# Digital Literacies of National Certificate Vocational Program On-course Level Students at a Technical and Vocational Education and Training College

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| Article Info | Abstract |
|---|---|
| <br><br> | Using a survey design, the study investigated the levels of digital literacy of NCV on-course level students at a TVET college in South Africa. This paper notes that research suggests that the gap in digital literacy persists among NCV on-course level technical and vocational education and training (TVET) college students which must be addressed, even after the digital divide's phases are over. Several students lack the necessary digital literacy skills, according to research when they enrol at TVET colleges, despite the expectation that they will possess digital abilities. The theory used in this research is connectivism learning. The Statistical Package for the Social Sciences (SPSS, version 22) was used to analyse data. With a Cronbach's Alpha score of 0.7, the instrument was regarded as reliable and valid. The results indicated that a varied and uneven proficiency in digital literacy was common among NCV on-course level students. A targeted and customised digital literacy assistance program for NCV on-course level students at TVET colleges was suggested by the researchers. This study will contribute to the growing literature on empowering NCV students with digital literacies. |

## Introduction

NCV on-course level students are required to be able to locate material, analyse and synthesise it, and share and discuss various student-submitted ideas in order to learn in a TVET setting. Although young people are adept at utilising social media, email, and the Internet, and they participate actively in online communities, their skills and understanding for utilising new technologies in the classroom are frequently lacking or superficial (Shopova, 2014). The researchers can draw the conclusion that students should be encouraged to use digital textbooks, movies, websites, electronic periodicals, blogs, Wikipedia, and learning games as frequently as feasible based on the traits and methods of working and learning. For the first time, there is a chance to quickly and limitlessly access a wealth of information that is continuously being enhanced, changed, and realised thanks to ICTs' (information and communication technologies) advancement and integration into many aspects of people's lives and careers. Students with the competencies and skills needed to fully utilise the potential of emerging technologies and actively participate in social, cultural, and economic life needed in this new social paradigm. With their interactive and highly customised digital literacies, new media communication technologies and internet alter students' habits and behaviours while creating crucial cues and new value models. They are evolving into a vital tool for the creation of new literacy, self-education as well as an indispensable source of education. Improving both official and informal ICT education by expanding ICT learning at all educational levels, primary, secondary, vocational training, and university is a key aim for Africa 2020-2030 digital transformation strategy (Africa Union Commission, 2014). The demand for innovative educational programs that address the development of skills and capacities for the efficient use and comprehension of digital literacies as a foundation for continuous education is pressing on educational systems. Therefore, this study`s purpose is to investigate the levels of digital literacy of NCV on-course level students at a TVET college in South Africa.

The South African TVET colleges provide two types of qualification, that is, Report 191 formerly called National Accredited Technical Diploma (NATED), and National Certificate Vocational (NCV). The Report 191 (NATED) N4 to N6 courses, also referred to as "Alternative Post-School Programs", are offered in the following categories: Engineering Studies, Business Studies, Utility Studies and Educational Studies. Matric (Grade 12) is a

minimum entry requirement for the Report 191 Program. The duration of each course offered is 3 years comprised of 1 year, 6 months studying and another 1 year, 6 months doing in service training which is the Work Integrated Learning (WIL) (College, 2024). While the NCV on the other hand, requires Grade 9 as the minimum entry requirement to NCV Level 2 which is equivalent to Grade 10, Level 3 equivalent to Grade 11 and Level 4 equivalent to Grade 12. Students may divert from school to TVET college before completing Grade / Matric. In short, NCV takes three years to complete that is Level 2 to Level 4 and the duration of each level is one year.

Due to the abrupt closure of TVET institutions brought on by the COVID-19 pandemic, there is a huge need for education to be online (Carrillo & Flores, 2020; Thomas, 2020; Aditya, 2021). Lecturers need to improve their personal ICT skills to support teaching and learning in digital environments and equip their students to handle a digitalised workplace. Lecturers contend with the demands of ongoing technological, social, economic, and cultural changes in the workplace, especially those about to ICT, in addition to the difficulties brought on by the COVID-19 pandemic (Harteis et al., 2020). These days, in the new educational environment of the 21st century, ICTs have emerged as a "key lever" for effective learning as well as inventive, creative, and acceptable behaviour. According to Oliver and Herrington (2003), learning theory that is contemporary emphasises learning as an active process of constructing knowledge, which assumes that learning is seen as meaning-making process and personal understanding. On-course NCV level students are required to perform cognitively demanding tasks that include problem-solving, teamwork, self-regulation, and critical thinking. ICT has made it possible to develop "knowledge" as a workable approach to encouraging students' creative capacities (Chai & Lim, 2011:4). According Goulão and Fombona (2012: 351), instead of merely teaching facts and knowledge, students need to develop and acquire critical abilities and skills to select information sources, conduct research, and build their own knowledge to stay current and provide a sufficient response to the labour market. This study aimed to investigate the levels of digital literacy among NCV on-course level students at a TVET college in the KwaZulu-Natal Province, South Africa.

## *Significance of this study*

Students' success at TVET colleges depends on their possession of digital literacy skills and competences. Proficiency in reading, understanding, and navigating online content

has become essential in TVET universities. The TVET college application, applications for financial aid, and course enrollment for on-course NCV level students all need for a certain set of digital literacy skills. Students in TVET colleges who are enrolled in programs that specifically teach digital literacy may find it helpful in comprehending financial assistance policies and procedures as well as the college admissions process. Staff at TVET colleges may be better equipped to meet on-course level students` needs in the NCV program if they get training on digital literacy in academic assistance programs, job placement, and orientation and induction. Regarding entrepreneurship, internet access, fundamental computer skills, individual support, ethical use of online materials, safe online practices, and copyright issues, this study may also be helpful to all TVET college students. Lastly, this research will assist policymakers in beginning to recognise the increasing pervasiveness of the Internet in educational contexts, not only technological ones.

## Literature Review

### Digital Literacies

The ability to solve problems, analyse data, effectively use digital technologies in all aspects of life, adapt to current technologies, and develop new technologies is collectively known as digital literacy (Bayrakcı, 2020). Usart et al., (2021) divided digital literacy into phases, such as analysis, synthesis, evaluation, and integration, and characterised it as a talent. Moreover, they distinguished these phases by level and divided them into three groups: digital competency, digital transformation, and digital use. Digital literacy is ranked using a mechanism akin to a ladder (Usart et al., 2021). Digital literacy, according to Hague and Payton (2010), is the combination of knowledge, understanding, and skills that enables responsible, innovative, creative, and critical applications of digital technology. One aspect of digital literacy is the combination of media, visual literacy, and information (Leaning, 2019). Digital literacy is the set of skills and information that students` need to succeed in the workplace and fully participate in digitally evolved communities (Uzunboylu, 2006). Digital knowledge is becoming essential for on-course level students college applications (Chan et al., 2017). Critical thinking and digital literacy are related when utilising technology such as mobile applications, social networks, the Web, and internet (McLoughlin, 2011). When they employ the right digital information, on-course NCV TVET college students with digital literacies can easily rise to a position of power. In addition to educating on-course NCV TVET college

students the ideas to manage a digital environment, which is essential for their success, these digital literacy skills are essential for acquisition of knowledge in TVET sectors (Cordell, 2013).

Digital literacy has been shown to improve knowledge, comprehension, and the ability to use media as a source of relevant information in numerous studies. Other studies, however, found no link between NCV TVET college students' capacity to raise their academic standing and their digital skills (Argentin et al., 2014). Further research reveals that pupils possess only the essential skills and knowledge required to operate information and communication technology. Because of this, to accomplish learning objectives and improve their online learning experiences, individuals need instruction in digital literacy. Digital literacy requires access to, interchange of, and production of accurate information in addition to the technological usage in teaching and learning processes.

## *Advantages of Digital Literacies for NCV on-course Level Students*

Students are using digital literacy in new and inventive ways to improve learning outcomes (Literat, & Glaveanu, 2018). Over the past 20 years, advances in ICTs have connected people worldwide through the internet, digital media, and online platforms (Spires et al., 2019). To effectively communicate and thrive in this digital age, one must be able to utilise these platforms and tools strategically in addition to having understanding of them. Digital literacy modifies the communication and learning strategies used by students. According to Noreen and Malik (2020), even remote learners concur that utilising online, and digital resources can significantly improve their educational experience. NCV with the application of various digital literacy abilities, on-course level students can read e-books, compose emails, and other online information, access learning management systems, participate in online class discussions, and more (Kim, & Choi, 2018). A 2012 study (N = 500) on the digital dependency of college students was conducted in the United States (Nordin et al., 2016). Seventy-four percent of students used digital content, seventy percent of students took notes in class on tablets, and seventy-three percent of the sampled students said they could not learn without digital technologies (Nordin et al., 2016). According to CourseSmart (2011), a significant proportion of students (91 percent) said that they mostly communicate with their lecturers via email. Amin and Mirza (2020) found that teachers and students in virtual courses shown increased competence in pre-searching and the application of many e-tools for

collaboration and data processing. The way that students regularly use and are exposed to the digital environment also shapes their perspectives, mindsets, and experiences (Henderson et al., 2015). The relevance of technological developments and their impacts on the intellectual, commercial, social, and cultural domains were further underlined by Gruszczynska et al., (2013). The teaching and learning process, research culture in educational institutions, and academic discourse are all being significantly impacted by these changes. Thus, this study aims to investigate the levels of digital literacy of NVC on-course level students at a TVET college in South Africa.

## *Strategies to Advocate Digital Literacies*

People who can think analytically and quickly to adapt to the rapid advancement of technology are in the greatest demand of these skills. The main objective of the South African reform plan is to improve the abilities of public, especially those of TVET workers and students (Nzimande, 2017). Convincing NCV on-course level students of the importance of digital literacy takes time and work. It will take more than just government programs and regulations to build a society with a high degree of digital literacy. In particular, the Fourth Industrial Revolution (4IR) is forcing NCV on-course students to think about the kinds of TVET colleges they will require in their post-educational system. The government of South Africa has praised the use of digital learning (DL) to improve instruction in the country's educational institutions. Numerous education stakeholders and academics have advocated that student contact, cooperation, and collaboration should take precedence over the traditional lecture hall setting, which views students as passive recipients of informative instruction (Nyambane, & Mzuki 2014). Laptops and tablets, which are useful tools to improve instruction in educational settings, are examples of the cutting-edge, contemporary solutions that equipment and programming designers have introduced to ease this inevitable shift. Two-thirds of people worldwide own a mobile phone (Business Insider, 2017); hence educators are compelled to include courses in digital literacy. The South African government has urged lecturers and educators to employ modern technologies in providing courses and learning resources online. Over time, the SA government has provided schools with state-of-the-art equipment and taught educators on how to use it to its fullest potential (Sherman and Howard, 2012). One of the initiatives that has responded to the call of digitalising education is the Khanya Project, which was implemented in the Western Cape province in 2001 with the aim to improve learning and enhance educators' capacity to use appropriate, manageable, and accessible technology when

delivering educational programs (Du Toit, 2015). In 2007, 76% of Western Cape schools had computer labs established, according to Isaacs (2007) and Sherman and Howard (2012). In a manner similar to this, Gauteng introduced the "one laptop per child" scheme, which provided tablets, laptops, and smart boards to certain schools in order to support teaching (Bizcommunity, 2014).

## *Digital Literacy Competencies of TVET Lecturers*

A changing society, educational resources, and educational environments are all connected to the competences in question. They consist of both educational and technology elements (Industry 4.0: Refer to Ferrari (2013), Teo et al. (2021), and Koehler, & Mishra (2009). There have been several conceptualisations put forth for the development of lecturers' ICT competencies and skills (Koehler, & Mishra, 2009; Ferrari, 2013; Almerich et al., 2016; Roll & Ifenthaler, 2021). According to Hämäläinen et al. (2021), ICT competences are a set of knowledge, attitudes, and skills connected to ICT. Using mobile devices, applications, and computers is part of the technological component of ICT abilities, which is part of Roll and Ifenthaler's (2021) multidisciplinary competency model for NCV instructors at TVET colleges. Guzman and Nussbaum (2009) also bring attention to the technological/instrumental aspect of lecturers' ICT skills, arguing that professors must learn how to operate hardware and software. According to Lindsay (2016), lecturers must learn how to use mobile ICT devices because learning-teaching processes occur in informal environments, which are outside of workplaces, campuses, and working hours. Another facet of the technology component is comprehending the resources needed for good ICT teaching techniques and digital cooperation (Roll, & Ifenthaler, 2021). For vocational students, Roll and Ifenthaler (2021) emphasise the importance of digital problem-solving skills in addition to information literacy and the capacity to efficiently gather, process, and evaluate information. Reflecting on the digital world is also essential because digital development is based on comprehending and reflecting on one's activity in digital spaces (Roll, & Ifenthaler, 2021). The self-efficacy associated with ICT skills of lecturers is a component of their technological literacies (Kreijns et al., 2013; Choi et al., 2018;). According to Koehler and Mishra (2009), Guzman & Nussbaum (2009), Almarich et al. (2016), and others, the pedagogical component of lecturers' ICT competencies consists of professional development for lecturers, curriculum design integration of technology, and teaching-learning process planning. Wadmany and Kliachko (2014) assert that ICTs can assist lecturers satisfy the needs of a diverse student body, create a learning environment that is

supportive, clarify ideas and processes, and broaden the range of learning opportunities. Additionally, the pedagogical component includes the abilities needed to develop and use digital learning materials, build learning environments that are technologically sophisticated, and integrate mobile and other technologies into teaching (Almerich et al., 2016; Lindsay, 2016).

## Theoretical Framework

This study applied connectivism learning theory. This theory was created by George Siemens and Stephen Downes in 2005 (Leaning, 2019). It emphasises how important technology and social media are to education (Siemens, 2017). According to the connectivist theory of learning, learning is being able to identify and traverse networks in which knowledge is dispersed (Alam, 2023). Information is accessible via the internet, social media, and other digital platforms in addition to more conventional means like lectures and textbooks, according to connectivism (Alam, 2023). The study's theoretical framework was based on the four digital literacy notions put forth by Bawden (2008). Baseline knowledge, or the understanding of how digital and non-digital information is created from different sources and shared, central competencies, or the ability to synthesise information from multiple sources, and attitudes and perspectives, or the ability to learn on one's own and behave appropriately in a digital setting, are some examples of these. Underpinnings, on the other hand, refers to the proficiency in reading, writing, and using software and computers. As per Bawden's (2008) assertion, the phrase "digital literacy" encompasses an extensive array of proficiencies, ranging from broad cognition and perspectives to extremely specialist abilities. Digital literacy proficiency is essential for effective learning and accomplishment in higher education (Ukwoma et al., 2016). Being digitally literate enables one to take in information in a variety of ways (Bawden, 2008). Furthermore, it was discovered by Abas et al., (2019) that higher levels of technological and digital media expertise among members lead to increased organisational performance and achievement.

Digital literacy paired with dependent learning, critical thinking, and operational skills accelerates academic attainment at TVET colleges (Khan et al., 2022). Also acknowledged as significant contributors to the development of innovation and creativity are TVET colleges (Vicente et al., 2020). This theoretical framework is suitable for this study since NCV on-course level students at TVET Colleges are expected to write and read using computers. Furthermore,

it assists in emphasising the importance of networks, connections, and the constant flow of information in the digital age, making it highly relevant to navigating and utilizing diverse online platforms and resources effectively, fostering critical digital literacy skills like information evaluation and collaboration within online communities. This study solely took Bawden's digital literacy into account. The theory of Bawden is summarised in Figure 1 below.

**Figure 1**

*Research Model of Bawden*
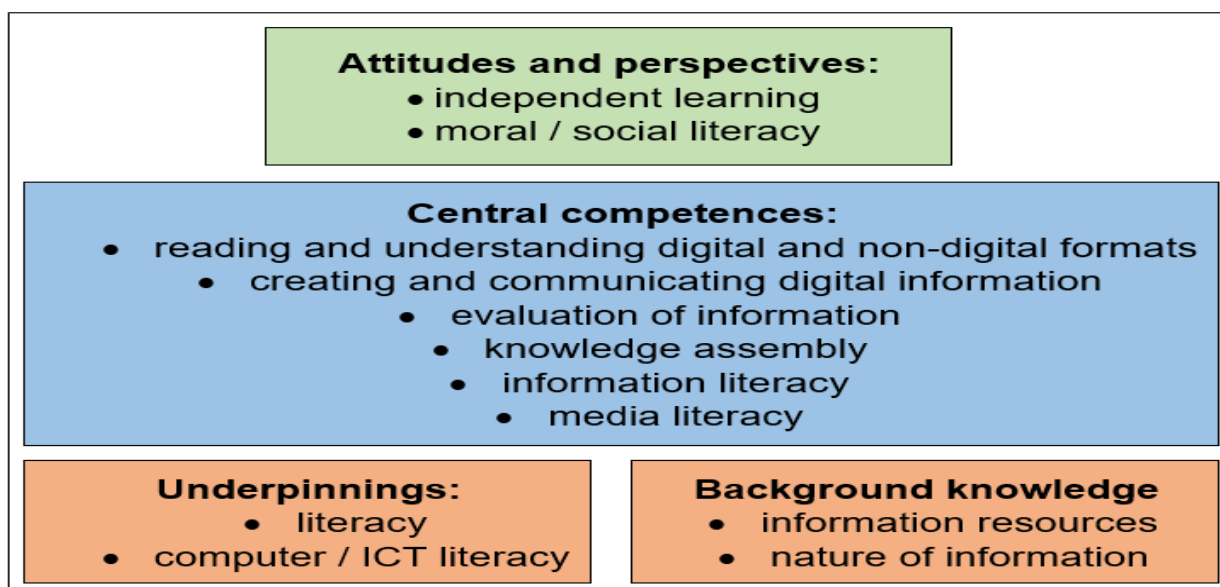


*Note: TVET colleges are frequently sluggish to adapt to changes in pedagogy and technology, even though digital literacy is a vital element of the curriculum. The design of digital learning resources is deeply rooted in pedagogical strategy from an educational standpoint.*

## Research Methodology

Quantitative research methodology was employed in this study. Research methodologies are the comprehensive procedures a researcher uses to start a study project (Leedy, & Ormrod, 2001; Williams, 2011). This study's quantitative research approach yielded reliable, accurate outcome data that was usually extrapolable to bigger groups. An exploratory design was used to obtain additional insight into a situation, population, or phenomenon (Bless, & Higson-Smith 1995; De Vos et al., 2011). When there is little to no past knowledge about the subject or when it is genuinely novel, exploratory research is used (Neuman, 2011). This study used an investigation and description method in conjunction with a quantitative methodology to investigate digital literacy among NCV on-course level students at TVET

colleges. The study's main goal was in line with the exploratory aspect's overarching goal, which was to investigate the levels of digital literacy of the NCV on-course level students at this college.

To measure population characteristics with statistical precision, surveys are a sort of quantitative research approach that use sample questionnaires (Sharma, 2023). The directed logic of the attitudes of NCV on-course level students towards particular phenomena was given to the researchers as a result. A large-scale survey may be carried out by researchers, who may subsequently get in touch with a chosen subset of respondents to find out more about their unique viewpoints on the study's topic (Tlotlo, & Soth, 2021). In survey research, a variety of methods can be utilised to get in touch with respondents, gather information, and apply various instruments.

In survey research design, one can employ quantitative research strategies and open-ended questions (i.e., questionnaires with numerically assessed items), or a combination of qualitative and quantitative research strategies (i.e., mixed methodologies) (Ponto 2015). Survey research has become a more systematic and exacting process in recent years, using methods that have been scientifically validated to account for the target population's representative sample, guarantee inclusivity, schedule the survey and reduce response mistakes, and ensuring that the research is of the highest calibre (Chen, & Wang, 2021).

## *Sampling*

For questionnaire-based investigation, the researchers employed probability sampling with 160 NCV on-course level students, in which 154 (96%) were female, 121 (76%) were aged between 18 to 25 years, 28 (17%) aged between 26 to 35 years and 11 (7%) aged between 36 to 45 years. The highest qualification of the 105 (66%) was Grade 11, 55 (34%) possessed Grade 12. The original residing area of 83 (52%) is the township, 66 (41%) from the rural area, 6 (4%) from urban area and 5 (3%) did not indicate their area. This probability sampling technique was used by the researchers to make inferences about the population (Bhardwaj, 2019). The sample was selected from the population consisted of 15 000 TVET College students, as they were directly involved and thus had a greater understanding of the research challenge. Sampling is one method for reducing the total population from which data will be collected (Etikan, & Bala, 2017). 160 NCV program students enrolled in the course were selected at random by the researchers using a questionnaire-based study design. Out of 160

questionnaires, 155 questionnaires were returned by participants. One key indicator of a survey-based study's legitimacy is its response rate. The response rate is frequently employed as the main metric for assessing the validity and quality of data gathered via questionnaires and surveys, according to Mellahi, & Harris (2016). The study's survey response rate was 97%. Because so many students responded, the data will give a thorough and accurate picture of the audience.

## Data collection methods

Data collection was done at one TVET college in the KwaZulu-Natal Province, South Africa. The five campuses that comprise this college are Majuba Technology Centre, Newtech, Dundee, Central People Development, and Information Technology and Business. Data were collected through fifty survey questionnaires with four sections: biographical information (age group, gender, residence, and highest level of students` education); internet and technology access; acquired digital literacy and information technology skills; and self-rating of these subjects. Data was collected from 160 NCV on-course level students. Quantitative surveys pose the same questions of a large sample of people (respondents) and usually include pre-selected response possibilities. Surveys were quantitative, posed closed-ended questions to a large sample of people (respondents) and included possible responses. The survey was developed by the article authors by reflecting on the commonly used applications together with the related literacy skills and were administered by hand. The researcher's reason for creating the questionnaires was directly related to the research goal, and it was made clear early on how the results would be used.

### Ethical Considerations

To ensure the safety of the study participants, the researchers built and preserved a rapport with them, enhanced the thoroughness of the research, prevented improper conduct and inappropriate behaviour that could have affected the organisations, and tackled new and challenging issues (Collinson, 2021). The ethical clearance certificate to conduct this study was granted by Turfloop Research Ethics Committee (TREC) with project number TREC/574/2022:IR, and Majuba TVET College in South Africa granted gatekeeper approval. It is immoral to collect data without the respondents' knowledge, consent, or expressed desire (Kumar, 2014). Participants were informed that their participation was entirely voluntary and that they could stop at any moment without facing any consequences. The study ensured the

anonymity of participants by withholding their identities and maintaining their privacy. Additionally, the researchers made sure that every piece of data they collected via the surveys was securely preserved. Schumacher and Macmillan (2010:119) state that respondents might sustain bodily or psychological harm. Participants in the study were kept safe from harm. The researchers informed the study participants that their participation would not cause them any bodily discomfort, discomfort, or emotional strain.

## Data Analysis Methods

The statistical software for the social sciences (SPSS, version 22) was utilised by the researchers for data analysis. Utilising statistical methods was another aspect of data analysis. Our understanding of variables and their interactions, impacts, and patterns of behaviour in our environment has been facilitated by statistical methods for data analysis (Welman et al., 2005). The appropriate statistical methods are required in order to test hypotheses using quantitative data. Babbie and Mouton (2005: 418) state that quantification of data is a prerequisite for statistical analysis. This study includes data manipulation. Data editing was done with the intention of finding errors, verifying completeness, and enhancing readability. The researchers looked for multiple replies to a single question, unclear or inconsistent answers, and other concerns (Singleton, & Straits, 2004). To evaluate respondents and spot questionnaire problems, all survey forms were reviewed. Each possible response to a questionnaire question was assigned a number as part of the coding process (Babbie, & Mouton, 2005, p.412). Thus, for converting data to numerical values, data coding was also used in this study. When it came to data entry, when the data was coded and ready to be entered, transfer sheets were utilised to input it into the computer (Babbie, 2001).

### Reliability and validity

The researchers employed the Cronbach's Alpha coefficient to ascertain the questionnaire's reliability. George and Mallery presented the general guidelines for calculating the Cronbach's Alpha value of a dichotomous or Likert scale instrument (2003). A Cronbach's Alpha analysis of 0.7 was conducted using SPSS version 22. This is seen in Table 1.

**Table 1**

*Cronbach's Alpha*

| Cronbach's Alpha | Internal Consistency |
|---|---|
| $\alpha \geq 0.90$ | excellent |
| $0.80 \leq \alpha < 0.90$ | good |
| $0.70 \leq \alpha < 0.80$ | acceptable |
| $0.60 \leq \alpha < 0.70$ | questionable |
| $0.50 \leq \alpha < 0.60$ | poor |
| $\alpha < 0.50$ | unacceptable |

Source: George and Mallery (2003)

The values of Cronbach's Alpha range from 0 to 1. The higher the internal consistency of a scale item, the closer its Cronbach's Alpha value is to 1. Cronbach's Alpha values fall into the following ranges, per George and Mallery (2003): 0.90 for exceptional internal consistency, 0.80 for good, 0.70 for acceptable, 0.60 for questionable, 0.50 for poor, and less than 0.50 for unsatisfactory. The calculated value of Cronbach's Alpha for this study is 0.7.

## Results and Findings

160 NCV on-course level students from one TVET college in KwaZulu-Natal Province, South Africa participated in this survey study. This TVET college enrolls 15,000 students annually on average. 154 (96%) of those surveyed are women. According to this, nine out of ten students who sign up for the NCV program are female. Furthermore, most of these respondents (76%) are in the 18–25 age range. Sixty-six percent of those surveyed have a grade 11 diploma (Figure 2).

**Figure 2**

*Gender, age group and highest qualifications*
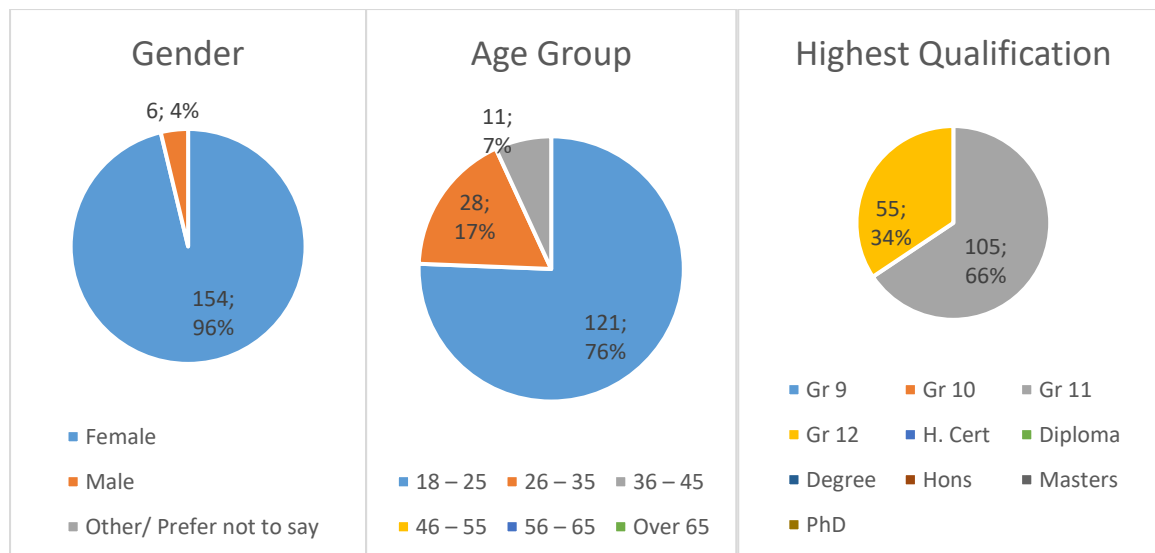


### Gender of on-course level students enrolled for NCV program at a TVET college

Most interested parties in NCV programs are women at TVET college (figure 2). According to this report, women/females/girls make up nine out of ten prospective NCV TVET college students. The study's tendency may point to a "turn" in the situation of females, women, or girls. Consequently, the TVET pathway might offer a different means of boosting women's involvement in both education and the workforce (Murphy-Graham, & Lloyd, 2016, p.561). Women's or girls' access to work and education is still limited (Boka, 2017). In addition, UNICEF (2018) claims that: "A generation of girls risks being left outside the labour force or trapped in vulnerable or low-quality employment, due to a lack of skills, absence of quality jobs, and gendered expectations of their roles as caregivers" (p. 1). Sixty-one percent of females who are not in employment, education, or training (NEET) in South Africa are employed (UNICEF, 2018). According to the findings of this study, there may be a change occurring that needs to be reinforced with focused initiatives.

### Age group of on-course level students enrolled for NCV program at a TVET college

Most interested parties enrolling for NCV programs are between age 18 to 25 years (as shown in figure 2). The study also discovered that the main reason young people want to participate in NCV programs is that these programs are designed to give students the theoretical, practical, skills and workplace knowledge they need to succeed in their chosen

vocational field (Hermans et al., 2024). Thus, as their job-readiness is increased, there is an expectation that these students will do well or adapt to the workplace fast (Potgieter et al., 2023). It is possible to draw the conclusion that the trend will minimise the effects on youth who are not in employment, education, or training (NEET). There is about 3 million NEET currently in South Africa (Mudiriza, & De Lannoy, 2023). Through, if NCV programs are completed successfully, the terrible effects that NEETs face could be avoided.

**Figure 3**

*Distribution according to original residing area, internet access, internet quality and hours spent on internet*
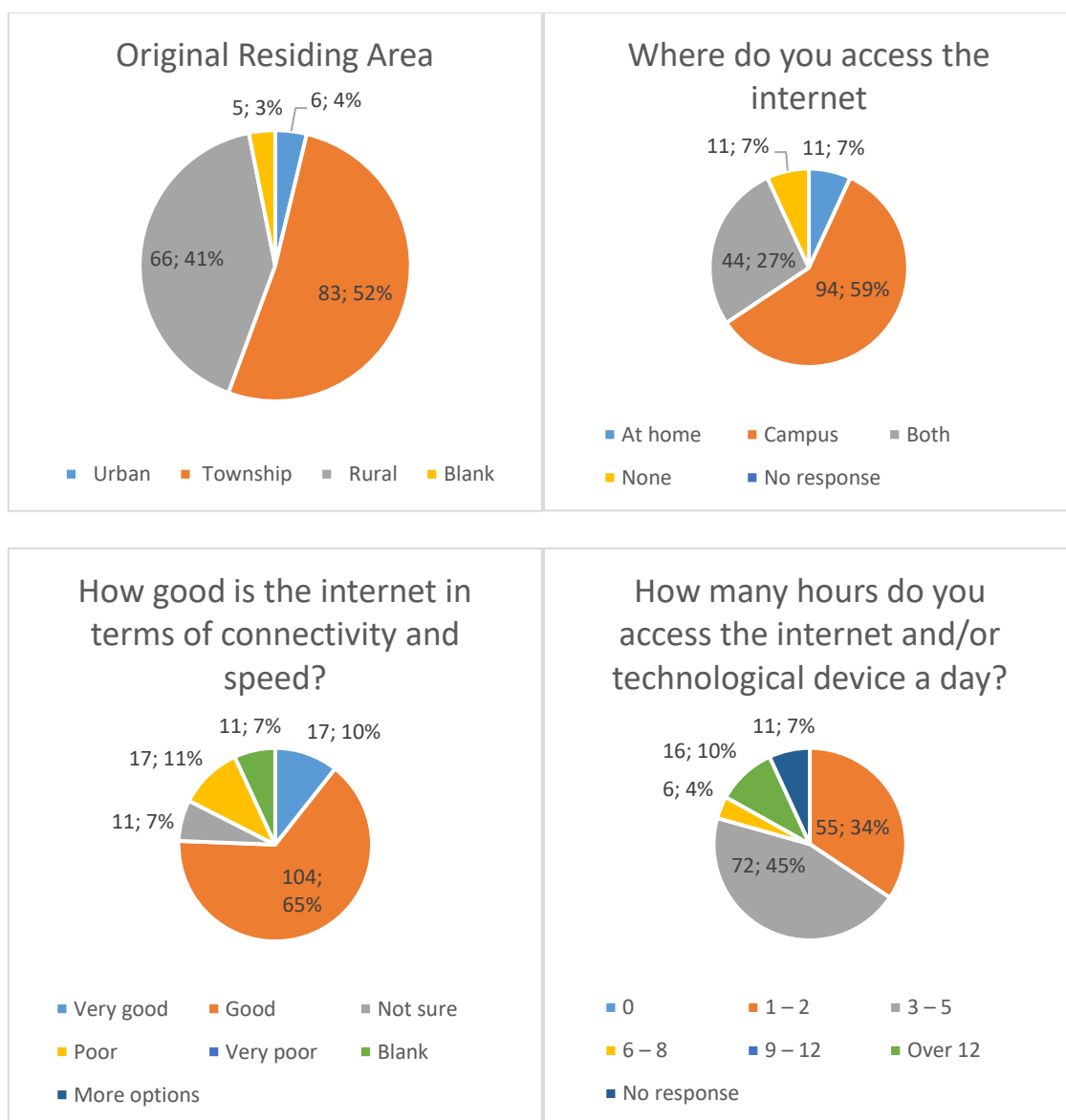
*Original residing area, internet access, and quality, and hours spent on the internet amongst NCV on-course level students are very high*

According to figure 3 above, the majority of NCV on-course level students (52%) live in townships, according to this study. Additionally, most of students (59%) have access to the internet and technology on campus, according to this report. Most people (65%) said they have decent internet connectivity and speed, and 45% said they use the internet for three to five hours per day. By providing a wealth of resources to aid students in their quest for knowledge, the use of technology and the internet in the classroom improves the educational process (Shatri, 2020, p. 420). Additionally, as teaching and learning can occur inside, between, and across various settings that could be seen as opposing one another, migration between the home and the campus as learning environments becomes ingrained. Extended and borderless learning environments are becoming commonplace. It is realistic to assume that the capacity for instruction and learning will be improved at the research location given its wide coverage of the internet and other technology.

**Figure 4**

*Distribution based on the usage frequency of office suite programs*
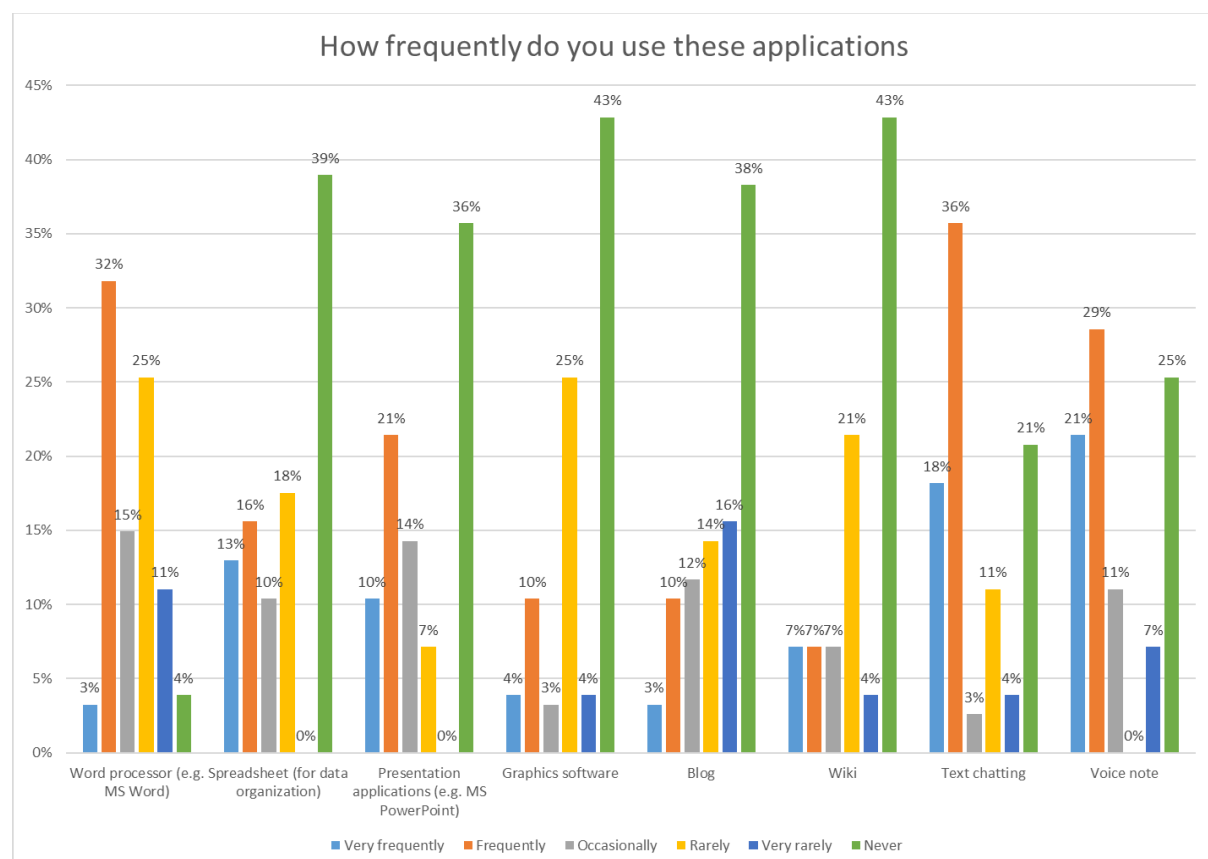
*The frequency of NCV on-course level students' use of office suite apps is comparatively greater*

An office suite is a collection of frequently used productivity-boosting programs. Word processing (50%), data organisation spreadsheets (39%), PowerPoint (45%), graphics software (17%), blogs (25%), wikis (21%), and text chatting (57%) and voice notes (61%) are the most common ways that NCV on-course level students communicate (Figure 4 above). These applications provide creative content delivery/reception alternatives, and students' regular use and familiarity with them portend well for enhanced teaching and learning and long-term results (Boka, 2017). In conclusion, amenities are available to research participants (Figure 3). This setting promotes the growth of a digitally literate student body.

## *Summary of Findings*

The survey results, based on a sample size of 155, reveal varying levels of application usage among participants. Word processors (e.g., MS Word) are frequently used, with 32% using them "very frequently" and 25% "frequently," while only 4% never use them. Spreadsheets and presentation applications show lower adoption, with 39% and 43% respectively reporting they "never" use these tools. Graphics software and blogs are among the least used, with 43% and 38% of participants never using them. In contrast, text chatting and voice notes are popular, with 36% and 29% using them "very frequently." Wikis also show low usage, with 43% never engaging with them. These findings highlight a strong preference for communication tools and word processing over advanced or specialized applications.

## Recommendations

The purpose of this study was to investigate the levels of digital literacy of NCV on-course level students enrolled at a TVET college. The following are the recommendations;

- Invest in upgrading and maintaining robust internet connectivity, computer labs, and digital learning resources within TVET colleges.
- Ensure equitable access to these resources for all students, especially those from disadvantaged backgrounds.
- Conduct further qualitative research to understand the reasons for low male enrollment in NCV on-course level programs.

- Develop targeted strategies to encourage male students to consider these programs, such as awareness campaigns and outreach programs.
- Implement ongoing professional development programs for TVET lecturers to improve their digital literacy skills and pedagogical approaches in a digital learning environment.
- Provide training on utilizing digital tools and resources effectively in teaching and assessment.

## Study limitations

The aim of this study was to investigate the levels of digital literacy of NCV on-course level students at a TVET college in South Africa. This research study was conducted on the campus of one of seven public TVET colleges in KwaZulu-Natal Province in South Africa. The achievement and success of this research study will be determined as time goes by. Its success will also depend on undivided attention that will be given to NCV on-course level students pertaining digital literacy skills. Having all respondents on one research site was also a limitation of the research study. Challenges faced by students on this campus would not be likely to be the same as compared to other public TVET college campuses in South Africa. A similar research study should be conducted on all seven campuses in order for the support to all NCV on-course level students to be strengthened.

## Conclusion

The researchers of this study wanted to investigate how digital literacy affected TVET college students at the NCV on-course level. The investigation focused on NCV on-course level students' digital literacy, the benefits of digital literacy for NCV on-course level students, the digital competency and family history of on-course level students, advocacy tactics for digital literacy, and TVET lecturers' digital literacy competences. Digital literacy is therefore becoming one of the most crucial components of education, particularly in the post-pandemic environment. On-course level students in the NCV program would find it difficult to stay up with their studies if they did not acquire digital skills. Numerous Students from disadvantaged backgrounds are among the most impacted and abandoned in their educational journey because of a lack of digital literacy skills and insufficient resources. Additionally, it is difficult to assume that TVET instructors are the only ones working to close the reading gap in their students. Thus, it is essential that the community, corporate organisations, educational institutions, and

local government all take part in this effort to increase awareness of the importance of digital literacy. It is possible to significantly enhance the NCV on-course level students' educational experience with the help of these stakeholders. To better understand the problem of very few male students on NCV on-course level programs, more qualitative study can be done. Studies can also investigate other age groups` lack of interest. It is also possible to investigate the connection between these programs' impact on NEETs.

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# المهارات الرقمية لطلبة برامج الشهادة الوطنية المهنية (NCV) في مرحلة الدراسة ضمن كلية التعليم والتدريب التقني والمهني(TVET)

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**ملخص البحث**

باستخدام تصميم المسح، تناولت هذه الدراسة مستويات المهارات الرقمية لدى طلبة برامج الشهادة الوطنية المهنية (NCV) في مرحلة الدراسة ضمن كلية التعليم والتدريب التقني والمهني (TVET) في جنوب أفريقيا. وتشير الورقة إلى أن الأبحاث تُظهر استمرار الفجوة في المهارات الرقمية بين طلبة هذه البرامج، حتى بعد تجاوز مراحل الفجوة الرقمية، وهو ما يتطلب معالجة جدية. وتوضح نتائج الدراسات أن العديد من الطلبة يفتقرون إلى المهارات الرقمية الأساسية عند التحاقهم بكليات التعليم والتدريب التقني والمهني، على الرغم من التوقعات بأن يكونوا متمتعين بقدرات رقمية مناسبة. استندت الدراسة إلى نظرية التعلم بالترابط(Connectivism Learning) ، وتم تحليل البيانات باستخدام برنامج الحزمة الإحصائية للعلوم الاجتماعيةSPSS ، الإصدار 22 .وقد بلغ معامل كرونباخ ألفا 0.7، مما يدل على أن أداة البحث كانت موثوقة وصالحة للاستخدام. أظهرت النتائج أن الطلبة في هذه المرحلة الدراسية يمتلكون كفاءات رقمية متفاوتة وغير متجانسة. وبناءً على ذلك، أوصى الباحثون بإنشاء برنامج دعم موجه ومُخصص لتطوير المهارات الرقمية لطلبة NCV في كليات التعليم والتدريب التقني والمهني. ومن المتوقع أن تُسهم هذه الدراسة في إثراء الأدبيات المتنامية حول تمكين طلبة NCV من المهارات الرقمية اللازمة.

**الكلمات المفتاحية:** الدعم الأكاديمي، المهارات الحاسوبية(TVET)، المهارات الرقمية، التعليم والتدريب التقني والمهني