few academic years and a survey was conducted to determine the reasons for this. Besides establishing the causes of high dropout, the study focused on the implementation of academic activities and strategies to minimize the high dropout rate. Social critical theory was the theoretical foundation for this investigation. Sixteen (16) participants were purposefully selected to participate in face-to-face interviews as a method of collecting relevant data. While data was being collected qualitatively through interviews, data analysis began and was continued on completion of the interviews from which transcriptions were made. Transcription was followed by coding to develop themes used as findings in the study. Findings showed that poor academic performance leads to a high dropout rate accompanies by a lack of teaching and learning resources, a poor living environment, the Covid-19 pandemic, financial challenges and a lack of expertise in mathematics and physical sciences. In response, the following recommendations were made develop policies to deal with and manage students' absenteeism; strict application of rules on admission policies which outlines requirements for enrolling engineering students; and improving methods of making resources available at the Technical Vocational Education Training College's.

Keywords: Admission policy, enrolment, dropouts, inadequate resources, student attendance, certification, retention rate.

INTRODUCTION

Technical Vocational Education and Training (TVET) colleges' results have not received recognition and publicity the same way as those of public schools, for example the lauding of the annual matric results. This denotes the stigma attached to stakeholders like students and their lecturers in that TVET colleges status is perceived to be of a lower standard than the education provided by public schools. It would, however, be inappropriate to shift blame solely to TVET colleges' inability to produce capable graduates when the problem seems to be inherited from the poor quality of education offered at public schools. Some literature revealed that poor results are symbolic of the inadequate schooling system in South Africa (Rogan & Reynolds, 2016). According to the Public Servants Association (n.d.), the "large numbers of students who drop out in their first year of studies is due to the failure of the schooling system adequately to prepare them for [post-school] education". South Africa faces several problems in engineering education, such as equality of access and success for black African students, inclusion, studying costs and dropout of academically eligible students (Maphosa,M et al , 2023).

The high dropout rate at the college level has a history which has been documented even in the international arena. "Higher education has a disturbing 52 per cent drop-out rate among students, which undermines the access

gains of post-apartheid South Africa. Our graduation rate of 15 per cent is among the lowest in the world." (PSA, nd). Dropping out of college is a worldwide phenomenon. For example, in Germany, approximately every fourth apprentice terminates their vocational education and training (VET), although only a small share are permanent dropouts (Wydra-Somaggio, 2021). In Denmark, about 19% of a youth cohort starts a VET programme, but only 50% of the students complete their programmes (Thøgersen et al., 2020). In rural China, the student dropout rate is recorded at 15% (Gao, 2010) while in Bangladesh and India, the dropout rate recorded in those countries was found to be high (Latif, Choudhary & Hammayun, 2015). As a continent, Africa has much higher dropout rates. For example, Chad, Uganda and Angola have registered high levels of dropout rates with 72%, 68% and 68% (UNESCO, 2012) while a 37,6% dropout rate is recorded in South Africa (DHET, 2015). Findings by Mokoena and Van Breda (2021) found that, in South Africa, teenage pregnancy, illnesses and immigration contributed to the high dropout rates. Parents, educational institutions and the government need to contribute towards reducing dropout rates which are currently alarmingly high.

The Department of Higher Education and Training (DHET's) mission is to increase enrolment in engineering programmes, keep students in class until completion of the programmes which indirectly impact on combatting unemployment, improve skills and alleviate poverty. There is clear evidence that governments in most countries are increasing their investments in education. Such investment is important and should be a priority (DHET 2023).

PROBLEM STATEMENT

The researchers objectively explored why engineering students do not complete their studies. In South Africa and other countries, the problem of high dropout rates in TVET colleges is a major challenge affecting students.

The mandate of the DHET is to ensure more registrations to reduce poverty, enhance skills and tackle unemployment in engineering studies. However, few students succeed in completing their National Accredited Technical Education Diploma (NATED) at the Mpumalanga TVET College which is the focus of this study. Dropping out is a bad practice among the students. The phenomenon of dropping out counteracts the strategic vision of TVET institutions as centres for acquiring training and skills. Because of this failure, the TVET colleges will not be able to meet the NDP 2030 goals of increasing the number of artisans required by industry.

The factors that could have an impact on TVET students' academic performance were studied. The study examined whether deficiencies in lecturer resources, student intake recruiting, access to modern technology, assessment quality, student support infrastructure and instructional materials were to blame for the institution's poor graduation rate. The underlying reasons for the difficulties must be found. According to the researchers, it is necessary to put measures into place to address the problems affecting engineering students' academic performance at TVET colleges.

South Africa has one of the highest rates of college dropouts in the world, mostly because so many first-year students abandon their studies or do not complete the courses in which they are enrolled. Understanding the reasons why so many students drop out of college can help us devise strategies for preventing this from happening.

The researchers believe that in order to be able to implement strategies to resolve the challenges of the student dropout rate at the TVET colleges, it is important to identify the underlying causes of the challenges.

MAIN RESEARCH QUESTION

What are the factors responsible for the poor academic performance of TVET college engineering students that lead to dropout?

RESEARCH OBJECTIVES

- To identify factors that are the source of poor academic performance of TVET college engineering students that lead to dropout.
- To frame strategies to address academic performance in order to eradicate the high dropout rate.

LITERATURE REVIEW

CAUSES OF STUDENT'S DROPOUTS

South Africa is in desperate need of engineering graduates and if TVET colleges are unable to produce such graduates, the economy suffers. The DHET must devise a way to prevent students from dropping out through TVET colleges until they graduate. For students themselves, to become a dropout is a serious embarrassment and self-indignation that lives on for a longer period. Many authors have defined the dropout phenomenon, but this study adopts the definition extracted from the UNESCO (2009). Social support for students is key to their success in academic development and performance. The relationship between the teaching staff and their students should

be cordial at all times. Thus, supportive learning has been identified as a comprehensive and sustainable strategy aimed at boosting the quality of education in centres of higher learning (Pirzada, 2022).Institute for Statistics which states that the dropout rate is the proportion of students from a cohort enrolled in a given academic year who are no longer enrolled in the following year. In the South African context, a dropout is defined as someone who leaves college before completing a given year (Wegner, Flisher, Chikobvu, Lombard & King, 2008). Dropouts may spend all day without being productive and idle time can lead to things like delinquency such as daytime burglary, robbery, bullying, and drug abuse (Enyjirorii, 2015) which have negative outcomes on themselves and their communities. Students need to be encouraged to complete their courses as their skills are needed by the South African government to assist with growing the country's economy (Ndofirepi, Farinloye & Mogaji, 2020).

HIGH PREGNANCY RATE AMONGST STUDENTS.

A notable number of articles have investigated students' dropouts but the factors, reasons and strategies of mitigating dropping out seem to change with the times. Strassburg, Meny-Gibert and Russell (2010) pinpointed a few factors that caused the dropping out of students such as household poverty, the cost of education and teenage pregnancy. With household poverty and the cost of education, this implies that parents in that home have no means of income or projects that could generate income. A lack of interest in their programmes occurs when the learner is bored and finds nothing interesting in the lessons. In the event where learners live with a single parent, there is a likelihood that students may drop out of college because of a lack of parental involvement. This should be understood from the perspective that parents serve the role of protection to their children, and, if students live with either parent missing, that may have an impact on the students' decision to drop out (Weybright, Caldwell, Xie, Wegner & Smith, 2017). More effective intervention measures are needed to address the issues that contribute to engineering students' academic achievement at TVET colleges, as well as to prevent students from dropping out before completing their programmes.

INDIVIDUAL FACTORS

Education is not only a right but a necessity with which to improve lives. If it is not attained due to dropping out, there may be permanent suffering in a person's life. Bano (2015) raises an issue that an uneducated person is almost equal to a dead person as that person cannot be expected to offer support or contribute towards self-development and/or other humans. Bano (2015) went further to highlight benefits of education that a man is incomplete without it, it teaches people how to think, how to work properly, how to make decisions, how to lead a successful and meaningful life. Those students who drop out miss the opportunity of owning an incomparable commodity which serves as a necessity of life. Since education mostly happens within a classroom, this is one area where lecturers have to keep tight control so that they do not lose students. Bano (2015) is supportive of this view that in order to keep students from dropping out, lecturers need to be friendly and understanding so that students can relate to them as well as communicate their problems and so that the lecturers an offer them guidance. The most important aspect is to keep students in college until they finish their programmes. One way to control dropout rates is to TVET attendance registers to keep track of absentees and guide them on the importance of attendance.

Throughout the years, education has been hailed as a key driver of economic development and individual sustenance. Latif, Choudhary and Hammayun (2015) were correct in suggesting that education has a direct influence on entrepreneurship, productivity growth, increased employment opportunities and women empowerment. Since this shows that education has a positive impact on life, the effects of college dropouts are negative and bring about untenable results. Such losses cannot be recovered for generations to come on the basis that there might be a very high likelihood those college dropouts produce a chain of poverty-stricken children, grand and great-grandchildren. Due to dropping out, youthful experience is engulfed by inability, little creativity and a lack of systematic skills to compete within the fast-changing global trends in general. Dropping out reduces the literacy rate of country and consigns students to a non-innovative environment compounded by an inability to get jobs and the likelihood of spending their lives jobless or on government assistance, often struggling with poverty, abuse or neglect in their homes (Latif et al., 2015). Living proof occurred in South Africa during the spread of the Covid-19 pandemic where many youths received grants of R350 as relief funds; it is likely that and some of those recipients could be dropouts.

STUDENT-LECTURERS' FACTORS AND PARENTAL ENGAGEMENT

Dropping out of college should not be allowed to become an option and should not continue unabated. This necessitated the development of strategies to eliminate dropout rates. Cervellino (2019) listed five core strategies identified to minimise dropouts including high-quality early interventions; working to promote parental engagement in their children's schooling; focusing on safe a predictable transition across educational settings;

bridging support services from the community when children need them and promoting a healthy and safe college climate, where students feel that they are connected to college, learning, peers and teachers. But it may not be the only strategies hence some of the strategies require an open relationship enhancement between the students and the lecturer. The lecturer has to take a posture of being humble and friendly so that students can open up to speak about the life challenges they face. In African culture, an adult has a responsibility to groom a child even if it is not his or her biological child. In this way, students would feel comfortable and cared for which may change their minds about dropping out.

THEORETICAL FRAMEWORK

The theory that a research effort ties to is known as a theoretical framework (Grant & Osanloo, 2014). It is also a foundation for a research endeavour that centres and supports all information. Self-determination theory (SDT) was adopted for this study. SDT is defined as a broad theory of human personality and motivation concerned with how the individual interacts with and depends on the social environment (Legault, 2017). The SDT links to college dropouts merely because the courage to leave college depends on the learner or student's personality. Some of the students have shy personalities and this may have an adverse effect in terms of inability to maintain calm when confronted by embarrassing situations. Pressure from such embarrassment has the potential to make students decide to drop out from college which could be stated as motivating factor for the same decision. Furthermore, SDT is centred on the basic psychological needs of autonomy, competence and relatedness and their necessary role in self-determined motivation, well-being and growth (Legault, 2017). Colleges on the other hand have to apply policies that guide and control students to stay put in their classes until they complete the programmes in which they are enrolled.

METHODOLOGY

The researchers chose a qualitative approach for this article because the researchers wanted to engage with participants in their context and better comprehend the problem being investigated (Mohajan, 2017). Furthermore, they were the most crucial tool for gathering data because the researcher was able to get information directly from participants as they described their own experiences. Similar to this, Mohajan (2017) noted that the qualitative technique enables people to see the world through their own lenses and can investigate a previously unstudied phenomenon. Exploring an issue and creating a thorough grasp of a phenomenon are two qualities of the qualitative research approach (Creswell, 2014).

A researcher's perspective on the world they live in and the one they wish to live in is shaped by the abstract beliefs and principles that make up the research paradigm (Kivunja & Kuyini, 2017). A paradigm, according to Guba and Lincoln (1994), is a group of fundamental ideas or metaphysics that deal with the fundamental idea or first principle. According to Kivunja and Kuyini (2017), a paradigm affects what should be examined, how it should be studied, and how the study's findings should be understood. This article was written using the interpretive paradigm to determine how college dropouts from TVET colleges affects teaching and learning in the setting of South African TVET colleges. The interpretive paradigm's ontology is also relativist (Shah & Al-Bargi, 2013). Interpretivism holds that there are numerous distinct realities rather than just one (Shah & Al-Bargi, 2013). Simply said, this article is based on an interpretive paradigm since meaning is created through social interactions and assumptions to explain the beliefs, values and phenomena under study. The meaning of the work was influenced by a variety of contributors and their varied life experiences.

In order for a qualitative study to produce useful results, a purposeful sample of participants was required. Purposive sampling, according to Johnson and Christensen (2010), is the process of choosing people who can supply the data required to answer the research question. The researchers selected the subjects using a non-probability sampling technique called purposive sampling. As a result, the researchers purposefully picked sixteen (16) participants, namely, one deputy principal – academic, three campus managers, three senior education specialists, three lecturers and six students and invited them to participate in the interviews; however, two of the campus managers declined. To have a deeper understanding of their actual lived experiences with the phenomenon, lecturers were chosen because they had worked together for a while. According to McMillan and Schumacher (2010), a small sample of persons who are nested in their setting and thoroughly examined should make up the selection of participants in a qualitative research article.

Face-to-face interviews were used to collect the data. They served as the primary tool for gathering data. According to Maree (2010), interviews are frequently used in research projects to confirm information obtained from other data sources. According to Kruger and Casey (2005), an interview is a carefully structured conversation intended to elicit perceptions on a specific subject of interest in a welcoming, non-threatening context (Motitsoe, 2011). Permission from the departmental officials to interview identified participants was requested in order to conduct the research.

The researchers made sure the study subjects had complete choice and freedom in their interview responses. With the participants' consent, the group interview was audio recorded to ensure that no information was lost. The participants were able to give honest answers because the questions were open-ended. Best and Kahn (2006) assert that documents are a crucial source for validating the results of other research techniques, such as interviews.

Data analysis is the process of interpreting the data and compiling all the information gathered for the study. According to White (2005), organising qualitative data into categories and finding patterns (relationships) among the categories is the main inductive process of qualitative data analysis. In a similar vein, Creswell (2014) said that data analysis in qualitative research consists of studying the data to get a basic sense of the data, noting ideas, thinking about how the data is organised, and deciding whether you need more data.

In order to better comprehend the phenomenon and come to definitive conclusions, the researchers consequently immersed themselves in the data by methodically choosing, categorising, comparing, synthesising and evaluating data. The axial codes were compared once the data was split up into manageable chunks. This was done again to compare likenesses and dissimilarities until data saturation was reached and the developing patterns emerged. Nieuwenhuis (2010) further emphasised that inductive data analysis is an interactive process where a researcher evaluates similarities and differences and uses them to corroborate the hypothesis or to uncover anomalies.

According to Cohen, Manion and Morrison (2011), dependability is the engagement of participants in reviewing the research findings, interpretations and recommendations to ensure that they are all supported by data obtained from study participants. Ethics are essential in every type of study because they influence data collecting during the research process. As a result, it was critical for the researchers to conduct the study in an ethical manner. Following that, the researchers had to follow research criteria that moulded and led the research. According to McMillan and Schumacher (2011), these standards include informed consent, avoiding deceit, guaranteeing confidentiality and anonymity and preventing harm to participants.

To conduct the research in an ethical manner, researchers analysed "dilemmas and conflicts that arose over the best strategy to perform the research" (Neuman, 2011). The researchers approached the Research Ethics Committee for ethical permission. Following approval from the Research Ethics Committee, the approval from the DHET and the TVET college where the research would be conducted was requested. Participants were adequately informed about the study and agreed to participate (Henning, Van Rensburg & Smit, 2004). Participants were informed orally and in writing about their participation in the study, and it was made plain to them that they might withdraw at any moment. The researchers advised them that their information would not be shared with anybody, not even the principal. To ensure anonymity, the researchers assigned each participant a codename. Participants were one deputy principal – academic, three campus managers, three senior education specialists, three lecturers and six students. They were referred to as DPA, CM, SES, S1, S2, S3 and so on. Creswell et al. (2010) agreed that pseudonyms should be used and that the data of the participants should not be linked to their identity or identification. Participants were shielded from any type of physical or psychological harm. If participants were not shielded from harm, there could be some risk if their opinions were communicated to their superiors (Maganga, 2016).

FINDINGS AND DISCUSSIONS
This study intended to respond to the main question:

What are the factors responsible for the poor academic performance of TVET college engineering students that lead to eminent dropouts?

The method used in dealing with the sub-questions in this study was intended in answering the main research question. The focus was mainly on noting all the responses that were given by the participants which later served as point of departure in answering the main research question. Participants under this objective provided data on factors that caused students to perform poorly.

FACTORS ALIGNED WITH POOR ACADEMIC PERFORMANCE
"Trimester courses we as a college didn't perform well the big challenge, we start them at the lower level while the course is shorter." [Participant 5, DP]

The response questioned aspects of syllabus coverage within the timeframe allocated for the engineering students which should be completed in 10 weeks. During this period, lecturers are expected to teach, set two tests, mark students' scripts and record and verify marks before they are sent to DHET.

While Participant 5 (DP) was worried over the period allocated for teaching and learning to be completed in 10 weeks, similar sentiments were shared by Participant 13 (S) below who did not occupy a position of management like Participant 5.

"I think so because especially we don't have time and some students do well when they study together but now it is challenging." [Participant 13, S]

This calls for urgent intervention at a strategic level. Unions and government should come together as stakeholders to reconsider the time allocated for the trimesters.

In the following response offered by Participant 8 (L), it can be seen that a certain quarter of authority highlights displeasure in that students are expected to learn theory without practical components in engineering studies. Similar views were shared by Participant 9 (L).

"The fact that we don't have workshops here affects the practical exposure. They always complain that they can't see these things and want to see them practically." [Participant 8, L]

"I think the current challenges factors might be because of the practical site. We don't have the practical site students have never seen in their entire life." [Participant 9, L]

The complaint makes sense because most of the time is spent lecturers showing students pictures and unfortunately, they cannot get hands-on experience to operate the tools. In the world of engineers, workshops, tools and other little stuff should be regarded as non-negotiable. This is the reason why industries raise concerns over the graduates they hire that they are not work-ready.

Poor academic performance seems to have been exacerbated by the Covid-19 pandemic. This was inevitable as students and lecturers outlined in the following quotes:

"Okay, it made us drop in performance because while I was at home some of us didn't have smartphones to study we don't have data. Maybe they should give everyone a laptop and data for the sake of studying." [Participant 3, S]

"The introduction of Covid-19 had a negative impact on our education system and the rotational timetable for the students to attending Monday, Wednesday and Friday some you know there is no consistency with regards to that." [Participant 4, L]

A myriad of challenges in this regard were seen to have devastating effects, one of which was the introduction of online learning which had not been experienced before by lecturers or students. As students and lecturers put it, online learning created problems for most colleges where students did not own smart phones or had no access to data. Furthermore, lecturers themselves had no experience of online teaching.

Participant 13 (S) raised fundamental issues, some of which have been noted by other authors including dropping out due to financial problems, hunger and pregnancy.

"The drop out affects most of the students, the college experienced a financial problem. We experienced that students are going to classes with an empty stomach and many were engaged in pregnancy. We are not promoting pregnancy and issues arising from clubs." [Participant 13, S]

The most atrocious challenge mentioned here was that of attacks by members of the communities although this did not occur on the campus premises, but in the public drinking spots like taverns. While parents send their children to TVET colleges to pursue programmes that would enable them to look for a job, students divert their attention to entertainment and binge drinking.

Although not easy to detect, some of the dropouts are caused by the wrong choice of programmes. The quote below comes from Participant 6 (CM).

"Dropouts are managed as every week each class must submit their attendance student register to be capture, we do follow ups we even engage the parents." [Participant 6, CM]

From what participants at the lower level said, it would seem students considered selection of some programmes based on availability, meaning that other programmes were already full and they settled for those programmes that were available. In light of this, it becomes obvious that the dropouts' interest and passion is not for the selected programme. Students who find themselves in such a situation do not focus in class and are easily bored, leading to an increase in the dropout rate.

REASONS FOR THE STUDENTS' DROPOUTS

Some of the reasons given by participants for dropping out were baffling, revealing hidden challenges which could not easily be identified.

"We have a lot of dropouts especially at N2, N3, N6 respectively, we are teaching them during the day" [Participant 8, L]

"Well, it is very high because some of the students are not coping with the workload that we are getting from the lecturers. I think if we can have more time to study then students can cope" [Participant 13, S]

"Some of the students drop out because their parents are being retrenched and you can't go to college when the parents are retrenched how are you going to survive" [Participant 13, S]

"The issue of National Student Financial Aid Scheme (NSFAS) not everybody is using NSFAS at the end of the day maybe 90% of the students are using NSFAS. Maybe I failed, and I can't pay for my fees at home they can't pay for my fees too then I drop out, that is another problem" [Participant 14, S]

"Yes, teaching time is reduced learners were struggling to have the afternoon group to come to class due to transport arrangements and then it also affected the workshops" [Participant 6, CM]

Participant 8 (L) highlighted lack of upward movement for students registered at N2. Due to lack of scope, this study could not investigate the subjects that students failed at the N2 level. Participant 13 (S) said that students were not progressing due to workload, meaning that students could not cope. Participant 13 (S) added another aspect of dropping out, namely, that of parents' retrenchment from their jobs and this is quite understandable since students then may not pay for transport or accommodation. Another aspect leading to dropping out involved NSFAS, as when students fail, they automatically forfeit the aid, a view held by Participant 14 (S). While the above appears sensible, Participant 6 (CM) raised the aspect of reduced attendance in terms of periods and number of days per week: this was an inevitable result of Covid-19.

ERADICATION OF THE HIGH-LEVEL DROPOUT RATES

Reflections below by participants show that some solutions to problems cannot only be offered by people in authority but those who are faced with the problems. Students believe that tutorship is important in improving results, hiring assistant teachers could also add value, hiring more lecturing staff and building workshops for practical tasks can improve performance and reduce dropouts drastically.

"These results can be improved if we can have tutors in the engineering department. Those tutors will be there to support teaching and learning" [Participant 13, S]

"We can start by the lecturers or student support by them motivating us and. getting assistant teachers" [Participant 11, S]

"I think that the college should try and hire more lecturers with more industrial expertise and qualified. write the final exam without finishing the syllabus" [Participant 2, S]

"I think the college has to like we need workshops for engineering students for gaining more practicals than theory if someone explains face-to-face" [Participant 2, S]

In past studies, students indicated that lecturers were unprepared and unable to explain the material when teaching (Papier, 2009). However, lack of preparedness by lecturers was not said to be the reason for the high dropout in this study; instead, this was attributed to lack of preparedness for tertiary education. For instance, this study found that students who did not do mathematics were enrolled and later were frustrated by their lack of prowess and dropped out. The situation confirms that the transition from high school to post-secondary education is difficult for many students all over the world. Two of the challenges are academic success and acclimatising to a new environment (Hinde-McLeod & Reynolds, 2007). Students want to see academic success in order to continue their studies; otherwise, they will give up and drop out.

Better understanding of the academic performance of NATED engineering students at a TVET, it was imperative to unearth views from the participants who were asked to share their views on the challenges that affect academic performance. Another study found that causes of dropouts in TVET colleges were found to be among students who were performing poorly (Yi et al., 2015). This was confirmed and verified with students highlighting aspects of workload, desperation and availability of space during registration and later produce poor results. This high dropout rate hampers economic development as TVET colleges are a key element in economic growth and poverty reduction (Zulu, 2018). The dropout rate syndrome hinders TVET college mandate. Furthermore, findings were consistent with a study that found students' decisions to remain or leave college or a programme are influenced by a variety of individual and social factors, both internal and external, including people close to the students and the social environment they live in (Gaffoor & Van der Bijl, 2019). Early departure negatively influences the success rates of educational institutions, personal employment and financial well-being of individual students, causing financial ripple effects on society and government.

Location of the study context since TVET students live in private off-campus residences is mostly that of poor communities surrounding the campuses which negatively impacts academic performance (Mtshali, 2020). Constant attacks on students seem to have been normalised and became worse during the Covid-19, parents retrenched and introduction of e-learning, TVET colleges could not keep up with the resources required to have effective learning (Shahzad et al., 2021). Those were harsh moments in the history of education regionally and at national level. Moses, van der Berg and Rich (2017) claim that many young people are losing faith in their qualifications as a result of the South African labour market's decline. Due to the unemployment issue, a lot of

academically talented students drop their courses before finishing them because they lose interest in them in the middle of the semester. A student's likelihood of dropping out of college increases with the length of his or her absences (OECD 2020). According to the researcher, the usage of Information and Communication Technology (ICT) or blended learning had a negative impact on dropout rates, and as a result, students who were left in attendance under Covid-19 performed worse academically in TVET colleges. A study found that Covid-19 drastically disturbed teaching and learning in TVET colleges as they were challenged by lack of e-learning resources even prior the pandemic (Impact of COVID 19 on Teaching and Learning in TVET Colleges, 2022). To enable online teaching and learning, lecturers and students must adjust to a new norm that involves using tools like Microsoft Teams and Zooms in order to facilitate online teaching and learning. It is simple to transmit information when a teacher and a student speak on the phone, send emails or interact on online discussion boards. ICT facilitates the exchange of information between the teacher and the student, claim (Zawaduk et al., 2014).

RECOMMENDATIONS

The suggestions in this article are based on the literature and information gathered, which concentrated on dropout causes, difficulties and suggested remedies in TVET colleges. In order to lessen its effects on the institution, the individual student and the community, the following recommendations are made:

- The TVET college should incorporate parents and the community in the processes of reducing TVET college-based dropouts and behaviour since learners are part of the micro and macro systems that continue to interact and affect each other.
- Students who do not have the required foundational knowledge for requisite subjects should be offered introductory programmes.
- A quantitative study on this subject matter would yield measurable outcomes of dropout rates of engineering students at TVET colleges in South Africa. Because of the challenging nature of the engineering programme, there is a need to conduct generalisable studies that could contribute to informing policies that will be aimed at decreasing the dropout rates.

CONCLUSION

In the context of this study, the aim of this inquiry was to explore poor academic performance leading to student dropouts in a TVET college in Mpumalanga Province. The results of this article have demonstrated that a TVET college's high dropout rate affects learning and teaching because most students perform badly in terms of academic work, TVET college retention rates and academic development. Additionally, it was determined that students frequently violate the DHET attendance policy, which leads to unruly, combative and aggressive behaviour which has a detrimental effect on learning and teaching at TVET colleges.

ABBREVIATIONS

DHET: Department of Higher Education and Training
ICT: Information and Communication Technology
NATED: National Accredited Technical Education Diploma
NSFAS: National Student Financial Aid Scheme.
SDT: Self-determination theory
TVET: Technical Vocational Education Training
UNESCO: The United Nations Educational, Scientific and Cultural Organization

REFERENCES

Bano, A. (2015). Importance of education. *International Journal British, 2*(2), 49–50.
Best, J. W., & Kahn, J. V. (2006). *Research in education*. (10th ed.). Boston, MA: Pearson Education.
Catterall, J. S. (1985). *On the social costs of dropping out of* schools*. (Report No. 86-SEPT-3).* Stanford, CA: Center for Educational Research, Stanford University,
Cervellino, M. M. (2019). *Universal strategies to prevent high* school *dropout. A systematic review.* Retrieved 29 November 2022 from: http://www.duo.uio.no/
Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education*. (7th ed.). New York, NY: Routledge
Creswell, J. W. (2014). *Educational research: Planning, conducting and evaluating quantitative and qualitative research.* (4th ed.). Boston, MA: Pearson
Creswell, J. W., Ebersohn, L., Ellof, I., Ferreira, R., Ivankova, N. V., Jansen, J. D., Nieuwenhuis, J., Pietersen, J., Plano Clark, V. L., & Van der Westhuizen, P. (2010). *First steps in research.* Pretoria: Van Schaik.

Department of Basic Education, Republic of South Africa. (2012). *South African* Schools *Act (84/1998): Approval of the regulations pertaining to the National Curriculum Statement Grade R-12. Government Gazette, 570: 36041.* Pretoria, South Africa: Government Printer.

Department of Higher Education and Training. (2023). Research bulletin on post-school education and training (3). Pretoria: Government Printer.

DHET. (2015). *Statistics on technical and vocational education and training, community education and training and private colleges examinations in South Africa.* Retrieved 3 December 2022 from: http://www.dhet.gov.za/DHET%20Statistics%20Publication/Statistics%20on%20TVET,CET,%20and%20Private%20colleges%20Examinations_2015_Released%20

Nov%202017.pdf

Enyiorji, B. (2015). *Forced truancy and its impact on youth delinquency in Southeastern Nigeria* [Doctoral dissertation]. Walden University, Minneapolis, MN.

Gaffoor, A., & Van der Bijl, A. (2019). Factors influencing the intention of students at a selected TVET college in the Western Cape to complete their National Certificate (Vocational) Business Studies programme. *Journal of Vocational, Adult and Continuing Education and Training, 2*(2). https://doi.org/10.14426/jovacet.v2i2.70

Gao, R., 2010. Student dropout in one secondary vocational school in northwest region. *Chinese Vocational and Technical Education, 10*, 37–39.

Grant, A., & Osanloo, C. (2014). <u>*Understanding, selecting, and integrating a theoretical framework in dissertation research: Developing a 'blueprint' for your "house".*</u> Thousand Oaks, CA: SAGE.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. In K. Denzin, & Y. S. Lincoln (Eds.). *Handbook of qualitative research*. Thousand Oaks, CA: SAGE.

Henning, E., Van Rensburg, W., & Smit, B. (2004). *Finding your way in qualitative research.* Pretoria, South Africa. Van Schaik.

Hinde-McLeod, J., & Reynolds, R. (2007). *Quality teaching for quality learning: Planning through reflection.* South Melbourne, NSW: Cengage Learning.

Johnston, B., & Christensen, L. (2011). *Educational research: Quantitative, qualitative and mixed approaches*. (4th ed.). Thousand Oaks, CA: SAGE.

Kivunja, C., & Kuyini, A. B. (2017). Understanding and applying research paradigms in educational contexts. *International Journal of Higher Education, 6*(5): 26–41.

Krueger, R. A., & Casey, M. A. (2005). *Focus groups: A practical guide for applied researchers*. (3rd ed.). Thousand Oaks, CA: SAGE.

Latif, A., Choudhary, A. I., & Hammayun, A. A. (2015). Economic effects of student dropouts: A comparative study. *Journal of Global Economics, 3*(2), 1–4.

Legault, L. (2017). *Self-determination theory.* Potsdam, NY: Clarkson University.

Maganga, J. H. (2016). *Factors affecting students' academic performance: A case study of public secondary* school *in Ilala District, Dar-Es-Salaam*. [Master's thesis]. University of Tanzania, Dar es Salaam.

Mankoe, J. O. (2002). *Educational administration and management in Ghana.* Accra: Progressive Stars.

Maphosa,M et al.(2023) : *Student Performance Patterns in Engineering at the University of Johannesburg*: Institute for Intelligent Systems, University of Johannesburg, Johannesburg 2006, South Africa*2School of Electronic and Electrical Engineering, University of Leeds, LS2 9JT Leeds, U.K.*

Maree, K. (2010). *The first steps in research*. Pretoria, South Africa: Van Schaik.

McMillan, J. H., & Schumacher, S. (2010). *Research in education: Evidence-based inquiry.* (7th ed.). Boston, MA: Pearson.

McMillan, J. H., & Schumacher, S. (2011). *Research in education: A conceptual introduction.* New York, NY: Longman.

Mohajan, H. K. (2017). *Research methodology*. Chittagong, Bangladesh: Premier University.

Mokoena, P., & Van Breda, A. D. (2021). School dropout among female learners in rural Mpumalanga, South Africa. *South African Journal of Education, 41*(3), 1–9.

Moses, E., van der Berg, S., & Rich, E. (2017). A *society divided: How unequal education quality limits social mobility in South Africa. Synthesis report for the programme to support pro-poor policy development (PSPPD).* Stellenbosch, South Africa: RESEP: University of Stellenbosch.

Mtshali, J. M. (2020). *Technical and Vocational Education and Training (TVET) college students' experiences of the relationship between private off-campus residences and academic performance: a case of Majuba TVET college.* [Doctoral dissertation]. University of KwaZulu Natal, Durban, South Africa.

Ndofirepi, E., Farinloye, T., & Mogaji, E. (2020). Marketing mix in a heterogenous higher education market: A case of Africa. In E. Mogaji, F. Maringe, & R. E. Hinson (Eds.), *Understanding the higher education market in Africa*. (pp. 241–262). London, United Kingdom: Routledge.

Neuman, W. L. (2011). *Social research methods qualitative and quantitative approaches*. (7th ed.). Whitewater, WI: University of Wisconsin.

Nieuwenhuis, J. (2010). Analysing qualitative data. In K. Maree (Ed.), *First steps in research.* (pp. 70–97). Pretoria, South Africa: Van Schaik.

OECD (2020). *Education at a Glance 2020: OECD Indicators*, Paris, France: OECD Publishing. https://doi.org/10.1787/69096873-en

Papier, J. (2009). Development for vocational and occupational trainers and educators. *Presentation at a 2009 National symposium, South Africa.* [Online]. Retrieved 29 November 2022 from: www.uwc.ac.za/.../College Lecturer Qualifications Symposium Report.

Pirzada, G. (2022). TVET trainers' understanding of engaging instruction: Supportive learning environment for work integrated learning. UMT Education Review, 5 (1): 1-27.

Public Servants Association. No Date. Dropout rate: *A big hole in South African Education system*. Retrieved 12 April 2023, from: https://psa.co.za/docs/default-source/psa-documents/psa-opinion/dropout-rate.pdf?sfvrsn=88a13e6d_3.

Rogan, M., & Reynolds, J. (2016). Schooling inequality, higher education and the labour market: Evidence from a graduate tracer study in the Eastern Cape, South Africa. *Development Southern Africa, 33*(3), 343–360.

Shah, S. R., & Al-Bargi, A. (2013). Research paradigms: Researcher's worldviews, theoretical frameworks, and study designs. *Arab World English Journal, 4,* 252–264.

Shahzad, A., Hassan, R., Aremu, A. Y., Hussain, A., & Lodhi, R. N. (2021). Effects of COVID-19 in E-learning on higher education institution students: The group comparison between male and female. *Quality & Quantity, 55*(3): 805–826. https://doi.org/10.1007/s11135-020-01028-z

Strassburg, S., Meny-Gibert, S., & Russell, B. (2010). *Left unfinished: Temporary absence and drop-out from South African* schools. *Findings from the access to education study (Vol.2).* Johannesburg, South Africa: Social Surveys Africa.

Thøgersen, M., Aadahl, M., Elsborg, P., & Klinker, C. D. (2020). Dropout at Danish vocational schools: does the school's health promotion capacity play a role? A survey-and register-based prospective study. *BMC Public Health, 20*(1), 1–11.

UNESCO (Institute for Statistics). (2009). *Education indicators: Technical guidelines.* Retrieved 29 November 2022 from: http://www.uis.unesco.org/Library/Documents/eigu ide09-en

UNESCO. (2012). *Stumbling blocks to universal primary education: Repetition rates decline but dropout rates remain high.* Paris: Global Education Digest: UNESCO Press.

Wegner, L., Flisher, A. J., Chikobvu, P., Lombard, C., & King, G. (2008). Leisure boredom and high school dropout in Cape Town, South Africa. *Journal of Adolescence, 31*(3), 421–431.

Weybright, E. H., Caldwell, L. L., Xie, H. J., Wegner, L., & Smith, E. A. (2017). Predicting secondary school dropout among South African adolescents: A survival analysis approach. *South African Journal of Education, 37*(2), 1–11.

White, C. J. (2005). *Research: A practical guide*. Johannesburg, South Africa: Ithuthuko Investments.

World Bank. (2015). *Millennium development goals: Achieve universal primary education by 2015*. Retrieved 29 November 2022 from: http://www.worldbank.org/mdgs/education

Wydra-Somaggio, G. (2021). Early termination of vocational training: dropout or stopout? *Empirical Research in Vocational Education and Training, 13*(1), 1–23.

Yi, H., Zhang, L., Yao, Y., Wang, A., Ma, Y., Shi, Y., Chu, J., Loyalka, P., & Rozelle, S. (2015). Exploring the dropout rates and causes of dropout in upper-secondary technical and vocational education and training (TVET) schools in China. *International Journal of Educational Development, 42*, 115–123. https://doi.org/10.1016/j.ijedudev.2015.04.009

Zawaduk, C., Healey-Ogden, M., Farrell, S., Lyall, C., & Taylor, M., (2014) Educator informed practice within a triadic preceptorship model. *Nurse Education in Practice 14*, 214–219.

Zulu, W. V. (2018). *Student attrition in TVET colleges: A case study of Elangeni TVET college in South Africa.* [Master's Thesis]. University of KwaZulu-Natal, Durban, South Africa.