

**COMPUTER PRACTICE MODULE LECTURERS' EXPERIENCES OF INTERNAL
CONTINUOUS ASSESSMENT AT TECHNICAL VOCATIONAL EDUCATION AND
TRAINING COLLEGES**

by

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COMPUTER PRACTICE MODULE LECTURERS' EXPERIENCES OF INTERNAL CONTINUOUS ASSESSMENT AT TECHNICAL VOCATIONAL EDUCATION AND TRAINING COLLEGES

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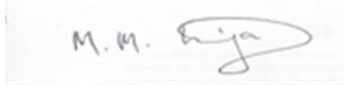
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DEDICATION

I dedicate this study to:

My parents for imparting to me the values of hard work, commitment and perseverance.

All the Technical Vocational Education and Training (TVET) college lecturers work tirelessly to make a difference in the lives of the young generation.

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ABSTRACT

Lecturers have different perceptions of the effect of internal continuous assessment (ICASS) on students at Technical Vocational Education and Training (TVET) colleges. This qualitative case study explored the computer practice module lecturers' experiences of internal continuous assessment (ICASS) in TVET colleges. Six lecturers were purposively selected from three KwaZulu-Natal TVET colleges. Drawing from an interpretivist perspective, cognitive and social constructivism guided this study. Data were collected by means of semi-structured interviews and document analysis. Collected data were transcribed, categorised into codes and themes emerged using the thematic data analysis method. The findings revealed that it was difficult to complete the curriculum due to limited time and assessment methods were limited and did not meet the diverse needs of students. Lecturers had to work beyond the set assessment schedules to cater for students who missed or scored below-average marks. Moderation and assessment feedback were not considered as critical aspects of the ICASS. The outbreak of the coronavirus (COVID-19) pandemic hindered the successful implementation of the ICASS. It is recommended that the policymakers should insist that the TVET College management specialise in in-service training for lecturers' professional development and upgrade the infrastructure and equipment. Time should be set for teaching activities to enhance effective learning so that extra lectures can be offered to students with limited or no previous computer knowledge and encourage them to follow the comments by lecturers as corrective assessment feedback. It is concluded that lecturers should use diverse assessment methods to improve students' ICASS.

KEY TERMS: Assessment for learning, assessment of learning, computer practice, curriculum, learning, assessment skills, students, support, teaching methods

UKUQALA

Abafundisi banemibono eyahlukahlukene ngemithelela yokuhlolwa okuqhubekayo kwangaphakathi kubafundi basemakolishi emfundo yezobuchwepheshe nokufunda (TVET). Lolucwaningo lwesigameko oluphathelele nesimo luhlola lokhu abafundisi besifundo sokuzijwayeza ikhompuyutha abahlangabezane nakho ekuhlolweni okuqhubekayo kwangaphakathi (ICASS) emakolishi emfundo yezobuchwepheshe nokufunda. Kukhethwe ngenhloso abafundisi abayisithupha kumakolishi emfundo yezobuchwepheshe nokufunda esifundazweni saKwaZulu-Natal. Lolucwaningo luholwe umbono oqondene nokuchachisa, ingqondo kanye no Lwazi oluvela emphakathini (social constructivism). Kusetshenziswe ingxoxo enesakhiwo esiyisigamu kanye nokuhlaziya kwemiqulu ukuze kutholakale ulwazi. Ulwazi olutholakele lube selushicilelwa, lwahlukaniswa ngokwezigaba nokufinqwa. Kube sekuvela nezindikimba ngokusetshenziswa kwendlela yokuhlaziya ulwazi ngokwezindikimba. Okutholakele kuveza ukuthi kubenzima ukuthi ziphele izinhlelo zezifundo ngenxa yesikhathi esiba sincane, kanti nezindlela zokuhlolwa zibe nemikhawulo futhi nezidingo zabafundi ezahlukahlukene azibhekelelekanga. Abafundisi bekufanele benze kokungaphezulu kohlelo olunqunyiwe lokuhlolwa ukuze bezobonelela abafundi abaphuthile noma abathole amamaki angaphansi kwemvama. Ukulinganisela nokubuyiselwa kwezimpendulo kuthathwe njengokungekho semqoka ekuhlolweni okuqhubekayo kwangaphakathi. Ukubheduka kobhubhane I-Corona Virus kuye kwaphazamisa ukuqaliswa kokuhlolwa okuqhubekayo kwangaphakathi ngempumelelo. Kululekwa ukuthi abenza iminqubomgomo bagcizelele ukuthi abaphathi bamakolishi emfundo yezobuchwepheshe nokufunda basebenze ngokukhethekile ekuqeqeshweni emsebenzini kwabafundisi ukuze bezothuthukisa ubuchwepheshe babo kanye nokuthuthukiswa kwenqalasisinda nezinsiza kusebenza. Kufanele kube nesikhathi esinqunyelwe ukufundiswa ukuze kuzothuthukiswa ukufunda okunemiphumela kanye nokwengezwa kokufunda kulabo bafundi abangenalo ulwazi noma abanolwazi olulinganiselwe lwekhompuyutha baphinde bagqugquzelwe ukuthi balandele imibono ebekwe abafundisi njengempendulo yokuhlola yokulungisa. Isiphetho sithi abafundisi

kufanele basebenzise izindlela ezahlukahlukene zokuhlolwa ukuze bezothuthukisa ukuhlolwa okuqhubekayo kwangaphakathi kwabafundi.

AMATEMU: Ukuhlolwa kokufunda, ukuzijwayeza ikhompyutha, izinhlelo zezifundo, ukufunda, amakhono okuhlola, abafundi, ukwesekela, izindlela zokufundisa.

MANWELEDZO

Vhagudisi vha magudedzini vha na kuvhonele kwo fhambanaho malugana na milingo ya nga ngomu gudedzini ya maraga dza khasi. Muvhigo uyu wo bvisela khagala tshipirioni tsha vhagudisi kha milingo iyo nga kha thero i vhidzwaho Computer Practice (U guda nga ha Khomphuyutha). Vhagudisi vha rathi vho nangiwa kha magudedzi mararu a KwaZulu-Natal TVET college. Ndivho, kuvhonele, u vhala na mihumbulo zwo vhathu vha pfesesa kana u vhona nga milingo iyi zwo eletshedza u ita muvhigo uno, nga dzi inthaviyuu na manwalo o sengulusiwaho. Mafhungo o kuvhanganyiwaho o vhekenyanyiwa nga dzi khoudu na zwipikwa hu tshi khou shumiswa mulayo u bvidzwaho u pfi thematic data analysis. Mawanwa ndi a uri zwi a konda u fhedza mushumo nga nthani ha tshifhinga tshituku na kufunzele kuno khou shumiswa kwo kaliwaho na hone a kuswikeleli thogea dza vhagudiswa. Vhagudisi vho tea u Shuma u fhirisa zwine vha shumisa zone u itela u thusa vho kundelwaho u phasa kana u nwala milingo iyo. Tsenguluso dza zwa manwalo na ndowetshumo a zwongo dzhielwa nthasa zwande zwi tshi da kha khasi U phadalala ha tshitshili covid 19 zwo tshinyadza mvelaphanda kha milingo ya dzi khasi. Zwo themendelwa uri vho ramilayo vhatea u ita uri vhurangaphanda ha magudedzi vha nee vhagudiswa ngudo I vha gudisaso mushumo (In service training) na u aluswa ha tshfhato na tshomedzo dzi todeaho u engedza ndivho kha vhagudiswa. Tshifhinga tshi tea u vheiwa nga ndila ine tsha do lingana u engedza pfunzo nga u Uguda u itela uri Hu vhe na u guda ho engedziwaho kha vhagudiswa vha sinaho ndivho nga khomphuyutha kana vhana vho katudzeaho vha dovhe vha tutuwedziwe nga Vhagudisi malugana na kushumele kwavho kha pfunzo dze vha ita. Ho dzhiwa tsheo ya uri vhagudisi vha shumise maitete o fhambanaho u itela u khwinifhadza maraga dza khasi dza vhagudiswa.

MATHEMO: Milingo ya u guda, milingo wa nga ngomu gudedzini, Uguda khomphuyutha, mishumo ya gudedzini, u guda, tshikili tsha u nwala milingo, vhagudiswa, thikhedzo, kufunzele.

ACRONYMS

ADCOM	Advisory committee on technical college examinations
BSc (AMIT)	Bachelor of Science Applied Mathematics and Information Technology
B-Com (MIS)	Bachelor of Commerce - Management Information Systems
BA	Bachelor of Arts
B-Com (Hons)	Bachelor of Commerce - Honours
B-Ed (Hons)	Bachelor of Education - Honours
B-Tech IS	Bachelor of Technology in Information Systems
C2005	Curriculum 2005
CHE	Council of Higher Education
CIP	College Improvement Plan
Covid-19	Coronavirus disease
CPTD	Continuous Professional Teacher Development
CPU	Central Processing Unit
DHET	Department of Higher Education and Training
DIR: NEA	Director General for National Examinations and Assessment
DoE	Department of Education
FET	Further Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-Framework
HEQSF	Higher Education Qualifications Sub-Framework
HOD	Head of Department

HON	Honours
HRDCSA	Human Resource Development Council for South Africa
ICASS	Internal Continuous Assessment
ITE	Diploma in Information Technology
NATED	National Accredited Technical Education Diploma
NCV	National Certificate Vocational
NDEE	National Diploma in Electrical Engineering
NEPA	National Education Policy Act
NPDE	National Professional Diploma in Education
NQF	National Qualifications Framework
OBE	Outcome-Based Education
PGCE	Post Graduate Certificate in Education
PGP	Personal Growth Plan
QC	Quality Councils
QCTO	Quality Council for Trades and Occupations
SACE	South African Council for Educators
SAQA	South African Qualifications Authority
SASSETA	Safety and Security Sector Education Training Authority
TSA	Territory-Wide System Assessment
TVET	Technical Vocational Education and Training
UK	United Kingdom
Umalusi	Council of Quality Assurance in General and Further Education
UNISA	University of South Africa
VET	Vocational Education and Training

WHO	World Health Organisation
ZPD	Zone of Proximal Development

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CHAPTER ONE

ORIENTATION OF THE STUDY

1.1 INTRODUCTION

Assessment of students' work is one of the lecturers' most complex and important tasks. Sambell, Brown and Graham (2017) assert that there is no doubt that assessment really matters to students. Assessment standards will not develop students' potential if lecturers do not know how to transform assessment instruction to meet assessment goals (Berger, Rugen & Woodfin, 2014). What lecturers assess and how and why they assess sends a clear message to students about what is worth learning, how it should be learned and how well they are expected to learn. However, if the students want to gain an academic qualification, they are unequivocally compelled to participate in the assessment processes designed by the lecturers (Sambell *et al.*, 2017). Satya and Sethy (2020) claim that while the processes of reviewing, enhancing and refreshing assessment approaches are vital, improving assessment is not likely to be a simple matter. For assessment to be wholly effective, any changes will demand more than a few quick fixes (Berger *et al.*, 2014).

As a lecturer teaching the computer practice module in one of the Technical Vocational Education and Training College (TVET) excluded in this study, the researcher has observed over the years that students at TVET colleges in South Africa have been performing poorly, irrespective of the guidelines provided by the Department of Higher Education and Training (DHET) for Internal Continuous Assessment (ICASS). According to Killen (2007), some lecturers have inadequate knowledge and skills pertaining assessment practices. Killen (2007) further asserts that lack of training, support and guidance are underlying factors for the failure of some lecturers to effectively apply assessment practices in order to address students' diverse learning needs. In view of this, the Department of Higher Education and Training and Umalusi (regulatory body in charge of monitoring the quality of assessment) have concluded that lecturers have insufficient expertise and competence to develop and implement assessment practices in line with the national assessment policy (DHET, 2013a; DHET, 2017) whereas the Human Resource Development Council for South Africa

(HRDCSA) (2014) reports that colleges are not adequately enhancing the growth of vocational skills in organisations.

1.2 BACKGROUND TO THE RESEARCH

In South Africa, TVET colleges, formally Further Education and Training (FET) colleges are part of a constantly changing environment in education. According to the report by the HRDCSA (2014), the vision of the White Paper (DHET, 2013b) on Post-School Education and Training for the TVET colleges is to equip students with skills, knowledge and values necessary for employment in both national and global labour markets. TVET colleges primarily provide training for the mid-level skills required to develop the South African economy and tend to concentrate on occupations in engineering and construction industries, tourism and hospitality, and general business and management studies (DHET, 2013a). The DHET White Paper (2013b) also envisages the development and support of an articulated post-school education and training system. Kraak, Peterson and Boka (2016) state that bridges are created between vocational or occupational programmes and academic programmes both vertically and horizontally in such a way that there are no dead ends for students.

The study conducted by Moodley (2013) highlighted that most lecturers concurred on the need for curriculum transformation following social-political and educational turmoil that South Africa underwent during the apartheid era. Therefore, curriculum adjustment was sought as a driving force to bring about holistic societal change in a democratic South Africa (Moodley, 2013). Assertively, the education system in South Africa has experienced numerous changes since 1994. The Outcome Based Education (OBE) methodology introduced in 1997 and expressed in Curriculum 2005 (C2005), was strategised to ensure that the learning objectives were achieved (Dreyer, 2014). The process and content of education were emphasised by deriving the learning process from the outcomes and to ensure that all students were able to achieve to their maximum potential and are equipped for lifelong learning in post-apartheid South Africa (Booyse & Du Plessis, 2014). The White Paper (4) on Education and Training (1989), the South African Qualification Authority (SAQA) (Act

58 of 1995) and the National Education Policy Act (NEPA) (Act 27 Of 1996) provided a framework for educational change (Booyse & Du Plessis, 2014:30).

The traditional approach to assessment, known as content-based assessment provided knowledge and skills to TVET College students but they were not coupled to a particular context (DoE, 2007b). Therefore, the introduction of OBE implied a shift to a different mode of assessment which is basically internal continuous assessment (ICASS) and moderation. ICASS contributes 40% and external examinations, which are set by the DHET, contributes 60% of the students' final mark. The planning, the setting, and moderation of assessments plays an imperative role in education (DHET, 2018). OBE required that the teaching, learning and assessment processes focused on obtaining skills, knowledge and values. TVET colleges were therefore created and developed to increase the number of skilled personnel in the country. This was confirmed by Higher Education and Training Minister, Naledi Pandor stating that she wanted to see the TVET sector increasingly becoming a confident able and very visible part of the skills instruction in South Africa (Pandor, 2018).

The study of lecturers' experiences of assessment practices is an important topic in the domain of assessment research. TVET College lecturers' perceptions of assessment are significant because their beliefs strongly influence how they teach and assess students. In addition, lecturers' experiences influence their classroom practices such as instructional techniques and motivational strategies (Railean, 2020). Though this area of research has wide-ranging implications for the teaching and learning process, little is known about computer practice module lecturers' experiences of assessment practices.

TVET College perspective of the assessment is based on the principles of challenge and reflection (Lutaaya, 2017). Dreyer (2014) asserts that conceiving the assessment task as a challenge to students requires assessment tasks to provide opportunities for them to address challenging, motivating realisations that incrementally require their implementation of high-level skills and performances. Assessment based on the principle of reflection means that tasks constitute an activity that encourages reflective, analytical and critical thinking through meaningful activities that make it possible to

assess own and others' work and actions, which thus allow judgments to be made (Conrad & Openo, 2018).

1.3 THEORETICAL FRAMEWORK

De Vos, Strydom, Fouché and Delport (2011:37) describe a theory as a set of interrelated hypotheses, concepts, constructs, definitions and propositions that present a systematic view of phenomena based on facts and observations, with a purpose of explaining and predicting the phenomena. This implies that a theory can be seen as a tool that can be used to address an immediate, practical problem through collecting, organising and interpreting data. This study was based on the constructivist theory.

In a constructive learning environment, lecturers use assessments as means to determine knowledge construction individually and socially (Anderson, 2004). According to Kaliampos (2021), constructivist lecturers view students as active participants in the learning process rather than passive. Knowledge is not obtained from the external environment; rather, the individual student internally interprets and processes the received knowledge through human senses to understand the information taught (Anderson, 2004). TVET College lecturers should apply assessment methods which allow students to construct knowledge rather than being given knowledge through instruction (Nieman & Monyai, 2014). Participative assessment methods such as group work and peer assessment encourage social learning while tests and assignments lead to cognitive learning. The creation of knowledge involves learning activities which are both physical and intellectual (Funa & Talaue, 2021). There are basically two theorists who guide this study, thus Piaget (1972) a cognitive constructivist and Vygotsky, (1978) a social constructivist. Piaget's theory focuses on how humans make meaning in relation to the interaction between their experiences and their ideas, and Vygotsky's social constructivist theory encourages student interaction and collaboration (Kaliampos, 2021).

A constructivist theory of learning was deemed applicable to the concept of assessment. Lecturers detect the level of knowledge creation from the learned content

through assessments. (Merriam, Caffarella & Baumgartner, 2007). During the ICASS assessments, students should actively participate in creating meanings to what was taught and learned.

1.4 STATEMENT OF THE PROBLEM

Owing to the advancing global new technologies in the creation of knowledge and network society, TVET colleges are seen as relevant avenues to equip students with the required skills to enable them to participate fully in the new knowledge economy. Thus, in terms of computer practice module teaching, learning and assessment, some of the South African national goals are intended at producing a workforce with 21st century skills needed in the existing networked society (Pandor, 2018).

The nature of contemporary social-economic structure and the type of labour force required in the global economy, TVET College lecturers have to be part of the network community to engage effectively in teaching, learning and assessment (DHET White Paper, 2013b). The technological centred economy expects teaching professionals to facilitate assessment activities in order to produce self-directed students who are skilled in executing computer-related tasks and able to create employment.

Lecturers of TVET colleges situated in KwaZulu-Natal Province have different experiences on the effect of internal continuous assessment (ICASS) on students. The study by Beets (2012) indicates that policy, especially in accountability and performativity regime, has a major impact on how lecturers teach and perceive their profession. Their experiences have led to the non-adherence to the ICASS processes. The Department of Higher Education and Training (DHET, 2013a) indicates that TVET College lecturers do not attach importance to ICASS and moderation and as such, the processes are not adhered to. The researcher has observed that many TVET College lecturers in KwaZulu-Natal Province were not trained on ICASS processes for the computer practice module. A study by Lutaaya (2017) affirm that failure to develop lecturers' assessment practices, stagnate students' ability to learn computer practice module. Therefore, lecturers' inadequate skills are the result of students' poor assessment processes. If the ICASS process is not adhered to, the learning process

and the students' achievements are negatively affected (Lutaaya, 2017). Therefore, the aim of this study was to explore computer practice module lecturers' experiences of internal continuous assessment at three KwaZulu-Natal colleges.

1.4.1 Primary Research Question

The main research question of this study asks: *What are computer practice module lecturers' experiences of internal continuous assessment at three KwaZulu-Natal TVET colleges?*

1.4.2 Sub-Questions

The following sub-questions will help clarify the main research question to effectively investigate and report the findings:

1. How do computer practice module lecturers plan for ICASS?
2. What support do lecturers get to enhance ICASS in the computer practice module?
3. What ICASS methods do computer practice module lecturers use to assess students' diverse needs?

1.5 THE AIM AND OBJECTIVES

The aim of this study was to explore computer practice module lecturers' experiences of internal continuous assessment at three KwaZulu-Natal TVET colleges.

The research objectives for this study were to:

- investigate how computer practice module lecturers' plan for ICASS?
- identify the support TVET College lecturers get to enhance ICASS in the computer practice module.
- explore ICASS methods that computer practice module lecturers use to assess students' diverse needs.

1.6 RESEARCH METHODOLOGY

Research methodology refers to the steps that are generally adopted by a researcher in studying the research problem along with logic behind them (Kothari, 2004). It comprises the theoretical analysis of the body of methods and principles associated with a branch of knowledge. Typically, it encompasses concepts such as research design, paradigm, theoretical model, phases, qualitative techniques (Rajaseker & Philominathan, 2013).

1.6.1 Research Paradigm

De Vos *et al.* (2011:40) define paradigm as a model or pattern containing a set of legitimated assumptions and a design for collecting and interpreting data. This study was grounded in interpretivist paradigm. The interpretivist paradigm was selected in order to enable the researcher to intensively explore computer practice module lecturers' experiences of internal continuous assessment at three KwaZulu-Natal TVET colleges. Funa and Talaue (2021) affirm that the interpretivist paradigm maintains that human beings are involved in the process of making sense of the world and they continuously create, give meaning, justify, define, rationalise, interpret and justify daily actions. Creswell (2007) asserts that participants seek to understand the environment in which they dwell and work. The researcher physically went to the TVET colleges to interview and collect documents for analysis in participants' natural setting in order to obtain in-depth data.

1.6.2 Research Approach

The research approach is a plan and a procedure that consists of the steps of broad assumptions to detailed method of data collection, analysis and interpretation (Stoecker & Avila, 2021). Hameed (2020) maintains that qualitative research aims at enhancing understanding and interpretation of the essence of occurrences and situations from the participants' point of view. The researcher selected a qualitative approach in order to be able to gain an intensive insight into KwaZulu-Natal TVET computer practice module lecturers' experiences and their perspectives on ICASS.

1.6.3 Research Design

According to Hameed (2020), the research design is a framework of techniques and methods that a researcher chooses to combine different components of the research project in a logical way such that the research problem can be handled effectively. According to Creswell (2007), a research design is a guide that directs the researcher's ideas enabling him or her to execute the study systematically and timely in order to yield detailed and quality results. An exploratory case study was used with the aim of providing a detailed account of experiences, events, relationships, processes and events by lecturers occurring in selected TVET colleges in KwaZulu-Natal Province with relation to ICASS for the computer practice module.

1.6.4 Research Methods

Research methods refers to the tools used to collect data in a research study. According to Stoecker and Avila (2021), research methods are techniques which are applied when conducting a research project. In other words, research methods are the methods which are applied by a researcher to carry out investigations on the research topic (Kothari, 2004).

1.6.4.1 Selection of participants

The TVET College lecturers of computer practice module at three TVET colleges in KwaZulu-Natal Province were purposively selected. According to Frank, Herr and Schwarz (2019), cases are sampled purposively for theoretical interest. However, purposive samples can be highly prone to research bias. A total of six participants (four male and two female) lecturers participated in this study. Chapter three will elaborate on participant selection.

1.6.4.2 Data collection

Creswell (2011) defines data collection as a process of obtaining important information. For this study, the semi-structured interviews and document analysis tools were used for gathering data.

1. Semi-structured interviews

Semi-structured interviews are social relationships designed to obtain information through direct interchange with an individual that is known to possess the knowledge required by the researchers (De Poy & Gilson, 2008). An interview schedule with a set of pre-planned questions was kept guiding the interview process. The interviews comprised of open-ended questions that were formulated to gain insight into the participant's experiences of the research problem (Hameed, 2020). Open-ended questions made it convenient for the participants to provide detailed information on their experiences.

2. Document analysis

Sutton and Austin (2015) describe document analysis as a process of studying the existing documents with the aim of understanding their substantive intent or to illuminate in-depth meanings which may be revealed by their content and style. The researcher analysed both public and private documents which included DHET and college policies as well as lecturers' portfolios.

1.6.4.3 Data analysis

Creswell (2007) defines data analysis as a logical and systematic process of explaining, describing, illustrating, reducing, interpreting and evaluating data in order to draw inductive inferences. The thematic data analysis method advocated by Braun and Clarke (2006) was used to analyse the collected data. The researcher began by becoming familiar with the content through reading and re-reading. This process involved dividing texts and transcribed data into smaller units that align. Each of these

units was assigned initial codes. Coding is a primary process for developing themes within the raw data by recognising important moments in the data and encoding it prior to interpretation (Braun & Clarke, 2006). After reducing data into manageable units, a list of candidate themes was developed for further analysis. In the next stage, the researcher coherently recognised how themes were patterned to tell an accurate story about the data. Finally, a comprehensive analysis of what the themes contributed to understanding the data took place.

1.7 MEASURES OF TRUSTWORTHINESS

Trustworthiness in qualitative research can be ensured by credibility, transferability, dependability, and confirmability, as outlined below:

1.7.1 Credibility

According to Sutton and Austin (2015), credibility is present when the research's findings mirror the views of the people under study. Credibility in qualitative research means the confidence of the data. In this case, the researcher discussed the analysis of the data with a co-worker on a continuous basis to ensure credibility of the study.

1.7.2 Transferability

Transferability can be defined as the extent to which the results of the research can apply to other research studies. This implies that the results of the research can be applied to similar situations or individuals.

1.7.3 Dependability

Dependability in qualitative research refers to the stability of data over time and over conditions (Kumar, 2011). To deal with the dependability issue more directly, the processes within the research were documented at length to allow future researchers to repeat the study, if not necessarily to obtain similar results.

1.7.4 Confirmability

According to Kumar (2011), confirmability in qualitative research refers to the extent to which results could be confirmed by other people. The audit strategy is the key technique for establishing confirmability. In this case, the researcher worked with a peer as an external auditor who followed the progress of events in this study to understand exactly how and why decisions were made.

1.8 ETHICAL CONSIDERATIONS

The concept of ethics according to De Vos *et al.* (2011:114) implies preferences that influence behaviour in human relations, conforming to a code of principles, the rules of conduct, the responsibility of the researcher and the standards of conduct of a given profession.

The study complied with the ethical requirements of the University of South Africa. Before the start of the study, an ethical clearance certificate was secured (*cf.* Appendix B). Permission was sought from the colleges, principals, and lecturers. The researcher was formally granted access to the colleges to collect data (*cf.* Appendices D, E & F). The consent of the participants was also obtained (*cf.* Appendix I). The participants were informed about the aim of the study. They were also assured of confidentiality and the fact that they were free to decline participation. Pseudonyms were used to protect the participants' identities.

1.9 SIGNIFICANCE OF THE STUDY

The findings of this study could reflect a positive impact on classroom assessment, instruction and learning. Knowing how TVET College lecturers in KwaZulu-Natal Province experience assessment could help policymakers better understand how to strategically, timely and consciously assess not only students' learning but also lecturers' instruction in the classroom. This knowledge could also help to enhance better curriculum planning, professional lecturer development and student support

programmes (Booyse & Du Plessis, 2014). This research output will contribute to the existing literature and more so, provide areas for further research.

1.10 DEFINITION OF KEY CONCEPTS

Explanation of the main concepts to be studied in this research or key factors and the presumed relationships between them is presented in the sub-sections.

1.10.1 Assessment

According to Satya and Sethy (2020), assessment is an ongoing process that lecturers use to determine whether or not students have acquired the knowledge, values or skills taught.

1.10.2 Assessment for Learning

Dreyer (2014) defines assessment for learning as a tool designed to monitor, support and promote learning. In this study, this kind of assessment occurs when lecturers continually adapt instruction to meet students' learning needs.

1.10.3 Assessment of Learning

According to Florez and Sammons (2013), an assessment of learning is defined as an assessment that takes place after a learning event or duration, usually a semester, a year or a specific phase of learning. For this study, assessment of learning is when the DHET external examinations are administered at the end of the semester.

1.10.4 Curriculum

A curriculum is defined as all the courses that are planned and offered in order to achieve the set objectives in the learning process (Booyse & Du Plessis, 2014).

1.10.5 Technical Vocational Education and Training

Odendaal (2015) describes TVET as post-education and training offered to students in order to equip them with necessary skills, knowledge and values that are required in the world of work.

1.10.6 Lecturer

Segabutla (2015) defines a lecturer as a person who instructs and assesses students. In this study, TVET College lecturers are also responsible for executing administrative tasks including developing subject and assessment files.

1.10.7 Experiences

Experiences mean conscious events in general, more particularly to perceptions, or to the empirical knowledge and the acquaintance that is generated by the conscious processes (Daher, Carré, Jaramillo, Olivares & Tomicic, 2017).

1.10.8 Computer Practice

According to Meyer, Van Rensburg and Jonck (2007), computer practice refers to the study of different parts of a computer and how they operate as well as their functions. These parts include the central processing unit (CPU), the keyboard and the mouse.

1.10.9 Support

The study by Erradu (2012) informs that support pertains to different approaches that a school undertakes to ensure that students' diverse needs are catered for, to promote effective teaching and learning. Erradu (2012) further explains that lecturers for instance, provide support after they have diagnosed students' needs and their learning styles before lesson planning (Erradu, 2012).

1.10.10 Teaching Methods

The study by Munawaroh (2017) describes teaching methods as principles and ways of teaching. The most common teaching strategies are the question-and-answer method, direct instruction, cooperative, problem solving, interactive instruction and experimental learning (Munawaroh, 2017). According to Nieman and Monyai (2014), teaching strategies are ways in which a lecturer chooses to deliver information.

1.11 CHAPTER DIVISION

The dissertation comprised of the following chapters:

Chapter 1: Orientation of the Study

The first chapter gave an overview of the research areas such as the introduction, background to the research, theoretical framework, problem statement, aims and objectives of the study, research methodology, definition of key concepts, division of chapters and the chapter summary.

Chapter 2: Contextual and Theoretical Framework of Computer Practice Module Lecturers' Experiences of ICASS

Chapter 2 provides a detailed literature review within the context of the study. Conceptualisations of assessment, an overview of assessment as well as assessment changes in the South African education system are discussed. The constructivist theoretical framework underpinning the study is explained. The chapter explains assessment reforms and policies as well as the types of assessment in TVET colleges. ICASS implementation, planning, monitoring and moderation are presented. Literature on the experiences of TVET College lecturers regarding assessment is discussed as well as the support provided to TVET College lecturers. Lastly, ICASS methods are discussed.

Chapter 3: Research Methodology

The third chapter offers a detailed description of the methodology which guided the study. This included sampling techniques, the methods of data collection and analysis, measures of trustworthiness and ethical considerations.

Chapter 4: Data Presentation, Analysis and Interpretation

Chapter 4 presents an in-depth analysis of the findings, discussion and interpretation of the findings obtained. The literature reviewed in Chapter two is integrated into the study findings to corroborate or disapprove of the existing viewpoints. The interpretation of the data is reported in this chapter.

Chapter 5: Summary, Findings, Conclusions and Recommendations

The last chapter concludes the study by providing recommendations based on the literature together with viewpoints solicited, analysed and interpreted from interviews and document analysis. This section gives limitations, concluding remarks and avenues for future studies.

1.12 SUMMARY

Chapter 1 served as an introduction to the study. It gives the background of why the study was conducted which is exploring computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges.

The next chapter presents in detail the contextual factors and theoretical framework of computer practice module lecturers' experiences on ICASS.

CHAPTER TWO
CONTEXTUAL AND THEORETICAL FRAMEWORK OF COMPUTER PRACTICE
MODULE LECTURERS' EXPERIENCES OF ICASS

2.1 INTRODUCTION

The aim of this study was to explore computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges.

This chapter also addresses the literature on the sub-questions below:

1. How do computer practice module lecturers plan for ICASS?
2. What support do lecturers get to enhance ICASS in the computer practice module?
3. What ICASS methods do computer practice module lecturers use to assess students' diverse needs?

While Chapter one provided an orientation to the study, this chapter discusses related literature on the contextual factors as well as the theoretical framework of the study. The contextual factors consist of a historical overview of assessment practices, TVET College lecturers' experience of ICASS planning and implementation, the support that lecturers get on ICASS as well as ICASS methods used in TVET colleges.

2.1.1 TVET College

The TVET College sector in South Africa was established in 2002 in terms of Further Education and Training (FET) Act 98 Of 1998. The amalgamation process transformed 152 former technical colleges (both public and public-aided) into 50 multi-site TVET colleges across South Africa's nine provinces (Manditereza, 2021). The concept of TVET College transcends beyond the borders of South Africa. According to Schmidt (2020), in Australia and New Zealand, TVET colleges commonly known as Vocational Education and Training (VET) are intended to fulfil economic and social objectives. DHET (2018) ICASS guidelines show that TVET colleges offer the NATED (The

National Accredited Technical Education Diploma) on programmes known as (N1-N6) for business and engineering studies as well as National Certificate Vocational (NCV). TVET colleges are aimed at alleviating and meeting the demands of post-school education for students who want to enrol for programmes after grade nine or after finishing grade twelve (Manditereza, 2021). They also serve students with poor matric results as well as those who need to acquire vocational skills (DHET, 2013b). The TVET approach constitutes the outcomes-Based approach whereby learning is supported by continuous assessment and moderation (Manditereza, 2021). After the internal continuous assessments, students write an external summative examination which is set by DHET.

The South African government, as the case with most countries internationally, placed notable emphasis on the importance of TVET colleges as a strategy to equip the youth with the necessary skills and knowledge needed to compete in the world of work (DHET, 2013b).

2.2 CONCEPTUALISATIONS OF ASSESSMENT

Assessment is defined variously in the literature. Conrad and Openo (2018) define assessment as a structured process of gathering and interpreting information from various sources to gain an in-depth understanding of student learning. Likewise, Walvoord (2004) and Lambert and Lines (2000:4) describe assessment as a systematic gathering of reliable information about students' learning.

According to Philip (2015), assessment should not only aim at obtaining evidence about how well students have achieved learning objectives, but it also should be helpful to the lecturers in subsequent lesson planning. In this case, improvement should not only be in the student learning but also the assessment process, and the lecturers should be able to adjust their planning for more effective teaching.

Early works by Black *et al.* (2003) show that students' diverse needs are identified when assessment is regarded as a critical aspect of instruction. Assessment enhances

the ability of TVET College lecturers to devise strategies for supporting students with learning barriers (Philip, 2015).

2.3 AN OVERVIEW OF ASSESSMENT REFORMS

Dreyer (2014) states that assessment in education and training has registered multiple reforms internationally. Changes in the assessment were fostered by curriculum changes as evidenced in countries using outcome-based education such as Australia, the United States, New Zealand and England (Booyse & Du Plessis, 2014) as well as South Africa. The policymakers introducing reforms intend to improve teaching, learning and assessment. However, as has been seen in many countries, continuous change does not guarantee improvement (Philip, 2015).

In Hong Kong, reforms in assessment have meant a move from a highly centralised examination system to an assessment system focused on a school-based formative assessment designed to enhance learning. (Darling-Hammond & McCloskey, 2008). The amalgamation of instruction, curriculum and assessment in an established teaching and learning environment sets the ground for reasonable and effective results (Darling-Hammond & McCloskey, 2008). The government of Hong Kong has opted to progressively replace the Certificate of Education Examinations that are set at the end of each of the five years that comprise secondary school with a Diploma that characterises school-based assessments. In addition, the Territory-wide System Assessment (TSA), which assesses limited student performance in English, Mathematics and Chinese, is developing an online form of assessment evaluation procedure which enables learning institutions to measure student performance and dissemination of feedback at convenient timeframes (Darling-Hammond & McCloskey, 2008). TSA assessments take the form of oral and written assignments and are conducted at grades 3, 6 and 9 levels.

The strategy of 'Learning to Learn' in Hong Kong, the reform plan as well as the objectives of the reforms, are meant to modify instruction where the curriculum, focuses on developing problem solving, critical thinking, cooperative learning and self-management skills (Darling-Hammond & McCloskey, 2008). The aim is to enhance

metacognitive thinking skills to encourage students to be able to identify their strengths and weaknesses. In addition, English and Chinese languages were rearranged forming criterion-referenced performance assessments not only composed of essays but also included speaking, listening and written components (Darling-Hammond & McCloskey, 2008). International educational reforms have continued to impact the changes to assessment,

A study by Thi (2015) mentions growing changes in assessment for learning in the United Kingdom (UK). There is recognition of the financial burden associated with a summative assessment with regards to planning, implementing and conducting examinations. This explains why there has been a growing interest in formative assessment. For instance, an assessment model was developed in the UK that uses a social constructivist model which points to students being active participants in the process of creating knowledge. The literature shows that this model acknowledges the importance of constructive feedback during self and peer assessments, hence balancing both formative and summative assessments (Thi, 2015).

2.4 ASSESSMENT REFORMS IN SOUTH AFRICA

When a national audit on teaching, learning and assessment was conducted in 1995, it was clear that challenges and disparities were prevalent in the-then assessment system (Booyse & Du Plessis, 2014). Several policies aimed at redefining and revamping the assessment system in South Africa after the democratic elections in 1994, were promulgated (Moodley, 2013). A shift from an era of centralised government implied that the elected democratic government needed to find different modes to regionalise certain duties in order to conform to the demands and perspectives of the people who had been previously deprecated. The birth of democracy saw the establishment of legal frameworks that would direct the growth of education in the new South Africa, which included policies that would guide effective assessment practices in TVET colleges.

2.4.1 The National Education Policy Act (Act No. 27 of 1996)

This policy was established in April 1996 in order to amend the previous policy and democratise the national education system to serve the interests and needs of all South African students (DoE, 2007). Subsections (1) to (3), of the Education Act stipulate that the Minister shall determine national policy for monitoring and evaluation of teaching, learning and assessment systems. Furthermore, the national policy shall determine curriculum frameworks, core syllabuses, education programmes, learning standards, examinations and the certification of qualifications, subject to the provisions of any law establishing a national qualifications framework or a certifying or accrediting body (DoE, 2007). The policy brings into play the role of educational assessment in TVET colleges. What is taught, learned and assessed in TVET Colleges in South Africa is grounded in the stipulations of the National Education Policy (No. 27 1996) Sub-sections (1) to (3).

2.4.2 The South African Qualifications Authority (SAQA) Act (No. 58 of 1995)

The South African Qualifications Authority (SAQA) Act is a National Policy on Criteria and Guidelines for Assessment of NQF Registered Unit standards and Qualifications. SAQA was established to direct the development and implementation of the National Qualifications Framework (NQF) through formulating and reporting on standards for the registration of bodies responsible for teaching, learning and assessment (SAQA, 2001). For any TVET College to be able to offer learning programmes, it has to be registered with SAQA. The Department of Education (DoE, 2007) states that SAQA's main responsibility is to ensure the development of unit standards and qualifications which are mapped on the NQF. Assessment practices in TVET colleges are therefore guided by SAQA since the mandate to teach and assess various programmes is based on the mandate from this Act.

SAQA seeks to achieve the aims of NQF through:

- Establishing, maintaining and enhancing an integrated and clear national framework for acknowledging learning qualifications,

- Ensuring that South African certificates meet the required standards set by the Minister as stipulated in Section 8 of the NQF Act (Act 67 of 2008),
- Ensuring that South African qualifications are internationally competitive and are quality, and
- Acknowledging that assessment is critical to teaching and learning (Booyse & Du Plessis, 2014).

2.4.3 The National Qualifications Framework (NQF)

SAQA (2001) defines the NQF as a broad system endorsed by the Minister of Higher Education and Training to grade, register and publicise national qualifications and part-qualifications. SAQA and NQF policies work hand in hand to ensure effective assessment practices in TVET Colleges. NQF requires SAQA to establish policies and criteria for assessment in TVET colleges in South Africa. The following sub frameworks underpin NQF as well as their quality councils (QC):

- The Higher Education Qualifications Sub-Framework (HEQSF) stipulated in the Higher education Act (101 of 1997), which is controlled by the Council of Higher Education (CHE).
- The General and Further Education and Training Qualifications Sub-Framework (GFETQSF) contemplated in the General and Further Education and training quality assurance Act (Act 58 of 2001) as amended by the NQF Act of 2008, is overseen by Umalusi.
- The trades and occupations qualifications sub-framework is known as Quality Council for Trades and Occupations (QCTO) (Booyse & Du Plessis, 2014).

The aim of the National policy and criteria for designing and implementing assessment for NQF qualifications and part qualifications that were designed under SAQA in 2001, is to establish fair, effective, valid, reliable, transparent, consistent and appropriate assessment that aligns with NQF requirements.

SAQA (2001) expresses strong support for the principle that assessment is an integral part of teaching and learning and vital to the acknowledgment of students' achievements. Quality assessment practices are therefore crucial to the granting of credible certifications. SAQA (2001) confirms that quality assessment is assured through assessment procedures and practices being governed by the principles of fairness, validity, reliability and manageability. The discussion below gives details of assessment principles that TVET College lecturers can employ in an attempt to enhance quality assessment.

➤ *Fairness*

The concept of fairness in assessment focuses on equity (Booyse & Du Plessis, 2014:78). Equity implies that every student must have an opportunity to learn, acquire and develop the knowledge and skills that are assessed (Booyse & Du Plessis, 2014:78). The method of assessment should not present any barriers to the achievement of the outcome at hand. Fairness allows all students to prove their achievements. Jaiswal (2019) asserts that fairness is built on the principle of equality. Assessing students equally implies that the activities administered are the same as well as the mode of evaluating the achievements, irrespective of the student's age, gender, race, colour, religion sex or social class. Standardisation is yet another crucial aspect of equality in assessments. The tasks administered should meet the minimum standard requirements. This means that TVET College's internal assessment policies should ensure that students are offered equal opportunities to apply the knowledge and skills that they have learnt.

➤ *Reliability*

Reliability occurs when an instrument measures the same thing more than once and results in the same outcome (Matshaya, 2016). Something that is reliable will perform in the future as it has in the past. Salkind (2006:106) refers to dependable, consistent, stable, trustworthy, predictable and faithful as synonyms for reliability. In a learning environment as well as outside learning, reliability implies the extent to which an assessment procedure is likely to produce similar results (Booyse & Du Plessis, 2014).

In other words, reliability of assessment mean that the same assessor would make the judgement again in similar circumstances and judgements match judgements made on similar evidence (De Vos *et al.*, 2011). Satya and Sethy (2020) outline the strategies that can be implemented by TVET College lecturers to increase the level of reliability of assessment tools. Reliability can be increased through standardising the conditions under which an assessment test is taken, increasing the level of measurement, standardising the instructions and increasing the number of assessment items.

Killen (2010) asserts that the application of reliability in assessment is influenced by different aspects such as examinations, tests and the degree of difficulty, the designed memorandum, environmental factors and the interpretation of students' responses. Unreliable assessment results do not build a sound foundation for further assessment and have no positive impact on student learning. Given this, lecturers as assessors should be knowledgeable, qualified as subject experts and should be in a position to provide consistent instructions (SAQA, 2001).

➤ *Validity*

Validity describes the extent to which the assessment measures what is supposed to measure (Matshaya, 2016). The evidence focuses on the requirements laid down in relevant standards and matches the evidence requirements of the outcome at hand that mirrors the conditions of actual performance as closely as possible. Thus, the definition of validity has two aspects, that is, showing that the instrument actually measures the concept in question and that the concept is measured accurately under conditions (Dreyer, 2014). A valid assessment implies that an assessment tool is accurate and covers all the content that is intended to be measured. To ensure the validity of assessments at TVET colleges, lecturers need to adequately prepare students by ensuring that assessment criteria are provided ahead of time. Assessment schedules should be planned and provided to the students, demarcating the content coverage. This implies that students are made aware of what is expected of them and will thus be able to perform at the expected level.

Validity in assessment can be attained through:

- Matching the evidence with a compatible or appropriate method of assessment.
- State the outcomes.
- The evidence should be current and sufficient.
- The assessment instrument should be selected and aligned with the assessment (Booyse & Du Plessis, 2014).

➤ *Manageability*

The principle of manageability focuses on the execution of assessment modes, tasks and instruments inclusive of time, facilities, equipment and available financial resources (Hauser, 2015). Some TVET College lecturers are unable to ensure fair, reliable and valid assessment processes owing to insufficient resources (Lutaaya, 2017). This is still a hindrance for South African TVET colleges as some have limited access to the most needed resources such as laboratories for practical experiments. This in turn leads to ineffective assessment procedures that render the process invalid and unreliable.

2.4.4 Further Education and Training Colleges (FET) Act (Act No.16 of 2006)

The Further Education and Training Colleges (FET) (Act No.16 of 2006) was formulated following the country's need to create a balanced economy where all trained South Africans would have access to the world of work without hindrances (SAQA, 2001). According to the Department (DoE, 2007), the FET colleges Act was purposed to create opportunities for all South African students to acquire up-to-date practical expertise, knowledge and skills that meet the national and international demands of the technologically advancing labour market. However, the efforts of the state to bring about social-economic development would be in vain without effective teaching, learning and assessment. With the understanding of the aims of FET Act No.16 of 2006, the Department of Higher Education and Training (DHET) seeks to effectively assess the processes of assessments applicable in TVET colleges (DHET, 2018).

The discussion below highlights assessment types indicated in the DHET assessment policy guidelines, as evidenced by the National Education Policy (No. 27 1996) subsections (1) to (3) (DHET, 2018).

2.5 TYPES OF ASSESSMENT IN TVET COLLEGES

Assessment *for* learning is conducted as the learning takes place in contrast to the assessment *of* learning, which is conducted at the completion phase of learning (Fu, Hopper & Sanford, 2018). In addition, the diagnostic assessment takes place during lesson planning and baseline assessment occurs before to the lesson introduction. Fu *et al.* (2018) also indicate that integrated assessment is a group of assessments that are critical for the completion of a qualification and authentic assessments refer to practical assessments. These types of assessments are discussed in the subsequent sections.

2.5.1 Assessment for Learning (Formative Assessment)

Although the understanding of formative assessment differs widely, Carless, Bridges, Chan and Glofcheski (2017) assert that assessment for learning is reasonably well-entrenched as part of higher education pedagogy. It is widely known that assessment practices are largely responsible for promoting learning. When well-planned, implemented and evaluated, assessment is likely to produce meaningful learning, whereas flawed assessment might lead to ineffective students' learning (Philip, 2015). In the TVET sector, assessment for learning is manifested through internal continuous assessments (ICASS), offered through assignments and internal tests and designed to determine the progress of students' learning towards their achievement of learning objectives (DoE, 2007).

The study by Fu *et al.* (2018) indicates that formative assessment plays a critical role in the instructional process because it assesses the ability of the students to comprehend new content that they have learnt. In addition, studies by Carless *et al.* (2017) affirm that formative assessment is the heart of instruction and possibly can lead to a reduced gap between poor performers and excellent achievers. Bhoola's

study (2013) reveals that students who are exposed to formative assessment tend to perform better than those who are deprived of support, with some of these students ending up victims of social ailments as they opt to drop out of school. Jaiswal (2019) argues that integrating formative assessment into curriculum design leads to the realisation of productive teaching and learning. Making connections between teaching, learning and assessment encourages a comprehensive approach to the analysis of assessment and its impact on the teaching-learning process (Jaiswal, 2019:1076).

Assessment for learning takes place when TVET College lecturers continually adapt instruction to meet students' needs (Dylan, 2013). Weak and strong areas are identified in the assessment so that further development can be focused to improve student performance. Formative assessment is therefore seen as an integral part of the instruction (Mussawy, 2009). TVET College lecturers can enhance formative assessment through formal and informal assessments such as research projects, group activities, practical presentations, interviews and assignments.

2.5.1.1 Principles of assessment for learning

Certain principles comprise aspects in which assessment for learning can be understood and implemented (Florez & Summons, 2013). Assessment for learning is critical during lesson planning, as it promotes effective classroom management and enhances understanding of learning objectives. These principles are a direct indication of the importance of assessment tasks. During lesson planning, TVET College lecturers should be able to create various tasks upon which students will be assessed (Fu *et al.*, 2018). To ensure this, lecturers must set learning objectives that can be understood by the students. In addition, lecturers should continuously follow up on the learning progress of the students by reminding them of the learning outcomes. Jaiswal (2019) asserts that TVET College lecturers ought to evaluate student learning and provide constructive feedback that would ensure improvement.

Assessment for learning is constructive, drives learning and leads to achievement of educational goals (Conrad & Openo, 2018). This implies that assessment impacts positively on student motivation for learning especially when lecturers provide

constructive feedback. Carless *et al.* (2017) urge that lecturers should avoid offering negative responses when students have not met the expected grades or achievements. Students need to be guided by providing suggestions which can prompt better performance and any learning progress about the student's previous performance (Dylan, 2013). Assessment for learning pays attention to the learning process, helps students to improve and enhances their ability to self-evaluate themselves and their peers. According to Carless *et al.* (2017), the student learning process must be a focal point for all the activities that take place during lesson administration. This requires that lecturers develop an awareness of students' individual needs and thereafter provide the necessary support (Carless *et al.*, 2017).

Assessment for learning depicts the professionalism of the lecturers since it highlights the difficulty involved in putting assessment for learning into practice as it requires lecturers to develop the needed skills for doing so. Florez and Summons (2013) recognise the need for good quality professional development programmes as a prerequisite for effective implementation of assessment for learning.

2.5.1.2 How to achieve assessment for learning

Assessment for learning can be achieved through:

- engineering constructive classroom participation,
- offering feedback that promotes learning,
- adjusting planning to meet students' diverse learning needs,
- promoting co-operative learning, and
- clarifying as well as sharing intentions and criteria (Hauser, 2015).

2.5.1.3 The role of questioning in assessment for learning

The principles of assessment for learning are more likely to be put into practice if TVET College lecturers practise better classroom questioning (Jaiswal, 2019). For instance, students should be granted sufficient time to think through questions to provide relevant responses. This means that the questions used by lecturers should be

understandable and mostly open-ended as opposed to closed questions (Booyse & Du Plessis, 2014) as open-ended questions allow students to use their higher-order thinking skills. The environment in which students are questioned requires a calm atmosphere that appears less threatening so that students feel free to participate and interact. A study by Thi (2015) revealed that open questioning is critical to eliciting data about the learning progress of students. It further fosters student participation and self-assessment.

2.5.2 Assessment of Learning (Summative Assessment)

Assessment of learning is the snapshot in time that lets lecturers, students and their parents know how well each student has completed learning tasks and activities (Fu *et al.*, 2018). Assessment should aim at providing and reporting information concerning student achievement with regard to learning objectives (Conrad & Openo, 2018). External examinations in TVET colleges are a clear example of summative assessments. External national examinations for the computer practice module are designed to be written at the end of each semester (DHET, 2020a). The examinations are set and marked as per the DHET requirements according to the specifications of each subject. In the case of computer practice, the examination normally has a theoretical and practical component.

2.5.3 Diagnostic Assessment

Diagnostic assessments are used for formative purposes (Conrad & Openo, 2018) and can be used as a pre-assessment to collect information for effective planning of instruction (Fu *et al.*, 2018). It requires acknowledging students' diverse learning needs thus involving checking prior knowledge and skill levels or even learning styles (Coetzee, Niekerk, Wydeman & Mokena, 2015). This helps to correct the misconception that could be held by TVET College lecturers that students come to school with less talent to perform certain tasks such as conducting an experiment or writing an analytic memo (Hauser, 2015). From this scenario, a TVET College lecturer ought to recognise such misconceptions.

2.5.3.1 Baseline assessment

Baseline assessment takes place before the lesson commences and it is meant to determine what students know and can do (Booyse & Du Plessis, 2014). It therefore, informs lecturers about where to start their lesson and what critical areas to emphasise, mostly those that are unknown to the students (Phillip, 2015). Baseline assessment assists to identify students' strengths and weaknesses, and this understanding catalyses the learning particularly in areas where students lack knowledge. According to the Department, TVET College lecturers must identify diverse students' needs including those with difficulties to learning as this will set a pace for effective teaching, learning and assessment (DoE, 2007b).

2.5.3.2 Integrated assessment

Integrated assessment refers to a group of assessments that are critical for the acquisition of a particular qualification (SAQA, 2001). It is a holistic set of assessment tasks needed for a qualification. This form of assessment includes handwritten responses as well as a practical component as means of determining the degree of learning (SAQA, 2001). Students' ability to demonstrate understanding acts as a yardstick to measure the effectiveness of teaching and learning (Coetzee *et al.*, 2015). The essence of integrated assessment is to assess students in areas where they are expected to demonstrate certain competencies.

At the TVET College level, modules such as computer practice take the form of integrated assessment. The ICASS assessment tests and the external examinations comprise both theoretical and practical sections. Students are required to write answers for the theoretical part and use the computer to answer the practical section.

2.5.3.3 Authentic assessment

Authentic assessments are realistic and practical because they allow students to perform in real-world situations (Dreyer, 2014). The best method to achieve an authentic, balanced and fair assessment of student progress is to offer individual

students diverse opportunities to demonstrate their abilities in various ways and different contexts (Sephokgole & Makgato, 2019).

An important aspect of authentic assessment is that it takes into consideration students' diverse learning styles, interests and aptitudes. This implies that it makes provision for students with learning disabilities and reflects on local values, standards and contexts (Sephokgole & Makgato, 2019). TVET colleges utilise this form of assessment through the practical component of learning that students engage in at workplaces to gain practical experience usually done after the completion of the theory learning that is offered at the colleges (DHET, 2017).

2.6 THE EXISTING DEBATES IN RESEARCH ABOUT ASSESSMENT

In the context of educational practice there are some crucial issues concerning assessment which demand the attention of all parties who are concerned with the quality of teaching, learning and assessment process at all levels of education. The following aspects are points of contention with regards to assessment.

2.6.1 Poor Test Quality

A study by Areekkuzhiyil (2021) indicates that tests may not show adequate evidence of validity and reliability. Some tests used for educational assessments are not standardised or prepared according to the assessment guidelines which deprives them of good qualities. According to Areekkuzhiyil (2021), the question papers used by lecturers are criticised on the ground that they fail to assess the actual level of learning as they are composed of content that might not have been covered at the time of assessment. Mafugu (2021) advances that one of the reasons for the poor quality of tests is that the creation of good quality tests requires a lot of time. TVET College sector being an educational establishment is no exception to being affected by the matters of poor-quality tests. DHET (2017) shows that internal assessments are set by subject lecturers. This implies that lecturers are likely to design assessments simple enough to pass the students. In this case, quality is compromised.

2.6.2 Measurement Issues

Assessment measurement involves designing opportunities to gather evidence, collecting evidence, interpreting it and acting on interpretations. Assessment is not simply an elicitation of evidence but also includes making inferences from that evidence (Dreyer, 2014). According to Areekkuzhiyil (2021), assessment is an inferential process because others cannot know certainly what understanding exists inside a student's mind, they can only make conjectures or conclusions based on what lecturers observe from such things as class participation, classwork, homework and test performance. The measurement lies in the interpretation of evidence from students' performance and achievement (Dreyer, 2014). For example, weak performance in mathematics may be due to linguistic deficiency, but the same would wrongly be interpreted as underachievement in mathematics. TVET College's internal assessment protocols for computer practice involve three sets of tasks where each a given percentage comprise (DHET, 2017). For instance, the assignments make up 20%, the first test constitutes 30% and the trial examination sums it up with 50%. DHET (2018) informs that assignments are a take-home activity where students tend to copy answers directly from the learning materials. A study by Sebetlene, (2016) shows that students tend to apply rote learning where they cram answers and forget them immediately after writing a test and an examination. Learning can hardly be measured where remembrance is non-existent.

2.6.3 Changes in Assessment Practices

Advances in the understanding learning have highlighted inconsistencies between many traditional assessment and reporting practices and what is now known about general conditions that promote effective learning (Mafugu, 2021). There has been growing recognition within the education communities of the need to develop assessment methods for a broader range of skills and attributes necessary for life in the 21st century, including the ability to work in teams, innovate, solve complex problems, and analyse and evaluate diverse information. Areekkuzhiyil (2021) informs that growth in technology has raised the possibility and challenge of fundamentally transforming assessment processes and information in the future. The dichotomies

like quantitative versus qualitative; formative versus summative; norm-referenced versus criterion or standards-referenced; tests versus assessments; internal versus external; continuous versus terminal; measurement versus judgement; assessment of learning versus assessment for learning became default basis for conceptualising and describing the field of assessment.

The South African education system has seen critical changes post 1994. OBE which was initiated in 1997 gives clear evidence of changes in the assessment practices of TVET colleges. Lombard and Grosser (2008) conducted a study on the ideals of the OBE system and the intended aim to create critical thinkers. New assessment policies and regulations that TVET College lecturers have to come to terms with as well as their stronghold of traditional practices contribute to the fact that curriculum is not always successfully translated in the classroom (Lombard & Grosser, 2008).

2.6.4 Open Book Examinations versus Closed Book Examinations

An open book examination allows students to consult their study materials such as textbooks, dictionaries and class notes (Mafugu, 2021). The traditional approach to learning treats the information content of a subject to be critical. The lecturer plays a mediation role while the student is expected to understand, retain and retrieve the learned information during tests and examinations (Berger *et al*, 2014). This serves as a measure of the content that students can store. Open-book examinations allow students to learn on their own and apply the acquired knowledge.

TVET College's internal and external assessments are divided into closed and open-book examinations (DHET, 2018). Research by Green, Ferrante and Heppard (2016) show that conventional closed-book examinations demonstrate only what students can do with whatever they have been able to memorise. In contrast, open-book examinations are associated with education for the future and evaluation of high-level skills such as problem solving, conceptualisation and reasoning. Green *et al*. (2016) indicate that an open-book examination does not always result in higher achievement. Green *et al*. (2016) add that the anticipation of open-book examination results in less preparation on the part of the student.

2.7 ASSESSMENT FEEDBACK

Assessment should assist in offering information that can assist students and lecturers to modify learning activities to enhance productive learning (Jaiswal, 2019). Additionally, Jones (2005) defines assessment feedback as information given to individual students concerning their performance or behaviour. It should further be used to form and shape the learning experience to the optimal benefit of students (Florez & Summons, 2013). With constructive assessment feedback, students are in a position to focus on their performance and work to achieve the required knowledge or skills (Ghaicha, 2016).

It is often acknowledged in the literature that constructive feedback is perceived as a basic aspect in the application of assessment for learning in TVET colleges (Florez & Summons, 2013). Mussawy (2009) asserts that explanatory and particularised feedback is considered more befitting for a learner-centred context, as opposed to an exclusionary process of distinguishing the right from wrong tasks to allocate the final percentages. Jaiswal (2019) affirms that students can easily understand the feedback they receive from lecturers or peers if the intentions and expectations of learning are made clear to them. In addition, Hauser (2015) insists that feedback comments should be directed to fundamental criteria such that lecturers and students are able to share a common understanding concerning the improvement that needs to be made and determine the approaches that would assist in achieving the set learning objectives.

Hauser (2015) indicates that lecturers should scaffold students through positive feedback following assessments because it is a crucial element in developing their skills and understanding. Feedback should never be confused with providing help to the students by solving the problem when they are unable to do it on their own (Jaiswal, 2019). TVET College lecturers should be in a position to allow students to think through a problem for themselves if effective teaching and learning has to take place. The following are considered benefits of effective feedback:

- Student confidence: It boosts students' confidence since it acknowledges what a student has done well.

- Tracking of progress: Students get the opportunity of tracking their learning progress.
- Attendance: It motivates students' attendance which in turn promotes effective learning.
- Identifying strengths and weaknesses: It informs students of their strengths as well as areas that probably need more attention.
- Student retention: effective feedback raises students' morale to learn because they attach value to the feedback provided by lecturers.
- Increased class participation: students will always feel encouraged to participate in class activities when feedback provided is constructive.
- Achievement of learning outcomes: it is easier for students to understand and meet the desired objectives as set by lecturers when learning outcomes have been clarified and timely feedback has been provided.
- Motivation: students' desire to improve will be heightened when they feel supported by lecturers.
- Progress: when students understand what is expected of them, learning progress is assured.
- Student-lecturer relationship: when students feel helped and supported, they will always appreciate the lecturers' input which automatically leads to quality teaching and learning.
- Class behaviour: one of the best techniques of dealing with behaviour in class is to show progress that comes from effective teaching and learning (Jones, 2005).

2.7.1 Constructive Feedback

Constructive feedback is based on the learning outcomes in the form of knowledge, skills, values and attitude that students are required to meet at the end of the learning process (Jaiswal, 2019). It therefore highlights areas of adequate performance and gaps which may need modification (Florez & Summons, 2013). The strengths and achievements are set against areas of improvement without dwelling unduly on either (SAQA, 2001).

A positive tone is paramount in providing positive feedback, which implies that areas of achievement are recognised first, and failures are treated as targets for future improvement (Jaiswal, 2019). The feedback would be based on the set criteria against the learning which is assessed.

2.7.2 Guidelines for Constructive Feedback

Table 2.1 below outlines guidelines to feedback, with column one offering guidelines for constructive feedback and column two counterproductive feedback.

Table 2.1: Guidelines to feedback

Constructive Feedback	Counterproductive Feedback
Feedback that scaffolds students by giving them the needed assistance	Corrective feedback, lecturers focus on correcting errors giving students less opportunity to apply feedback
Immediate feedback is provided during the performance for the students to apply what they have been taught.	Delayed feedback which can easily be ignored by students as it is given when they have already moved to a new topic
Balanced feedback where positives are set against areas which require improvement without dwelling more on either one.	Unbalanced feedback that focuses either on strengths or weaknesses with little understanding of the other dimension
Written comments with clear explanations that prompt application	Percentages and grades are a strong form of giving feedback.
Task-involving feedback that encourages attendance of knowledge, skill and values so as to succeed in a particular task.	Ego-involving feedback that encourages students to learn in isolation whilst comparing themselves with their peers
Feedforward always present which can be obtained through setting deadlines for students to read and respond to feedback.	Feedforward is absent as lecturers ignore the importance of the feedback and its impact on student's future performance
A positive tone normally achieved through appreciating students' achievements whilst providing avenues to improve the weak areas.	The negative tone which can be realised through demotivating comments that closes the students' opportunity to improve their performance

(Source: Adapted from: Dreyer, 2014:19)

2.8 NATIONAL EDUCATION POLICY, FORMAL TECHNICAL COLLEGE INSTRUCTIONAL PROGRAMMES

According to the DHET policy document (DHET, 2018), formal technical college instructional programmes constitute a list of all national Certificate and Diploma programmes offered by TVET colleges in South Africa. These programmes were endorsed by the Minister of Education in alignment with the National Education Policy Act (DoE, 2001). The policy also defines the minimum standards required for a student to be enrolled on a certain programme, the duration of the programme, instructional offerings and promotional requirements. The assessment procedures for the programmes defined in Report 191 ICASS document (DHET, 2018), indicate that formal technical college instructional programmes are well established, providing ICASS guidelines for internal assessments that are relevant for determining students' final achievement (DoE, 2001:23).

According to the Department (DoE, 2007), all TVET College assessment practices for both internal and external assessments should be conducted by the guidelines provided by national assessment policies. Therefore, TVET College's planning, implementation, management and monitoring of ICASS and external examinations should be based on the national assessment policies (DHET, 2017). Familiarity with and knowledge of these policies empowers TVET College lecturers to fully understand the essence of effective assessment, which suggests that they should define their roles not only as lecturers but also as assessors.

2.9 INTERNAL CONTINUOUS ASSESSMENT

ICASS is integral in supporting the teaching and learning process. ICASS, which implies school-based assessments, assist in diagnosing and tackling students' learning needs continuously in the normal teaching and learning environment beyond the constraints of an examination process (DHET, 2017). Both the students and subject lecturers can evaluate the learning progress and determine whether remedial interventions are needed (DoE, 2007).

2.9.1 The ICASS Mark Component

TVET College's internal assessments are composed of tasks such as assignments, tests and internal examinations which culminate into a final term mark that constitutes students' final marks. Students are expected to obtain a pass mark percentage from internal assessments to be able to pass the final external national examinations (DoE, 2007). Students are required to complete the provided assessment tasks for each subject, as indicated in Report 191, for a particular semester. Marks which are obtained from these tasks are used to compile ICASS marks for each subject (DHET, 2017).

2.9.2 ICASS Mark Component for Computer Practice

Table 2.2 illustrates internal assessment tasks for developing the computer practice marks.

Table 2.21: ICASS mark distribution for the computer practice module

Assessment Task	Assessment Tool	Mark Allocation	ICASS Percentage Mark component (40%)	External Examination Mark Component (60%)
1. Assignment (theoretical or practical)	Marking memo or rubric	20%	50% 20/40	60% 36/60
2. Internal test (theoretical or practical)	Marking memo or rubric	30%		
3. Internal examination	Marking memo	50%		
Total		100%		Total Final Marks 56%

(Source: Researcher's depiction)

The table above shows three assessment tasks that constitute the percentage mark for the computer practice module. All TVET College students taking this instructional programme at any level thus N4, N5, or N6 must complete all three tasks to meet the requirements needed to sit for the final external National examination (DHET, 2017). Students who do not meet the required minimum ICASS marks, do not receive their results from DHET until all tasks have been completed and the marks are sent by college management to the DHET examination department. Notably, ICASS is compulsory for all students registered for a certain instructional programme offered at a TVET College.

2.9.3 Setting of ICASS tasks

The design of assessment tasks should ensure that different aspects are assessed such as knowledge, skills and attitudes (Sephokgole & Makgato, 2019). Standardisation is therefore crucial since it ensures that the percentage marks for ICASS are not inflated due to setting simple or difficult tests that allow students to achieve high or low marks. The implication is that careful thinking and competence in setting assessment tasks are important (DHET, 2020a). Dreyer (2014) shows that the tasks included in the ICASS mark should collectively and progressively cover what is supposed to be taught in a particular subject.

Different curriculum learning objectives lend themselves to different types of assessment tasks (Booyse & Du Plessis, 2014). In setting ICASS tasks, six levels of questioning could be used following Bloom's Taxonomy. Ruhl (2021) defines Bloom's Taxonomy as a hierarchical model that categorises learning objectives into varying levels of complexity, from basic knowledge and comprehension to advanced evaluation and creation. Basic knowledge relates to remembering something that was learnt. Comprehension requires that lecturers set questions which allow students to express their understanding of concepts taught within the curriculum to create meaning. Application refers to the ability to interpret and apply knowledge, analysis relates to examining and distinguishing to understand how different parts form the whole, evaluation is the ability to make judgements, critique and make recommendations while creation necessitates the construction of new material (Ruhl,

2021). In developing assessment tasks, TVET College computer practice lecturers need to ensure that ICASS questions cover different levels of knowledge.

2.9.4 Moderation of ICASS Assessments

The Department (DoE, 2007) describes moderation as a process of determining the standards applied in the setting of tasks and in assessing students. The quality of assessment tasks together with the performance of students are judged before, during and after the administration of tasks (Florez & Summons, 2013).

In pre-assessment moderation, TVET College lecturers are required to develop an analysis grid that should be used to measure the tasks about the learning outcomes. The analysis grid covers aspects such as the degree of the intellectual depth of the questions, duration and mark allocation (Dreyer, 2014). Thereafter, a subject expert verifies and approves the assessment task before it is written. After the assessment has been written, post-assessment moderation is then conducted on the sampled written and marked tasks (DoE, 2007). The aim is to verify the correctness of the assessment tool and to determine whether students have been fairly treated in the assessment process.

2.9.5 ICASS Moderation Reports

TVET College subject experts are responsible for generating reports following the verification of tasks before and after they have been administered (DHET, 2017). Assessment moderation reports are submitted to the head of academics so that the information can be used by management to measure the extent of compliance with the internal assessment policies (DoE, 2007).

2.9.6 ICASS Tools

The Department identifies assessment tools that should be selected based on the type of assessment task being conducted (DHET, 2017). Examples of assessment tools include rating scales, observation sheets, checklists, rubrics and marking memoranda/

guidelines. TVET College computer practice lecturers are required to align assessment tools with the tasks administered.

2.9.7 Recording of ICASS Marks

The Department requires assessment task marks to be converted to reflect the weighting of a particular subject (DHET, 2017). Marks have to be rounded off to avoid the use of decimals. The final converted mark should be indicated on the mark sheet as well as on the record sheet. The final ICASS mark is then transferred to the mark sheet for resulting purposes. TVET College lecturers are normally provided with a mark sheet by DHET to record the final ICASS mark for each student. These marks are then captured on the computer system that allows a text file to be sent to the Department.

2.9.8 Monitoring of Implementation of ICASS

The academic departmental heads at TVET colleges are responsible for ensuring that the ICASS component is implemented in a manner that does not compromise the principles of Report 191 guidelines of assessment (DHET, 2017). The follow up process should be carried out on an ongoing basis to ensure productivity and compliance (Sephokgole & Makgato, 2019). Following the monitoring process, the academic line managers submit the report to the academic head and the final report is then produced from these reports at the end of the learning period. The academic head assesses the reliability of the reports, makes recommendations and acknowledges the good practices from the entire exercise.

2.10 NATIONAL POLICY ON THE CONDUCT, ADMINISTRATION AND MANAGEMENT OF THE ASSESSMENT OF THE NATIONAL CERTIFICATE (VOCATIONAL)

The Department states that the National Policy document on the conduct, administration and management of the assessment of the National Certificate (Vocational) aims to provide the necessary support about planning, co-coordinating

and executing assessment systems in TVET colleges (DHET, 2018). The document further provides guidelines for ICASS as well as external assessments for TVET colleges. All these processes of the policy are aligned with the National Education Policy Act, 1996 (Act No. 27 of 1996) and Chapters 3 and 7 of the Further Education and Training Act, 2006 (Act No.16 of 2006) (DoE, 2007b).

2.10.1 National Policy Relating to the Examinations of Formal Technical Colleges Instructional Programmes

National Policy relating to the Examinations of Formal Technical Colleges Instructional Programmes supplies directives and conditions associated with managing and conducting external assessments in TVET colleges (DHET, 2018). The National Policy is further responsible for regulating the privileges and rights of all the people involved in the examination process, thus students, guardians or parents and companies that need examination results (DoE, 2007). To execute tasks successfully, the Director General for National Examinations and Assessment (DIR: NEA) formed the Advisory Committee on Technical College Examinations (ADCOM) as mandated by the Minister. According to the Department (DoE, 2007), ADCOM was formulated in 1996 provide counsel to the Minister on issues regarding TVET College external assessments as well as policy formulation and implementation. ADCOM constitutes representatives from lecturer unions, student bodies and the Directorate: national examinations and assessments and provincial education department. Members meet during convened meetings as guided by the Chief Director to deliberate matters concerning TVET College assessments.

2.10.2 Building an Inclusive Education and Training System

According to the Department (DoE, 2001), White Paper 6 on special needs education emerged as a result of the need for transformation to be made for the provision of education so that it is receptive to students' diverse learning needs. In consolidating the South African Education and Training system, the Constitution of South Africa requires all South Africans to adhere to the fundamental right to education, as stipulated in Section 29 (1) (DoE, 2007). Further, the policy summarises the

commitment of the Ministry of Education to providing equal educational opportunities to all South African students without any discrimination. This is particular about students who encounter barriers to learning. SAQA (2001) explains the principle of fairness which directly relates to the idea of inclusive Education and Training. In the TVET sector, as all students are entitled to fair assessment processes, TVET College lecturers should use Education White Paper 6 as a guideline to diversify their teaching and assessment strategies taking into account the various learning needs of their students.

2.10.3 The Directives issued by Umalusi in terms of the General and Further Education and Training Quality Assurance

According to Booyse and du Plessis (2014), the National Qualifications Framework (NQF) Act, 2008 (Act No 67 of 2008) instituted Umalusi as the Quality Council for General and Further Education and Training. The Department explains that Umalusi is purposed to ensure accreditation, quality assurance and certification of all assessment bodies and TVET colleges that offer qualifications at the General and Further Education and Training level (DoE, 2007).

2.10.4 The South African Council of Educators (SACE) Act (Act No.31 of 2000)

The South African Council of Educators (SACE) is a statutory professional body which was established by SACE Act No.31 of 2000 (DoE, 2006). The objective of SACE is to improve the status of the teaching profession through appropriate registration, monitoring and management of professional development and the development of a code of ethics for all lecturers (DoE, 2006:17). As a professional council, SACE is mandated to control the implementation, management and quality assurance of continuous professional teacher development (CPTD) system. The national educational policy requires that all TVET College requires must be registered with SACE (Booyse & Du Plessis, 2014) and it aims to develop TVET College lecturers' teaching, learning and assessment skills.

2.11 THEORETICAL FRAMEWORK UNDERPINNING THE STUDY

A theoretical framework is a roadmap to the intended study (De Vos *et al.*, 2011). A theoretical framework provides a path through which a study can be conducted in an organised and logical manner (Lutaaya, 2017). A good theoretical framework provides certainty to the reader that the study is not based solely on personal opinions but rather informed by concrete facts obtained from valid studies (Simon & Goes, 2011). In addition, Lutaaya (2017) asserts that an investigation without a theoretical framework makes it hard for the readers to determine the trustworthiness of the inquiry. This makes the research less appreciated as a contribution to the existing body of knowledge (De Vos *et al.*, 2011). To conduct the project purposefully, the researcher engaged with constructivist theory encompassing both cognitive and social constructivism to attain an understanding of the phenomenon under study.

2.11.1 Constructivist Theory of Learning

This study was guided by the constructivist theory of learning (Van der Walt, 2020) which incorporates both cognitive or individual constructivism developed by Piaget (1972) and social constructivism by Vygotsky (1978).

Powel and Kalina (2009) state that an effective classroom, where lecturers and students are communicating optimally, is dependent on using constructivist strategies, tools and practices. Constructivism is embedded in the belief that learning emanates from analysing and transforming any new knowledge. For lecturers to use it effectively, they have to know where the student is at a given learning point or the current stage in their knowledge of a subject so that students can create personal meaning when new information is given to them (Powel & Kalina, 2009).

2.11.2 Cognitive Constructivist Theory

Cognitive constructivism originates from Piaget's work. Piaget's theory of cognitive development proposes that humans cannot be given information that they immediately understand and use; instead, humans must construct their knowledge (Piaget, 1972).

According to Kaliampos (2021), cognitive lecturers believe that the reception of new knowledge largely depends on existing understanding. Anderson (2004) states that constructivists focus on self-awareness and self-regulation (metacognition), lecturers seeing students as active participants in the learning process rather than passive. Knowledge is created through internal processes by connecting ideas and facts presented to students by lecturers which is supported by prior experiences and reflection (Kaliampos, 2021). Constructivist lecturers enhance cognitive processes of individual students by administering challenging assessment tasks (White, 2012). Constructivism is embedded in the belief that learning emanates from analysing and transforming any new knowledge. Lecturers ought to understand the essence of assessment, plan for it, monitor the progress to determine whether learning took place (Nieman & Monyai, 2014).

Merriam *et al.* (2007) note two basic processes which are critical to reflective practice, namely reflection-on-action and reflection-in-action. Reflection-on-action constitutes thinking through a situation after it has occurred. It involves conscious return to the previous experiences and re-evaluating these experiences to determine the level of learning (Merriam *et al.*, 2007). In contrast, reflection-in-action points to the assessment tasks which allow concurrent learning. On the same note, Booyse and Du Plessis (2014) stress Piaget's (1972) focus on the importance of assessment tasks in the learning process. Lecturers should design assessment activities which are both physical and intellectual to allow construction of knowledge (Kaliampos, 2021).

Constructivists understand that learning is emanates from life experiences (Lutaaya, 2017). This implies that TVET College lecturers who facilitate and assess the computer practice module ought to create opportunities for students to experience their own learning. Lutaaya (2017) suggests that assessment activities to be administered should be mentally stimulating in order to provoke higher order thinking skills. Assessment strategies that can be employed by TVET College lecturers to enhance cognitive development include research projects, case studies, debates as well as oral and practical presentations. In this case, the lecturer plays a mediating role through guiding students.

2.11.3 Social Constructivist Theory

Vygotsky (1978) believes that social constructivism is an integral part of learning and the social environment in which a student finds himself or herself plays an important role. Social constructivists believe that learning originates from the interaction between the lecturer and the student, mediated by a culture which values the search for knowledge (White, 2012). The zone of proximal development (ZPD), which is part of Vygotsky's (1978) social constructivism theory, brings in the idea of what the lecturers can do for students to learn by themselves and what they can understand with support from peers or lecturers (Fry, Ketteridge & Marshall, 2009) which points to the concept of scaffolding. In this case, lecturers make learning more student-orientated as opposed to lecturer-centred learning.

A study by Chetram (2017) affirmed that social constructivism theory positions TVET College lecturers as part of the social unit and learning to be a process due to social interactions. The interaction between TVET College computer practice lecturers with students is of utmost importance and it directly influences understanding. TVET College computer practice lecturers are tasked with encouraging students to participate in learning activities for effective teaching, learning and assessment to take place (Hauser, 2015). Lecturers measured the degree of learning when the students are able to do things that they were unable to do before through the engagement with peers. Therefore, learning occurs through continuous assessment, guidance and mentoring in a socially directed learning environment (Hauser, 2015).

The lecturer guides students to gain their individual understanding and deductions before they assume the facilitating role (Matshaya, 2016). This implies that TVET College lecturers can allow students to work under their supervision to solve problems. Constructivist assessment tasks enhance individual discovery and cooperative learning. This allow lecturers to understand the critical, analytical and problem-solving skills gained.

In addition, Hauser (2015) affirms that individual and group assessments should include different levels of questions to enhance effective learning. This suggests that

lecturers set both formal and informal assessments to encourage students to think critically and solve problems as this helps them to formulate understanding based on their own analysis and experiences whilst at the same time comparing it with what their peers know. Therefore, assessment modes such as group projects should be included in assessments designed by TVET College lecturers. In this case, an elected group leader serves as a facilitator under the supervision of the lecturer.

When lecturers incorporate group work, students are encouraged to distil their own ideas whilst modelling those of their peers (Kaliampos, 2021). Additionally, the lecturer is also in a position where he or she is able to deal with not only individual students but also consider their diverse needs due to varied life experiences (Lutaaya, 2017). In this sense, the lecturer understands his or her position and authority in defining what comprises formal knowledge in circles of assessment.

A constructivist theoretical framework was chosen for this study owing to its possible influence on the improvements in ICASS methods in TVET colleges. Constructivist assessment approaches employed by lecturers have an important effect on student learning both cognitively and socially (Van der Walt, 2020). In cognitive constructivism, knowledge is created individually which points to application of ICASS methods that allow internal cognitive processes to take place while social constructivism relates to ICASS methods which allow socialisation among lecturers and students (Kaliampos, 2021). Cognitive and social constructivist frameworks support the argument as to why this study was significant in exploring computer practice lecturers' experiences of ICASS in three KwaZulu-Natal TVET colleges.

Professional development experiences assist TVET College lecturers to develop a new understanding of teaching and assessment. Constructively, TVET College lecturers are able to change their instructional and assessment practices as well as gaining subject knowledge owing to professional development.

Rout and Behera (2014) notes that professional learning which is responsive to the needs of both lecturers and students take various forms including cognitive coaching. According to Kaliampos (2021), cognitive coaching is based on the idea of the

construction of knowledge rather than the transfer of knowledge. Professional development is a social construct and fluid in nature since it includes providing occasions for lecturers to reflect critically on their teaching, learning and assessment practices. Rout and Behera (2014) assert that constructivist professional development follows a bottom-up approach where lecturers serve the role of being students as well as lecturers. The structured support upon entry into the profession commonly known as induction is characterised by interaction between TVET College lecturers and the experienced mentors Rout and Behera (2014).

TVET College lecturers act as information constructors to give their personal experiences of assessment practices. Shah (2019) notes that lecturers create their own understanding of reality with regards to teaching, learning and assessment. Through social negotiation, lecturers, continuously test their knowledge and create new understanding, correct previous knowledge or confirm present knowledge to students (Shah, 2019).

2.12 CONSTRUCTIVIST ASSESSMENT

Constructivist lecturers view learning as a process of creating and recreating knowledge by a student. This view of learning is what encourages participative learning in a classroom where formative assessment is practised. Effective learning takes place when assessment and teaching are aligned (Nieman & Monyai, 2014). In this kind of environment, assessment enables students to experience authenticity of what they are taught in the classroom. The cognitive constructivist lecturers assume that learning takes place only when students actively participate individually in complex learning environments that enhance higher order thinking and problem-solving skills (White, 2012). In view of this, assessments, both formative and summative, which align with teaching should foster critical thinking.

From a constructivist's point of view, meaningful assessment at TVET colleges should inculcate the culture of quality assurance in order to create authenticity in knowledge acquisition. Learning outcomes should in reality be achieved and this is only possible if the assessment policies, criteria and standards are adhered to by TVET College

lecturers. Another component of constructivist assessment is reflection. In this case, TVET College lecturers can also reflect on their teaching and assessment modes to determine whether effective teaching and learning has taken place (Merriam *et al.*, 2007).

Constructivist lecturers motivate collaboration in the learning process (White, 2012). Therefore, in reality, these are interactions that take place between lecturers and students, students and students as well as students and information. Constructivist lecturers design assessments to provide an opportunity for students to analyse their own learning and collaborate in the learning process (White, 2021). This confirms the aspects of interdependenacy and reciprocity of teaching, learning and assessment. An analysis from a constructivist perspective asserts that assessment processes are directly intertwined with teaching and learning (Nieman & Monyai, 2014). Constructivist's teaching and learning environments becomes a reality if TVET College lecturers adjust their teaching, learning and assessment practices to those that enhance students' conceptual change. According to Nieman and Monyai (2014), learning outcomes are envisaged in teaching and assessment methods.

The basic assumptions underlying constructivism are summarised as:

- Lecturing should begin with content and experiences with which students are more likely to be familiar. Learning should take place in realistic settings and assessing should be integrated with the task and not a separate activity.
- New information should not be delivered in a way that necessitates students to change their cognitive processes radically and instantly. Lecturers should organise the learning process in a manner that allows students to reflect on their previous knowledge, be able to align it with the new understanding until their cognitive models have been developed.
- Lecturers should apply teaching and assessment approaches which challenge students to derive understanding from the content presented by the lecturer. The objective should be to encourage independent learning.
- Instructional designs should allow both individual and co-operative learning (Selepe, 2011).

Anderson (2004) argues that constructivists believe that learning should occur in realistic settings and that assessment should not be a separate activity. Assessment does not take place in the absence of teaching and learning; thus, we can deduce that teaching and learning are interlinked activities (Lutaaya, 2017).

2.13 TVET COLLEGE LECTURERS' EXPERIENCES OF ICASS

According to Daher *et al.* (2017), experiences are a direct observation of or involvement in process as a basis of understanding. In this regard, Higgs and Smith (2006) indicate that the theory of hermeneutics stresses how TVET College lecturers can create knowledge pertaining to ICASS based on their present and past experiences in a constructivist teaching and learning environment. Therefore, TVET College lecturers are responsible for setting, administering and evaluating ICASS (Newstead, 2004). This implies that TVET College lecturers are central to executing assessments which are necessary for students to achieve their qualifications. However, research has found that there are factors which make it challenging for lecturers to effectively execute ICASS, particularly in the computer practice module (Kanyane, 2016; Lutaaya, 2017; Matshaya, 2016; Sebetleng, 2016).

2.13.1 Lecturers' Qualifications and In-Service Training

Lutaaya (2017) revealed that 34% of TVET College lecturers had no qualifications normally required to conduct teaching and assessment duties. On the same note, Tyler and Dymock (2021) found that some TVET College lecturers cannot handle assessment activities because they were not trained as lecturers and no initiatives had been taken to provide in-service training by college management. This explains the inadequate implementation of assessment since the majority of lecturers do not possess the minimum teaching qualifications needed to execute teaching and assessment duties.

Matshaya (2016) confirms that TVET College lecturers reported that college management uses a subjective selective approach to appoint lecturers who can attend assessor and moderator courses. Kanyane (2016) indicated that the majority of TVET

College lecturers reported that college management trained only a few lecturers out of the entire lecturing staff. However, the findings by Lutaaya (2017:104), revealed that 55% of the TVET College lecturers reported to have been trained as assessors and 49% as moderators. Therefore, this implies that lecturers who are not trained as assessors and moderators lack knowledge to execute assessment tasks effectively.

2.13.2 Time Constraints

Lecturers experience time constraints as a barrier for assessment in the computer practice module. According to Sebetlene (2016), TVET College lecturers are expected to engage in various activities such as invigilating national examinations, executing internal marking, organising, typing examination scripts and moderating their assessments during the same period. These activities involve a great deal of paperwork which in turn, impacts negatively on the quality of the assessment as some lecturers end up cutting and pasting questions from previous question papers and as a result, the assessment does not meet the standards (Kanyane, 2016).

According to the Department, the computer practice module has three assessments which must be set, moderated, administered, marked and recorded within six months (DHET, 2018). Kanyane (2016) reported that lecturers felt that paperwork required as evidence of teaching and assessment is overwhelming and time consuming. TVET College lecturers are required to develop two files, namely an assessment file and a subject file for each module they teach (DHET, 2018), which are moderated by TVET College management on a continuous basis. Lecturers are also required to pace their various assessment activities and meet the set deadlines.

2.13.3 Student Absenteeism

Student absenteeism in TVET colleges is a concern because it disrupts assessment practices. Findings by Lutaaya (2017) indicate that absenteeism in TVET colleges is a result of student and school-related factors.

2.13.3.1 Student factors

According to Sebetlene (2016), lecturers stated that some students miss out on internal assessments due to factors such as illness ranging from chronic sicknesses such as asthma, diabetes and high blood pressure to ordinary colds, flu and coughs. Apart from illness, Kanyane (2016) indicated that lecturers reported on students' lack of interest in assessments resulting from the complexity of TVET College programmes since some students fail to align their mental abilities with intellectual requirements of the programmes. When students struggle to succeed academically, they end up getting demotivated and this eventually leads to absenteeism and drop out. Furthermore, lecturers mentioned that when students are away from college, they miss out on important assessments such as assignments and tests which affects negatively on their achievements (Lutaaya, 2017). The constructivist theory, which grounds this study, holds the premise that students need to actively participate individually and co-operatively for assessment to be effective. Cognitive and social engagement in learning builds student motivation to acquire and develop knowledge (White, 2012).

Sebetlene (2016) also indicates that lecturers reported incidences such as failure of students to take their studies seriously due to laziness. Matshaya (2016) affirms that lecturers stated that some students are not committed to their studies and they merely choose to stay at home or to visit their friends instead of attending to their studies. When students skip assessments due to irregular attendance, good academic results cannot be guaranteed.

2.13.3.2 School factors

Lutaaya (2017) revealed that lecturers reported that some students are often absent from school because they do not see the relevancy of the TVET College curriculum and assessments in relation to their future. This explains why some students find studying boring and hence, their infrequent attendance. Matshaya (2016) confirms that some students attend college irregularly simply because they have relationship issues with either their peers or lecturers. Negative interactions affect the emotional well-being of students and in turn lessens their attendance. Irregular school attendance

ffects normal assessment practices since lecturers have to keep reworking their routines in order to meet the learning needs of all students. Vygotsky (1978) believes that social environment in which assessment takes place is vital. Interactions between students and students, students and lecturers as well as students and TVET College management impacts on students' performance. Social constructivism which grounds this study, provides the basis and need for healthy assessment environments (Chetram, 2017).

2.13.4 Infrastructural and Equipment Problems

Infrastructure, such as computer laboratories, and equipment such as computers, printers and projectors, tend to be problematic in most TVET colleges. Lutaaya (2017) found that computers in the laboratory were insufficient, and some were not even operational with no internet access. In addition, computer laboratories did not have functional air conditioners, which implies challenges lecturers might face in the teaching and assessment process. Sebetlene (2016) indicates that lack of physical resources such as workshops and simulation rooms for practical components of assessment, meant that it is a challenge for students to apply learnt content in a real-world situation.

2.14 ICASS PLANNING

The aim of assessment is to gather relevant information about student performance and progress which means that planning of internal continuous assessment is vital to ensure that lecturers cover the content and skills for each module in each teaching and learning period (Conrad & Openo, 2018; Philip, 2015). According to Jaiswal (2019), assessment requires thorough planning prior to its implementation. Planning should start right at the beginning of the learning period with the understanding that assessment is a continuous process (Booyse & Du Plessis, 2014) which provides feedback on the teaching and learning process. The planning of assessments in the TVET sector should be done at all levels; for example, from lecturer level: TVET College lecturers are responsible for immediate daily planning for their lessons, tracking the performance of students, providing feedback and reporting their progress;

college management level: planning is normally conducted by top management of the college with the aim of ensuring quality control through monitoring and evaluating performances of the lecturers; and DHET and Umalusi level: government assessment and regulatory bodies also conduct planning prior to the start of trimester or semester (Jaiswal, 2019). For instance, this planning is reflected through management plans sent by the DHET to all examination centres indicating dates and duration of different activities that take place throughout the academic year (Jaiswal, 2019), which implies that planning for assessment in TVET colleges is influenced by various stakeholders. In addition, TVET colleges should adhere to the policies of the regulatory bodies that serve as guidelines for college management and also college lecturers. Table 2.3 outlines the importance of planning.

Table 2.3: The importance of planning for teaching, learning and assessment

Planning for Teaching and Learning	Assessment Planning
The objectives of learning are determined for a particular module	Assessment approaches are determined (the number and categories of assessments)
Determine knowledge, values and skills that need to be attained.	Specify levels of assessment required such as the percentages for understanding, analysing creating and knowledge.
Developing a lesson plan	Developing an assessment plan incorporated into the lesson plan both formal and informal assessments.
Create learning tasks such as projects and experiments	Create assessment activities with instruments that can be used to assess them. Assessment instruments should have a criterion.

(Source: Adapted from: Dreyer, 2014:9)

2.14.1 Planning ICASS to cater for Students' Diverse Needs

It is crucial that TVET College lecturers are able to assess students according to their different styles of learning and multiple intelligences in order to allow equal opportunity to achieve the desired learning outcomes (Hauser, 2015). Students learn at different levels and in different ways, which points to the need for TVET College lecturers to

offer multiple opportunities for students to achieve assessment standards. The knowledge of understanding students' diverse needs is derived from cognitive constructivist theory which forms the basis of this study. Cognitive constructivists assert that students process new information based on their experiences (Piaget, 1972). This implies that TVET College lecturers need to be conversant with their students' individual learning needs, which is vital when planning for effective teaching, learning and assessment.

2.14.2 ICASS planning for Computer Practice

Jaiswal (2019) indicates that planning of ICASS is a continuous process and should be carefully executed at each stage of the teaching and learning process. At TVET College level, each subject is allocated to a lecturer by the academic head of the college. The lecturer's responsibility is to conduct lectures and assess students. Computer practice lecturers have to ensure that all activities relating to management of assessment align with assessment guidelines (DoE, 2007), specifically for the computer practice module. TVET College lecturers normally develop an assessment schedule at the beginning of the semester comprising the different assessment tasks and the percentage marks that contribute towards the students' final mark (DHET, 2018). The idea of assessment for learning in this regard is constructive in nature, which is designed to allow students to actively engage in learning which in turn leads to social and cognitive development.

2.14.2.1 Computer practice module ICASS plan

Research indicates that an experienced lecturer as a subject head, is responsible for overseeing the establishment of schemes of work from which the lesson plans are drawn to guide the teaching and learning process (Coetzee *et al.*, 2015). The schemes of work provide certain content required to be taught in a particular period. Given the developed scheme of work, the computer practice lecturer is then able to set the assessment plan for the semester. According to the Department, the computer practice module assessment plan must indicate activities that have been approved, administered, moderated and recorded (DHET, 2017). The assessment plans are then

submitted to the academic head for evaluation and approval before the commencement of the teaching and learning process (DHET, 2017). The management of the TVET College utilises assessment plans during the internal monitoring to verify the effectiveness of the teaching, learning and assessment process. Lecturers are also responsible for coordinating the development and moderation of assessment tasks and tools (Coetzee *et al.*, 2015).

2.14.2.2 Computer practice module ICASS schedule for students

An assessment schedule is simply a timetable that shows when a particular module will be assessed (DHET, 2017). These schedules are provided to the students as they commence learning. The module assessment schedule also indicates the type of assessment tasks to be administered, the duration and mark allocation (Coetzee *et al.*, 2015). It is mandatory for TVET College students to be provided with a module assessment schedule as they report for lectures.

2.15 SUPPORT PROVIDED TO TVET COLLEGE LECTURERS

The South African policy framework advocates for continuous professional development of lecturers as a way to equip them with necessary knowledge and skills needed for effective teaching and learning (DoE, 2006). Professional development is particularly beneficial when it is done on a continuous basis. TVET College lecturers can participate in various programmes to improve their competencies in the field of education. Chetram (2017) and Matshaya (2016) indicate that lecturers should take the initiative to enhance their teaching expertise through a Personal Growth Plan (PGP) and the College Improvement Plan (CIP).

PGP involves identifying lecturers' weak areas and working towards improving them. This role in the TVET sector is normally undertaken by a mentor or a senior lecturer, mostly a departmental head. The appointed mentor should continuously guide and follow up on the lecturer who is under training. According to the Department (DoE, 2006), mentoring and induction are part of support services initiated to equip lecturers with appropriate skills required for effective teaching and learning. Matshaya (2016)

asserts that the aim of professional development in the TVET sector is to upgrade capacity, skills and knowledge of lecturers. It assists in shaping lecturer's subject mastery as well as their ability to deliver in a diverse teaching and learning environment. The notion of mentoring aligns with cognitive constructivism as the lecturer assumes the role of a student while the mentor becomes the assessor. The lecturer, under training, attempts to create meaning with new information using the previous knowledge. New knowledge and skills are translated into modified abilities to effectively conduct assessment activities (Matshaya, 2016).

According to the National Resolution 8 of 2003, CIP involves steps that are needed to bring about improvement in TVET colleges (Chetram, 2017:27) with the necessary professional development requirements being included. The CIP works in consultation with the school development team (SDT) and the PGP to bring about a holistic outcome. Matshaya (2016) mentions that TVET colleges facilitate workshops, seminars and conferences on topics regarding effective teaching and learning. Some of these seminars for instance are organised by the Department at different times during the academic year to empower TVET College lecturers and management with knowledge and skills required to ensure quality assurance. In addition, Chetram (2017) mentions that TVET College lecturers are inducted upon recruitment. TVET College management normally conducts an orientation programme to newly appointed lecturers to familiarise themselves with the duties that pertain to the teaching, learning and assessment process.

At TVET College level, the management usually conducts ICASS meetings where important aspects relating to the DHET Report 191 are discussed. The DHET Report 191 ICASS Guidelines is the one of the most crucial support instruments available for TVET College lecturers to enhance assessment. Additionally, examination workshops are also conducted nearing examinations period (DHET, 2018). During these workshops, lecturers are fully trained not only as effective lecturers but also as assessors. On the other hand, Matshaya (2016) reported that workshops are known constrained by time, which affects effective comprehension of all the content and the translation of theory into practice.

Sebetlene (2016) indicates that TVET College management also trains lecturers at assessor and moderation courses. The moderation course is meant to equip lecturers with the needed knowledge and skills to conduct effective moderation whilst the assessor course is designed to improve lecturers' expertise with regards to quality teaching, learning and assessment. Lecturers who attend these courses are awarded certificates of competence upon completion. Even though assessing and moderating are all quality assurance activities which are deemed critical as duties of TVET College lecturers, Chetram (2017) reports that some lecturers are do not trained received any training as moderators and assessors.

2.16 ICASS METHODS USED BY TVET COLLEGE LECTURERS

Departmental guidelines specify methods of assessing TVET College students (DHET, 2017). At TVET colleges, lecturers can assess student performance practically and theoretically as these assessments are formal and compulsory because they contribute to students' final mark (DHET, 2018). However, TVET College lecturers can make use of other modes to assess students' understanding.

All TVET College programmes require students to demonstrate their understanding through practical application commonly known as in-service training. Any student who fails to complete, cannot have their certification for a National Diploma processed (DHET, 2018). Normally, students are given the criteria needed to be followed before starting their practical training. Depending on the programme, some will be required to complete portfolios and logbooks. Studies, however, show that assessment processes in TVET colleges are inadequate due to lack of expertise, insufficient resources, poor management and negligence (Lutaaya, 2017). The Department indicates that portfolios, performance-based assessments, interview-based assessment, play-based assessment, co-operative group assessment, peer assessment, self-assessment, paper-based assessments, observation, practical presentations, field study, case studies and classroom activities should be used as assessment methods (DHET, 2018). Below is the detailed discussion of the assessment methods which can be used by TVET College lecturers.

2.16.1 Portfolios

Development of portfolios involves gathering samples of student work that demonstrate their progress, effort and understanding over a period of time (Mussawy, 2009). Content and format vary from one portfolio to another based on the programme or course for which students have registered. For instance, TVET College students who attend business courses with computer practice as one of their modules, are required to develop portfolios during their practical training over a period of eighteen months, a compulsory requirement for National Diplomas (DHET, 2017). Portfolios can also serve as photo albums containing a variety of pictures taken from different contexts as part of the learning process and as evidence of production (DHET, 2021). Subject experts or lecturers consistently evaluate the content of the portfolios to ensure that they meet the minimum requirements and that they contain the needed pieces of information such as audio clips, notes and visuals (Dreyer, 2014).

Portfolios provide good samples of students' work that demonstrate their development in learning (Mussawy, 2009). Furthermore, portfolios are seen as an alternative to traditional forms of assessment because they display the perspective of students and lecturers about learning and assessment. In addition, unlike the traditional assessments such as tests and examinations, portfolios provide extensive observations of student progress since they indicate gradual gains in competencies, skills and knowledge (Dreyer, 2014). Information provided in portfolios is authentic in nature and mostly reflects adaptations to instructional strategies.

2.16.2 Performance-Based Assessments

There is a wide range of knowledge, skills and attitudes that can be evaluated effectively by physically observing the student executing the task, for instance conducting an experiment, delivering an oral presentation or preparing food (McConlogue, 2020). In TVET colleges, students perform tasks such as speech presentations in order to gauge their confidence and communication skills. The notion of performance-based assessments is inspired by the idea that knowledge is created during the process of learning thus enhancing the ability of the student to interpret the

meaning as opposed to rote learning (Kaliampou, 2021). This is one of the main principles which forms constructivist learning amongst the students. Therefore, the process influences not only the way students develop understanding, but also how they assimilate it and apply it in real-life situations. The incorporation of authenticity in performance-based assessments enhances higher order thinking, which is a prerequisite for learning.

2.16.3 Interview-Based Assessment

Mussawy (2009) explains that interview-based assessment involves lecturers gathering data regarding students' background, thoughts, interest, beliefs, activities and experiences. Interviews range from structured to loose or informal conversations. The lecturer uses a probing technique to gather the much-needed data from the students. Probes are done in such a way that students feel compelled to respond with more information (Dreyer, 2014). In this way, cognitive learning is enhanced since students are able to think and create new understanding based on what they already know. Lecturers are able to adapt lesson planning based on the information gathered in order to ensure successful teaching and learning.

2.16.4 Play-Based Assessment

Play-based assessment is a valuable form of assessment that lecturers can use to determine the extent of learning (Railean, 2020). Dreyer (2014) explains that simulation is a form of play-based assessment which involves students performing tasks in an environment close to real life situation. In this case, a TVET College lecturer as an assessor observes the students' performing according to a predetermined criterion in a situation where conditions are reproduced so that they appear close to real-life situation. For simulation to be successful, the lecturer needs to have a clear idea of what kind of equipment will be required as well as duration of the simulated activity to imitate a real-life situation (Mussawy, 2009). The lecturer is able to measure the students' ability to apply knowledge and expertise. In TVET colleges for instance, workshops are used as simulation activities to assess students in aspects such as construction materials. In the computer practice module, simulation can be utilised to

determine the capacity of the student to type a document in a given period of time. Simulation is based on a constructivist approach because it allows students to assess how an activity will be accomplished using prior knowledge which in turn, enhances cognitive development (White, 2012).

2.16.5 Co-operative Group Assessment

Assessing group work entails considering not only the process but also the product of the group work (Bryan & Clegg 2019). The process of group work includes time management, social skills as well as group dynamics. In this case, aspects that lecturers should assess include the ability of the student to assist each other, cooperate with every group member, divide work and combine individual contributions to a final composite product (Mussawy, 2009). Group assessment allows students to assess their own performance against that of their peers which in turn leads to motivational learning. Dreyer (2014) suggests that TVET College students could be given an opportunity to exercise their understanding with each other through designed group activities. The intention of group assessment should be that a student progresses towards independent and productive learning. In support of group assessment, Vygotsky (1978) notes that learning begins when students interact with their lecturers and fellow students in search of knowledge.

2.16.6 Peer Assessment

Negi and Mehta (2021) reports that peer assessment is a good approach that can be used to enhance students' autonomy and their own awareness in learning. Peer assessment requires established learning criteria and clarification for the students (Bryan & Clegg, 2019). Without these criteria, students will have no grounds to judge their own performance and those of their peers. Peer assessment is seen as exceptionally beneficial with regards to providing extra formative feedback. Bryan and Clegg (2019) reveal that students exhibit higher recognition of conclusions concerning their learning when it comes from fellow students rather than from their lecturer. This is made easier by familiarity and understandable language that peers use.

The following categories of peer assessment can be applied by TVET College lecturers: Group to learner, learner to learner, learner to group, group to group and class to learner (Dreyer, 2014).

2.16.7 Self-Assessment

Self-assessment is another recommended method for enhancing learning. McConlogue (2020) says that in order to use this tool effectively, the lecturer should discuss the topic to get the students to offer their inputs. TVET College lecturers can implement self-assessment by allowing students to examine their own work. In this case, students become judges of the right and the wrong answers that they have provided. Crafting of feedback for self-assessment requires skills to be effective for learning. Bryan and Clegg (2019) explain that with effective self-assessment, the lecturer should discuss the expected outcomes with students and should motivate communication by asking the students to explain what they have done and their experiences. Self-assessment should reflect on what students can do and on what the student has difficulty with. TVET College students are able to reflect on what they know based on the newly acquired information as well as their previous understanding, which is cognitive learning (Nieman & Monyai, 2014).

2.16.8 Paper-Based Assessments

Paper-based assessments are in the form of standardised tests and examinations (Mussawy, 2009). Tests and examinations, commonly known as the traditional methods of assessments, are very structured, and as such, allow the lecturer to assess various students in the same manner and at the same time (Dreyer, 2014). Normally question papers contain instructions for answering questions, a time limit and mark allocation. If necessary, other requirements needed are always explained, such as diagrams or tables. Written tests and examination can both be closed and open book examinations. McConlogue (2020) states that closed book examinations and tests require students to use their ability to memorise responses; in contrast, open book examinations and tests allow students to use materials such as textbooks and dictionaries. In the setting of examinations, questions should be written clearly so that

students do not need to ask for clarification on the questions and the language used should be plain enough to be understood by an average student. Criteria for assessment should be communicated to the students and the codes of marks for levels of performance should be aligned with each criterion which will ensure that the written assessment is fair and unbiased for all students. Aspects of gender, religion and cultural issues should be handled sensitively in the assessment instruments. The time limit and mark allocation should be realistic and take into consideration the amount of information that is required.

In TVET colleges, the ultimate mark obtained by a student is the result of both internal tests and an external examination. The final grade achieved gives a clear indication of the extent to which learning has taken place.

2.15.9 Assignments

This form of assessment requires a structured written response to questions. Students are normally given a due date upon which the assignment should be finished and submitted. Clear guidelines in terms of length of the assignment, layout, technical requirements and format are always described (Mussawy, 2009). Dreyer (2014) explains that assignments are useful tools for assessing students' cognitive skills, understanding and their ability to synthesise and interpret information. ICASS guidelines provide directions for TVET College lecturers concerning the assignments that students should complete in a trimester or semester. In the computer practice module, students are supposed to complete an assignment which contributes twenty percent of their term mark (DHET, 2017).

2.16.10 Observation

A recent study by Negi and Mehta (2021) shows that TVET College lecturers use observation as a technique to gather information about student learning. Lecturers can cater for diverse needs of students through data which can be gathered from conducting observations. This is critical in teaching and learning as it assists lecturers in adjusting not only their teaching strategies but also assessment modes.

2.16.11 Practical Presentations

Practical presentations are strategies of assessment designed to assist students to discover knowledge individually (Grieve, Woodley, Hunt & McKay, 2021). This means that students do not only engage in acquiring information, but they also apply the skills in real-life situations. Practical assessments involve authentic tasks which need the application of higher order cognitive skills. Assessment methods in TVET colleges incorporate tasks such as research projects and debates which are practical in nature.

2.16.12 Field Study

Field study is the form of assessment that requires students to go into the field, where they are exposed to practical learning, for example, in these organisations, students experience the work situation so as to attach meaning to the theoretical content acquired during lectures (Nguyen & Walker, 2016). This is a compulsory component of learning which necessitates students investing their time and effort in order to obtain practical skills. With this form of assessment, students visit businesses or companies and learn from actual people and work processes in an authentic environment which is different from theoretical learning. This in turn gives students exciting opportunities particularly through engaging with the world of work. Samperio (2017) asserts that field study allows students to comprehend what they do since they actively participate in assessment. TVET College lecturers use this form of assessment to boost students' confidence, enhance cognitive development as well as develop interpersonal and communication skills.

2.16.13 Case Studies

Case studies are a means of assessing students using a case-based scenario that would require them to discover the most probable solutions to the study problem (Railean, 2020). In TVET colleges, case studies require students to learn co-operatively and to transfer critical skills to the labour market such as self-confidence, capacity to align with actual life situations, problem solving skills, communication and interpersonal skills as well as technical and analytical skills. Nguyen and Walker

(2016) add that case studies do not only motivate participatory learning, but they also enhance independence and responsibility of the students towards learning. Case studies enables students to carry out extensive research with the help of technology, which in turn, encourages lifelong learning.

2.16.14 Classroom Activities

Railean (2020) defines classroom activities as all tasks that are planned and created by the lecturers to be gradually conducted during the teaching and learning process. TVET College lecturers draft the learning activities from the learning outcomes prescribed for each particular topic. They are normally developed in the form of class exercise questions which are either completed individually or co-operatively by the students. In this way, lecturers are able to detect whether learning is actually taking place. Nguyen and Walker (2016) mention that classroom activities assist lecturers in altering their teaching approaches to incorporate the diverse learning needs of the students based on the assessment results. Classroom activities are the best means of motivating students' active engagement in the learning process. Samperio (2017) affirms that increased student participation in learning leads to constructivist learning and ultimate memory retention.

2.17 CHAPTER SUMMARY

Chapter 2 reviewed literature pertaining to the international and national overview of assessment, and assessment reforms in the South African education system. The theories which form the basis of the study were also discussed. The chapter further gives insight on the assessment practices in TVET colleges as well as policies set up by educational bodies to ensure quality assurance. This was followed by a general discussion on the significance of assessment in teaching and learning process. More emphasis was placed on the understanding of assessment methods applied in TVET sector and the support provided to TVET College lecturers in order to ensure effective assessment methods. Implementation of ICASS, its planning, moderation and implementation in TVET colleges was discussed. The impact of learning styles and Bloom's taxonomies in teaching, learning and assessment was also briefly discussed.

The next chapter, Chapter 3, presents the rationale for empirical study and the research methodology.

CHAPTER THREE RESEARCH METHODOLOGY

3.1 INTRODUCTION

Chapter two presented a broad theoretical framework and the related literature on contextual framework which consists of the historical overview, assessment practices, lecturers' experiences in ICASS planning, quality assurance and ICASS methods used at three KwaZulu-Natal TVET colleges.

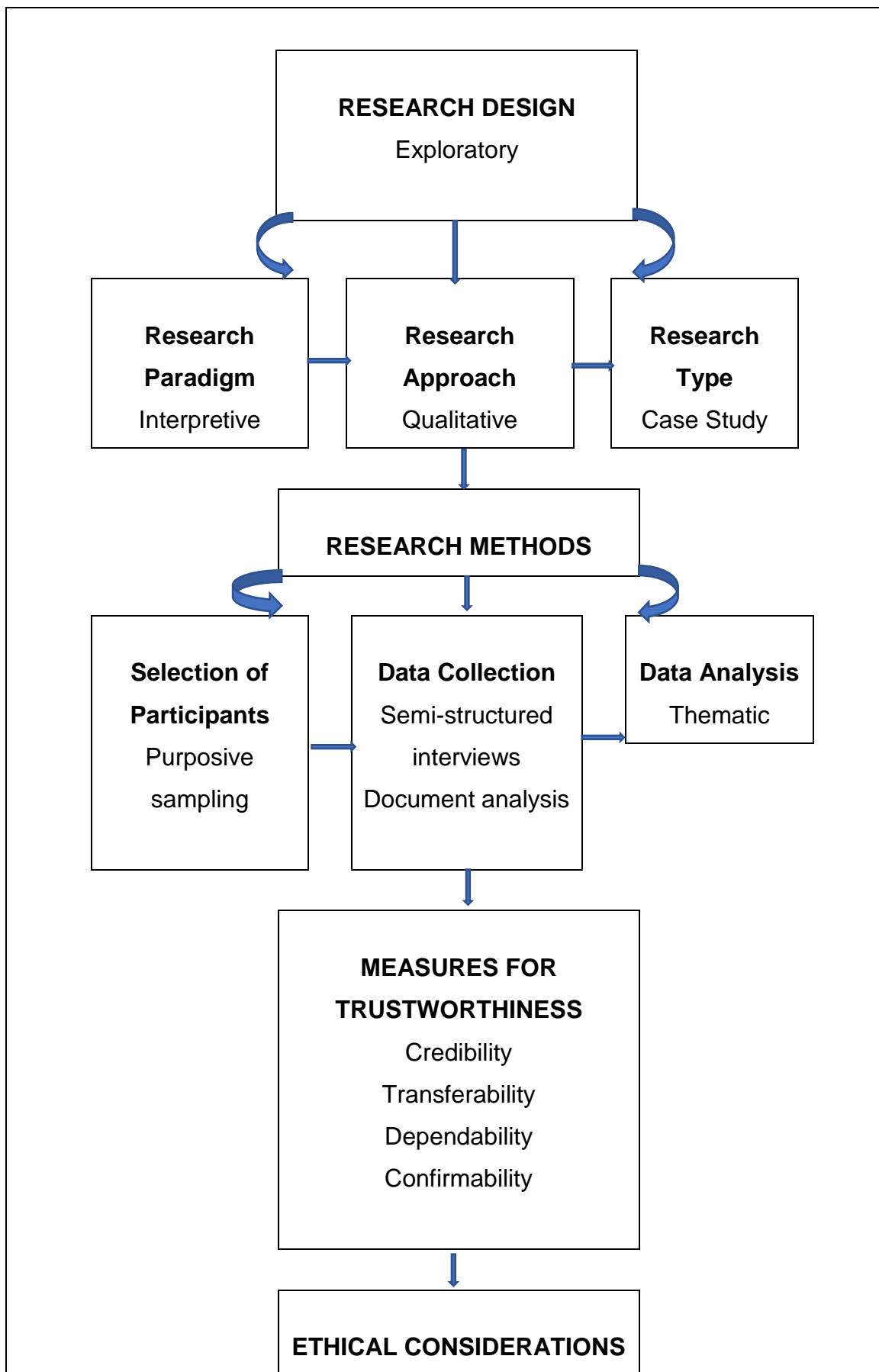
The purpose of this research was to answer the main research question: *What are computer practice module lecturers' experiences of internal continuous assessment at three KwaZulu-Natal TVET colleges?*

The main question was supported by the following sub-questions:

1. How do computer practice module lecturers plan for ICASS?
2. What support do lecturers get to enhance ICASS in the computer practice module?
3. What ICASS methods do computer practice module lecturers use to assess students' diverse needs?

In this chapter, the researcher discussed the research design and methodology, data collection methods and trustworthiness of the study and ethical considerations.

The following diagram represents a summary of Chapter 3 of this study.



(Source: Researcher's illustration)

3.2 RATIONALE FOR EMPIRICAL RESEARCH

Beandry and Miller (2016) note that empirical research is based on actual occurrences with the field study activities assisting in the enhancement of trustworthiness of the research findings of this study. In this study, the empirical research aimed at making sure that research suggestions are grounded from the viewpoints and lived experiences of TVET College lecturers.

Based on the interpretivist-constructivist theoretical framework upon which this research is nested, the aim of this study was to explore computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges. In this case, the researcher opted for interviews and document analysis as data collection tools because they have the ability to provide in-depth information regarding daily experiences that lecturers encounter regarding ICASS for the computer practice module in TVET colleges. In agreement, Stoecker and Avila (2021) advance that empirical qualitative research is best done through interviews, observations and document analysis. The researcher analysed authentic feelings, intentions, meanings and perceptions of lecturers through dialogue, non-verbal cues and by collecting documents regarding assessment in the computer practice module from TVET College lecturers as participants in this study.

Furthermore, the researcher included the empirical component to be able to interact, observe and understand TVET College lecturers in their natural college settings where assessment took place. Hameed (2020) notes that empirical research is an exceptional way to understand the importance of the social context in moulding participants' lives and experiences. As a result, the researcher gained a deeper understanding of intricacies of the everyday lives of TVET College lecturers concerning ICASS. Another motive for empirical research in this study was to yield data that would assist the researcher in answering the research questions. What the researcher saw, heard and touched served as a guideline to identify the assessment knowledge that TVET College lecturers held that was essential to answer the research questions.

In addition, empirical research implies that the study is practical and can be proved by reality. For the purposes of this study, empirical findings aimed at providing evidence-based conclusions to all the stakeholders involved in the TVET College computer practice module ICASS process. The choice for empirical research was to ensure that study findings serve as a basis for planning assessment, training TVET College lecturers and to support them in their assessment practice journey to acquire knowledge and skills.

3.3 RESEARCH DESIGN

According to De Vos *et al.* (2011), the research design of the study is described as techniques and methods that a researcher uses to conduct the study in a logical way such that a research problem can be handled effectively. A research design typically involves a data collection process, instruments that have to be employed in data collection, how these instruments are used as well as the intended means of data analysis (Mishra & Alok, 2017). Babbie (2007) explains that the research design is a perspective that the researcher focuses on in a particular study. This implies that a research design focuses on the research steps followed to achieve the required outcome. In this study, an exploratory case study was used in order to provide a detailed account of experiences, events, relationships, processes and events experienced by lecturers in TVET colleges in KwaZulu-Natal Province in relation to ICASS for the computer practice module. The researcher undertook an exploratory case study as a design for gathering data irrespective of the existence of other strategies such as narrative biography, phenomenology and grounded theory. A case study design deeply explores the phenomenon since it uses various modes of data collection such as interviews and documents (Schram, 2006).

3.3.1 Research Paradigm

Van der Walt (2020) defines a paradigm as a research model which has been verified by previous studies and can be used to explain the researcher's world view. According to Schwandt (2007), a paradigm refers to a collection of perspectives, beliefs and principles that build up an outlook at reality. Notably, a paradigm forms a notion that

there is a model of thinking formed to envision circumstances in a certain way. All studies are conducted within a specific paradigm and this study was underpinned by an interpretivist paradigm. The researcher's paradigm differs based on ontology, epistemology and methodology.

According to Lincoln and Guba (1985), ontology relates to a belief system that reflects the way an individual understands what represents the truth. Reality is based on the meanings created socially and through an individual's experiences (Amakiri & Eke, 2018). This implies that ontological philosophy recognises the position of social actions in creating knowledge. The paradigm allows participants to construct individual meanings from the social actions each viewing the events differently and offering individual opinions. In this study, the researcher interviewed individual participants to explore their understanding of reality concerning ICASS for the computer practice module.

Epistemology is concerned with the relationship between the researcher and the reality (Amakiri & Eke, 2018). It is an inquiry into what is known and how the knowledge is obtained and reported. Methodology defines the process followed and the techniques used to acquire information about the world (Stoecker & Avila, 2021). This means that an informed theoretically approach has to be designed to ensure the production of data.

Interpretivist researchers believe that truth is composed of human personalised experiences hence they adopt an inter-subjective philosophy and ontological theory that reality is socially created (Van der Walt, 2020). Creswell (2007:20) asserts that participants seek to understand the environment in which they live and work. The interpretive paradigm maintains that human beings are involved in the process of making sense of the world and they continuously create, give meaning, justify, define, rationalise, interpret and justify daily actions. Olusegun (2015) urges that interpretivist researchers acknowledge the fact that conception of reality is through social construction reflected in form of emotions, consciousness, feeling, instruments and shared meanings. Understanding how participants communicate through how they feel, think and act is critical in qualitative studies.

An interpretivist approach is purposed to link the study with its main question under the notion that understanding is socially created at a certain time under the prevailing circumstances. This means that no single path or a particular approach to knowledge should be considered; instead, all sources of data such as observation, interviews, visual data analysis and document analysis must be collected and analysed. Transcripts, conversations and video tapes are studied in detail in order to gain a sense of subtle non-verbal communication or to understand the interaction in its real sense (Amakiri & Eke, 2018). Interpretivist researchers agree that it is through personal interpretations that a phenomenon can be extensively understood. This paradigm holds the belief that there exist a number of interpretations of an occurrence; however, all the interpretations are deemed part of the solution to the problem under investigation (Umida, Diloru & Umar, 2017).

Interpretivist research is intrinsically concerned with understanding and attempts to construct a detailed analysis of circumstances (Van der Walt, 2020). This aligns with the centre of the investigation which was to understand the perceptions, feelings, opinions and behaviours of lecturers and to explore the computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges. This implies that the participants responded to the research questions based on their experiences and thoughts. Experience is one of the premises upon which constructivism theory is built hence explaining its applicability to the study.

3.3.1.1 Rationale for selecting interpretivist paradigm

The study by Kankam (2019) discusses a number of paradigms namely: positivism, post-positivism, pragmatism, critical theory and interpretivist. Amakiri and Eke (2018) informs that positivist paradigm relies on the notion that true knowledge is based on experience of senses and can be obtained by observation and experiment. Observation alone could not afford the researcher sufficient information regarding lecturers' experiences of assessment practices of computer practice module. This study is qualitative which makes experimentation inappropriate for data collection. On the other hand, post-positivism is grounded on the understanding that ideas and the identity of the researcher influences what they observe and therefore impacts on the

researchers' deductions (Kankam, 2019). Post-positivism paradigm lacks the concept of social construct which limits the avenues of the researcher to obtain sufficient data required to draw conclusions. According to Stoecker and Avila (2021) pragmatism is a paradigm that includes ideas, approaches, methods and principles to explain a solution to a research problem while critical theory deals with the meanings of experiences as they relate to race, gender and social class. The discrepancies between different types of data that used under pragmatism paradigm makes it difficult to interpret data. On the other hand, critical theory does not provide privileged vantage point, special methods and access to the whole of society which disqualified it from serving as the suitable paradigm to inform this study. Interpretivists assume that reality which is given or socially constructed is obtained through social constructions such as language, consciousness, instruments and shared meanings (Kankam, 2019).

In this study, interpretivist paradigm was selected in order to enable the researcher to intensively explore computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges. According to Glicken (2003:31), the interpretivist approach is interested in an open and democratic relationship between a participant and a researcher. This approach enabled the researcher to assess and translate meanings and intentions of TVET College computer practice lecturers with regards to ICASS.

The researcher found the interpretivist paradigm relevant for this study based on the fact that it allowed the researcher to understand the beliefs, perceptions, feelings and actions of lecturers concerning ICASS in the computer practice module. Each selected lecturer offered his/her understanding and viewpoints concerning ICASS which allowed the researcher to gain differing views of how lecturers experienced ICASS for computer practice module. According to Olusegun (2015), knowledge and meaning are a product of interpretation which leads to the understanding that there is no particular knowledge that excludes human beliefs and critical thinking since all human beings are continuously engaged in the process of making sense of their worlds. People continuously interpret, create, give meaning, define, justify and rationalise daily actions. This study was grounded on the need to understand, analyse and describe the lecturers' knowledge regarding ICASS for the computer practice module. It is worth

noting that interpretivist paradigm was a suitable mode to elicit sufficient data required to answer the research questions.

3.3.2 Research Approach

The research approach is a plan and a procedure that consists of the steps of broad assumptions to detailed methods of data collection, analysis and interpretation (De Vos *et al.*, 2011). There are three widely known approaches to research namely qualitative, quantitative and mixed methods research approaches. Qualitative research follows inductive reasoning from particular to general. On the other hand, quantitative research follows deductive reasoning, thus from general to specific while mixed methods is a combination of qualitative and quantitative research components.

A qualitative research approach was followed in this study. Hameed (2021) maintains that qualitative research aims at enhancing understanding and interpretation of the essence of occurrences and situations from the participants' point of view. The researcher selected a qualitative approach in order to be able to gain an intensive insight into three KwaZulu-Natal TVET College lecturers' experiences and their perspectives on ICASS for the computer practice module.

According to Stoecker and Avila (2021), a qualitative approach seeks to provide answers to questions about the complex nature of the phenomenon with the aim of describing and understanding the phenomenon from the perspective of the participants. Advantages of a qualitative research include:

- Multiple forms of data are gathered as opposed to using limited data sources,
- Data is obtained from environments that participants are familiar with such as places where they live or work, and
- The researcher collects data in person through interviews, observation and document analysis (Creswell, 2007:37).

The qualitative approach is holistic in nature and aims to understand social life and the meaning that people attach to everyday life (Beandry & Miller, 2016). This approach

elicits participant accounts of meaning and perceptions. It therefore produces descriptive data in a participants' own written or spoken words. Babbie and Mouton (2001) urge that qualitative researchers are concerned with describing and understanding rather than predicting human behaviour.

According to Beandry and Miller (2016), qualitative research explains the social event from the participants' point of view. The researcher ascertained how participants translate and create understanding and meaning of ICASS through open-ended questions that were asked during the interview process. This was followed by notes from other scholars who applied a similar approach to account for the ways humans relate to the world. In doing so, the researcher increased the understanding of TVET College computer practice module lecturers' experiences of ICASS in three TVET colleges in KwaZulu-Natal Province.

The researcher opted for a qualitative approach because the concern is with steps followed in creating knowledge as opposed to mere outcomes. Furthermore, qualitative methods allowed one-on-one interaction, which gave an opportunity to the researcher to be able to observe, discuss, examine and record events as they naturally unfold, systematically and logically (Mishra & Alok, 2017). Additionally, another important aspect of qualitative approach is that it aims at a whole picture from a unique social setting where the problem exists.

Qualitative research assists in analysing the real world because it is a naturalistic investigation that involves the application of data collection methods which prompt flow of data naturally from participants. This in turn helps to uncover the natural course of the processes and occurrences and the insight that participants have concerning the phenomenon. A qualitative approach provides in-depth data which describes humans as individuals and their shared social activities, thoughts, interpretations, beliefs and experiences (Mishra & Alok, 2017). This allows the researcher to obtain data by relating to selected participants as well as observing their actions for reliable deductions.

Beandry and Miller (2016) explains that the qualitative approach provides data on human understanding with regards to the social phenomenon, in terms of contradictory actions, beliefs, feelings and views of individuals. It is productive in establishing abstract elements such as socio-economic status, gender roles, ethnicity, religion and social norms whose contribution in the research process may not be evident. Data analysis in qualitative research is rather complicated since it requires a researcher to engage actively in the analytical procedures throughout the various stages of the investigation in order to modify raw data into information. It involves discovering probable findings and opens avenues to alter research plans in situations of unexpected discoveries. Notably, qualitative research is flexible as opposed to quantitative research (Hameed, 2020).

In contrast, qualitative research approaches are likely to be more subjective since they focus on participants' views and understanding of the situations or events (Stoecker & Avila, 2021). Since qualitative research is largely dependent on individuals' perspectives, the truthfulness of the data collected is short-lived because human viewpoints are prone to change. The shortcomings of qualitative studies are time consuming as they require much time to be able to obtain meaningful, accurate and detailed data (McLeod, 2017). Additionally, few participants are studied in qualitative research which could lead to misleading deductions since it is hard to apply the results to the whole demographic. With qualitative studies, multiple sessions have to be executed in order to access authentic data and this culminates in increased costs. Regardless of its limitations, a qualitative research approach was applicable to this study because the research aimed at understanding the experiences of TVET College computer practice lecturers regarding ICASS from their point of view as opposed to explaining the social phenomenon from the outside. The researcher sought to understand the difficulty of the research problem qualitatively since it is not simple to quantify human experiences.

3.3.3 Case Study

This study used a multiple case study because the research was conducted at three TVET colleges in KwaZulu-Natal and each college was regarded as a case. A case

study refers to an intensive analysis of a person, systems, units or groups of people (Merriam, 2009). According to Mishra and Alok (2017), a research strategy is a guide that directs the researcher's ideas enabling him or her to execute the study systematically and timely in order to yield detailed and quality results. Since qualitative researchers are primarily interested in the meaning participants attach to their life experiences, they have to use some form of case study to immerse themselves in the action of individuals or a group of people in order to obtain familiarity with their social environments and also to seek for patterns in the participants' lives, experiences and behaviours (De Vos *et al.*, 2011). Creswell (2013) asserts that a case study strategy explains reality over a given period of time using comprehensive data collection methods. Although the case study helped the researcher to obtain useful answers to the questions (Creswell, 2009), case studies are not a representative of all cases because of the uniqueness of each case studied (Faulkner & Faulkner, 2019).

The case study was instrumental in providing important findings concerning lecturers' experiences of internal continuous assessment of computer practice module in three TVET colleges in KwaZulu-Natal Province. The exploration of the cases took place through detailed, in-depth data collection methods that involved semi-structured interviews and document analysis (De Vos *et al.*, 2011).

3.4 RESEARCH METHODS

Research methods refers to the tools used to collect data in a research study. According to Mishra and Alok (2017), research methods are techniques which are applied when conducting a research project. In other words, research methods are modes which are applied by a researcher to carry out investigations on the research topic (Amakiri & Eke, 2018).

3.4.1 Selection of Participants

According to Beandry and Miller (2016), sampling is one of the most important concepts in the total research endeavour. Taherdoost (2016) describes sampling as a procedure of choosing a small number of people from a larger group to serve as a

basis for forecasting the results of the investigation. Beandry and Miller (2016) note that a qualitative study does not follow random sampling of bigger groups of participants in order to make deductions, as the case with quantitative research, rather the selection of the target participants for a sample tends to be non-probability sampling, particularly purposive sampling (Creswell, 2012).

In this study, purposive sampling was considered when selecting participants. According to Frank *et al.* (2019) cases are sampled purposively for theoretical interest. Taherdoost (2016) describes purposive or judgemental sampling as an approach in which certain settings, people or occurrences are selected consciously so as to avail prime information which cannot be procured through other means. Therefore, purposive sampling relies on the judgement of the researcher when it comes to selecting the units, for example, people, cases, organisations, events and pieces of data that are to be studied.

Six TVET College computer practice module lecturers from three KwaZulu-Natal colleges were purposively selected. Two computer practice lecturers were chosen from each TVET College. Participants were selected because they possessed the needed information since they were involved in ICASS. TVET colleges that offer programmes which incorporate the computer practice module were identified through the Department of Higher Education and Training website for public TVET colleges (www.dhet.gov.za). The three colleges selected in this study from KwaZulu-Natal offer the computer practice module. Therefore, the selected participants from these three TVET colleges were chosen as they teach the computer practice module.

The advantage of purposive sampling is that it provides an avenue for the researcher to focus on participants who are insightful on particular aspects of the study (Beandry & Miller, 2016). Participants in purposive sampling are selected based on their knowledge of the research problem and because they possess the required characteristics.

Purposive sampling was ideal in this study because it is less costly and convenient Taherdoost (2016); however, it is subjective and time consuming. Additionally, Frank

et al. (2019:73) admit that purposive samples can be highly prone to research bias which can have an adverse effect on the quality of research findings.

3.4.2 Data Collection

Creswell (2011:69) defines data collection as a process of acquiring important information. For this study, semi-structured interviews were conducted and analysis was done on relevant documents. A reflective journal was kept during fieldwork and activities that took place during the data collection period were noted. A reflective journal refers to a notebook that a researcher uses to write down thoughts and feelings that are helpful to understand the research process (De Vos *et al.*, 2011).

3.4.2.1 Semi-structured interviews

According to Mishra and Alok (2017), a semi-structured interview is an intensive one-on-one interaction between a researcher and a participant directed at analysing the participants' viewpoint of reality. Semi-structured interviews allowed the researcher to collect open-ended data, to explore TVET College lecturers' thoughts, feelings and beliefs with regards to assessment practices of computer practice module.

During the interview, the researcher as the interviewer asks questions and also records the participants' responses (De Poy & Gilson, 2008).

In semi-structured interviews, the researcher and participants engage in a pre-planned official interview using an interview schedule containing a list of questions. The researcher as an interviewer follows the guide but can ask other topical questions which may not be listed on the schedule (Mishra & Alok, 2017),

In order to obtain reliable findings, the researcher interviewed the selected six participants from three selected TVET colleges in KwaZulu-Natal Province. The researcher went physically and interacted with the participants. As indicated, the researcher pre-organised questions on an interview schedule (*cf.* Appendix J). The schedule comprised open-ended questions that were formulated to gain insight into

the participant's experiences of the research problem (De Vos *et al.*, 2011). Semi-structured interviews were considered valuable as face-to-face communication between a researcher and the participants assisted the researcher in understanding the feelings, views, opinions and the non-verbal messages of the participants (De Poy & Gilson, 2008). Semi-structured interviews allowed for the dialogue between the researcher and the participants in order to create meaningful reality as well as availing detailed data (Faulkner & Faulkner, 2019). The researcher used probing as a questioning technique to obtain sufficient data through participants' responses. Probing is an exploratory action particularly one planned to investigate and acquire information on a specific topic (Faulkner & Faulkner, 2019).

Prior to the interviews, the researcher rehearsed the questions with a colleague in order to have an idea on how to conduct one-on-one interviews and to eliminate the mistakes that could happen in a real situation. All questions were related to the computer practice module assessment. Each question was asked independently in order to identify common themes, patterns and trends. The researcher drafted a form containing headings and subheadings that mirrored the basic area to note important words from the participants. The interviews were conducted in the college staffroom during lunch breaks with each interview lasting for 30 to 45 minutes. Notes-taking and audiotaping were used to record responses from the participants. Babbie (2007) asserts that taking notes immediately after the interview is critical in research process.

Since it is difficult to record all information during the interview, an audio tape was used to record the responses after consent forms were completed by participants to indicate their voluntary willingness to participate in the study and allow the interview to be recorded (*cf.* Appendix I).

Since the data collection process took place at the time of the Corona virus (COVID-19) pandemic, the researcher adhered to the health and safety protocols set by the South African National Department of Health and the World Health Organisation (WHO). To ensure safety, the researcher and the participants wore their facial masks throughout the interaction process. A distance of one and a half metres was maintained at all times as well as screening and sanitising of hands.

According to Babbie (2007), the disadvantage of semi-structured interviews is that participants might be insecure and thus avoid giving the most needed data. Additionally, sensitive areas might not be openly discussed which leads to loss of important data. To minimise the impact of insecurity of the participants, a pre-interview briefing was conducted to assist in creating mutual relationships with the participants. In addition, semi-structured interviews require much time to execute in order to obtain sufficient evidence.

3.4.2.2 Document analysis

Sutton and Austin (2015) describe document analysis as a process of studying the existing documents with the aim of understanding their substantive intent or to illuminate in-depth meanings which may be revealed by their content and style. According to Creswell (2012), document analysis is a qualitative method of research that necessitates a researcher to unearth, assess and analyse empirical evidence and draw deductions that represent what took place. It is a planned process which the researcher follows to assess documents, both electronic (internet-based) and printed material.

Document analysis is considered an examination of written material which provide pertinent information for the study. Mishra and Alok (2017) divide documents into two categories, namely primary and secondary sources inclusive of public and private materials. Primary sources refer to first-hand data obtained from participants, in contrast to secondary sources which are produced by someone else. Both primary as well as secondary sources are valuable for the study. In a constructivist perspective, critical observation of documents allows creation of new knowledge that could possibly have been skipped during semi-structured interviews.

In this study, the researcher obtained data from TVET College assessment policies and the DHET internal continuous assessment guidelines. A checklist (*cf.* Appendix L) was designed to establish whether the relevant documents were in evidence. Specific documents that were checked included:

- Computer practice ICASS schedule
- ICASS assignments and tests
- Memorandums for ICASS tests and assignments
- Additional supporting tasks such as projects
- Evidence of ICASS moderation
- Record of ICASS marks

According to Creswell (2012), documents are a valuable source of data. In this study, document analysis was applied to gather information that supplemented the data obtained through interviews. Document analysis was conducted as a way to enhance triangulation. However, the disadvantage with document analysis is that documents bear bias which a researcher might not be able to recognise. To deal with this, the researcher compared the information from the three TVET colleges.

In this study, data collection involved direct contact with concrete documents which included assessment moderation reports, assessment schedules, assessment tasks and assessment tools. To avoid contraction and transmission of COVID-19, the researcher also ensured that protective hand gloves were worn, in line with health and safety protocols set by the Department of Health.

3.4.3 Data Analysis

Fauzi and Pradipta (2018) define data analysis as a logical and systematic process of explaining, describing, illustrating, reducing, interpreting and evaluating data in order to draw inductive inferences. The thematic analysis advocated by Braun and Clarke (2006) was used to analyse collected data. Six steps were followed during this study.

Step 1: Familiarising oneself with data

The researcher began by arranging and transcribing the data in preparation for the analysis. The audio-recorded interview data, the field notes and the data from the analysed documents were all written down. Fauzi and Pradipta (2018) describes transcription of data as a process of recording interview data and notes from documents to transform them into a format that simplifies the analysis. The

transcription of audio-recorded interview data was done after each interview session. Three hours was devoted for the transcription of the audio-recorded interviews after the interview session was completed. The transcribed data were read and re-read as the researcher tried to make meaning of the participants' perspectives when replying to the interview questions and what the analysed documents contained. Maguire and Delahunt (2017) explain that researchers get familiar with the transcripts through intensive reading. Additional ideas and notes were developed as the researcher comprehensively revisited the data. This procedure continued until the researcher was convinced that all the views and ideas expressed by the participants were recorded.

Step 2: Generating initial codes

Data coding started at the phase where the researcher was reading the field notes and the participants' documents. The researcher generated initial codes by carefully listing down captivating ideas. In this study, highlighters were used to identify various probable patterns and to assemble them. Similar topics were grouped together. A collection of same topics was assigned a word that uniquely defined them. Fauzi and Pradipta (2018) describes coding as a process of allocating relevant codes to the various segments of information.

Step 3: Searching for themes

To develop themes, the researcher sorted and aligned the different codes into potential themes by writing them down in a notebook and continuously cutting and pasting similar codes to the corresponding themes. Different pages of the notebook were used to record the codes which shared similar meaning. Themes were developed from the coding process. According to Maguire and Delahunt (2017), codes should be arranged and verified to identify if they correlate and whether some codes in the data might have originally been omitted. In situations where participants' responses were not clear, member-checks were applied to ensure credibility of the data analysis.

Step 4: Reviewing themes

Themes were further reviewed to assign the data to each category. The researcher used triangulation to identify and review the similarity in participants' responses. The document analysis and field notes were considered to establish meaning from the

participants' responses. The process of refining led to the collapsing of some themes. The potential themes were continuously compared to the raw data. There was a coherent contrast between the themes. According to McMillan and Schumacher (2010), similar codes should be put together to make meaning. The developed themes as a result of the similar and different data per category, were further classified into sub-themes.

Step 5: Defining and naming themes

Themes were defined and named based on the research questions and the responses of the participants of this study. This step led to the development of the statements that were used to report the findings of this study.

Step 6: Producing the report

In the final phase, the meanings of the themes were interpreted. The researcher tried to explain and translate what was said and analysed in the documents during the data collection process. Lastly conclusions were drawn and a narrative report was compiled.

3.5 MEASURES OF TRUSTWORTHINESS

Trustworthiness means that a researcher takes initiatives to establish the truthfulness of the data (Mishra & Alok, 2017). Factual and honest data is critical to the research as it enhances the quality of information. To ensure the readers that this study is trustworthy, the four criteria proposed by Lincoln and Guba (1985), which include credibility, transferability, dependability and confirmability, were considered.

3.5.1 Credibility

According to Sutton and Austin (2015), credibility is present when the research findings mirror the views of the people under study. Credibility in qualitative research means the confidence of the data. An important question to ask when determining credibility of the research is to identify whether the study investigated what it intended to. Credibility accepts the fact that truth is subjective since it is influenced by

participants' viewpoints (Anney, 2014). This implies that interpretation of findings is critical. The researcher engaged widely with data during the analysis stage to assess various opinions and viewpoints obtained from all research participants.

In order to ensure credibility in this study, the researcher held regular consultations with her supervisor so as to widen the understanding of the study. In this manner, the supervisor took on the role of peer debriefing. The researcher shared the analysis and conclusions to a co-worker, a peer, on a continuous basis for the development of both design and analysis of the study. In addition, the researcher conducted the interview with participants who met the criteria.

The researcher employed triangulation as a procedure to ascertain credibility of the study. According to Shenton (2004), triangulation is explained as a method of data verification that involves the use of various techniques in a particular study. The researcher used interviews and document analysis as data collection methods. Different data collection methods assisted the researcher in capturing diverse theoretical perspectives of the research problem and in addition, data from both sources were compared and contrasted during data analysis in order to ensure that the evidence was plausible. In this case, the researcher was able to compensate for the shortcomings of individual data collection methods.

In addition, member checking was also used, with participants responding to the summaries made during the discussions to certify their spoken information before the publication of this study.

3.5.2 Transferability

Transferability can be defined as the extent to which the results of the research can apply to other research studies (Shenton, 2004). This implies that the findings of the research can be applicable to similar situations or individuals (De Vos *et al.*, 2011). In qualitative research, transferability shows that there are no complete solutions to research problems, instead each individual should establish their personal good practice (Anney, 2014). In this study, in-depth contextual information regarding TVET

College lecturers' experiences of computer practice assessment in three KwaZulu-Natal TVET colleges was given.

3.5.3 Dependability

Dependability in qualitative research refers to stability of data over time and over conditions (Kumar, 2011). According to Anney (2014), dependability is the way in which participants assess the research evidence to ensure that findings are backed by data obtained from informants. To deal with the dependability issue more directly, the research design was documented at length. In addition, the researcher employed an audit trail, triangulation and peer debriefing in order to enhance dependability.

3.5.4 Confirmability

According to Anney (2014), confirmability in qualitative research refers to the extent to which results could be confirmed by other people. Therefore, confirmability implies that research findings are true outcomes of the study intended to answer the research questions, as opposed to subjective views of the researcher. In order to enforce confirmability, the researcher used triangulation which involved seeking and comparing findings from interviews and document analysis. In addition, the researcher audio-taped all interviews and ensured that a detailed account was provided. The interpretations of the study included verbatim words of the TVET College lecturers. The researcher also used a reflective journal where the events that transpired during fieldwork and personal feelings in relation to the research problem were documented. This allowed the researcher to eliminate personal bias that could have influenced the research process negatively.

3.6 ETHICAL CONSIDERATIONS

Deb, Dey and Balaas (2019) define ethical considerations as a set of rules and regulations followed by a researcher. These guidelines assist researchers to uphold the values required in research. McMillan and Schumacher (2010) state that when research is conducted on people, it is paramount that the well-being and the rights of

research participants are not compromised. The researcher visited the three TVET colleges prior to data collection to meet and acquaint herself with the participants and the college environment. The management of the colleges officially granted permission to the researcher to access the participants. Therefore, in this study, the researcher was commissioned to respect the needs, desires and values of all the participants. Prior to data collection, ethical clearance was requested from the University of South Africa (UNISA) to ensure that ethical measures were followed to obtain approval. All the documents needed for verification by the Research Ethics Review Committee (*cf.* Appendices A, C, G, H, I, J & L) were submitted together with the application. The application was approved, and an ethical certificate number 2020/10/14/56289464/21/AM was provided (*cf.* Appendix I).

3.6.1 Informed Consent

For this investigation, the researcher delivered written consent letters together with the ethical certificate directly to individual participants (*cf.* Appendices B, H & I). Informed consent forms stated clearly that participation was voluntary, and participants could withdraw from the study at any stage if they so wished. The consent letters requested participant consent to participate in interviews and allow audio taping and analysis of the documents. Upon agreement, participants signed the consent forms. According to Babbie (2007) obtaining informed consent means that all possible and adequate information on the goal of investigation, the possible advantages, disadvantages and dangers to which participants may be exposed as well as the credibility of the researcher be rendered to potential participants or their legal representatives. A researcher uses the informed consent letter as a shield against any anticipated unlawful accusations from the participants.

3.6.2 Voluntary Participation

No single participant was coerced to be part of the study and at the same time, they were made to understand that they could discontinue their participation when they deemed it necessary. De Vos *et al.* (2011) assert that participation in the investigation

should at all times be voluntary and nobody should be coerced to be part of the study. Participants were briefed about the topic of study to seek their voluntary cooperation.

3.6.3 Anonymity

For this study, there was no disclosure of the participants' identities. McMillan and Schumacher (2010) confirm that a researcher has the responsibility of ensuring the anonymity of participants. During data collection, participants were identified with codes, for example, Participant 1. Hard copies of the responses collected from each participant were stored in a separate file and locked in a cupboard that can only be accessed by the researcher. The electronic data were kept on a password-protected computer. The ethical precautions assisted in protecting participants from any unfavourable or sensitive outcome. After five years, all data collected from participants will be destroyed. Additionally, the researcher ensured confidentiality of all participants by purposive selection of participants to ensure that no person was included simply because it was convenient. In this case, only computer practice lecturers participated in providing data for this study. Participants were assured that no external individual would have access to the information apart from the researcher and the supervisor. Interviews were also conducted in private excluding non-participants.

3.6.4 Honesty

The researcher made sure that no deception took place. All participants were briefed about the rationale of the study as well as the processes that were to be followed in conducting this study. Deb *et al.* (2019) explain deception as a deliberate attempt by a researcher to mislead participants through misrepresenting facts and withholding information from participants. Deception occurs when the researcher intentionally lies to the participants by a way of verbal or written instructions, the actions of other people or certain aspects of the setting. Mauthner, Jessop and Miller (2002:14) urge that no form of dishonesty should be inflicted on participants and if it happens inadvertently, it must be rectified immediately. Dishonesty can compromise the quality of the outcomes of the study.

3.6.5 Protection from Harm

The safety of the participants was prioritised during this study. There were no anticipated risks involved since data collection took place at the TVET College where participants work. There was no sensitive information that was required to be gathered and all participants were above 18 years and were not vulnerable. Babbie (2007) states that participants can be harmed psychologically, emotionally or physically. Participants were protected against the COVID-19 pandemic by adhering to the health and safety protocols set by the Department of Health by ensuring that facial masks were worn during the interviews, sanitisation of hands and a distance of one and a half metres was maintained.

3.6.6 Confidentiality and Privacy

Participant confidentiality implies that participant's identity is only known to the researcher (Kang & Hwang, 2021). To ensure confidentiality and privacy, the researcher conducted the interviews from enclosed staffrooms to avoid disruptions and reduce potential discomfort that could arise from the presence of non-participants. Furthermore, in order to protect the identity of the study participants, nicknames in form of codes were used to report the responses.

3.6.7 Conflict of Interest

To deal with subjectivity, interviews were conducted from TVET colleges where the researcher did not have teaching and assessment responsibilities. The participants of this study were not known by the researcher. The study report was extracted from the responses of the participants.

3.7 CHAPTER SUMMARY

Chapter three explained the steps followed in conducting the qualitative research, the rationale for the research methodology and design were also explained in this chapter. The chapter gave an in-depth account of how data were obtained which included

interviews and document analysis. The process for analysing data was also covered in in this chapter. This was followed with a discussion of trustworthiness of the data under which principles of credibility, dependability, transferability and confirmability were explained. Research standards that the study upheld with a discussion on informed consent, voluntary participation, anonymity, honesty, protection from harm, confidentiality and privacy as well as conflict of interest.

The data presentation, analysis, and the research findings of the empirical investigation are reported and interpreted in Chapter 4.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 INTRODUCTION

In Chapter three, the researcher described the research methodology. This chapter presents a detailed presentation of data, analysis and interpretation of the findings of this study. Creswell (2007:150) defines data analysis as a logical and systematic process of explaining, describing, illustrating, reducing, interpreting and evaluating data in order to draw inductive inferences. Drawing from constructivism theory, the rationale for data analysis was to analyse, interpret and report on the findings of the empirical research based on the lived experiences of computer practice module lecturers' regarding internal continuous assessment in three KwaZulu-Natal TVET colleges as stated in Chapter 1 subsection 1.5.1. The findings of the sub-questions outlined in subsection 1.5.2 are also presented in this chapter.

4.2 BIOGRAPHICAL INFORMATION OF PARTICIPANTS

A biographical of the selected participants is provided in Table 4.1.

Table 4.1: Biographical information of the participants

College	Participant Code	Gender	Age Group	Level of Experience	Qualifications
1	Participant 1	Female	30-33	8 years	Bachelor's degree of Arts in Psychology (BA) Diploma in Information technology (ITE)
1	Participant 2	Male	28-30	5 years	Bachelor of Technology in Information systems (B-Tech IS) National Diploma in Electrical Engineering (NDEE)

College	Participant Code	Gender	Age Group	Level of Experience	Qualifications
2	Participant 3	Male	30-35	8 years	Bachelor of Science Applied Mathematics and Information technology (BSc-AMIT) Bachelor of Commerce (B-Com (Hons)) Post Graduate Certificate in Education (PGCE). Bachelor of Education-Honours (B-Ed Hons).
2	Participant 4	Female	44-50	8 years	Post Graduate Certificate in Education (PGCE) Bachelor of Education-Honours (B-Ed-Hons)
3	Participant 5	Male	30-35	11 years	Diploma in Information Technology (ITE) Bachelor of Technology in Information systems (B-Tech IS) National Professional Diploma in Education (NPDE)
3	Participant 6	Male	35-40	14 years	Bachelor of commerce-Management information systems (B-Com-MIS)

(Source: Researcher's depiction)

Participant codes, ranging from 1 to 6, were based on the sequence in which data collection took place. Gender, age group of the participants, teaching experience and qualifications of the participants are important factors that explain why, when and why human beings act in certain ways (Nuckcheddy, 2018). The researcher did not attempt to equate the number of participants per gender because participation was voluntary.

The participants' age ranged from 28 years to 50 years old. Participants were qualified in the following fields: Bachelor of Arts in Psychology, Diploma in Information technology, Bachelor of Technology in Information systems (B-Tech IS), Diploma in Electrical Engineering, Bachelor of Science Applied Mathematics and Information technology, Bachelor of Commerce, Post Graduate Certificate in Education, Bachelor of Education- Honours, National Professional Diploma in Education, and Bachelor of commerce-Management Information Systems. The teaching experience of the participants ranged from five to fourteen years.

Participant 1 was a female holder of a Diploma in Information Technology and a Bachelor of Arts in Psychology from the University of South Africa. She applied for a lecturing post at a TVET College after failed attempts to secure an opportunity in information technology (IT) sector. Apart from lecturing the Computer Practice module, she also lectured the Child Health module. The second participant (Participant 2) was a youthful strong male who holds a Bachelor's degree in IT and a National Diploma in Electrical Engineering from Durban University of Technology. He lectured Computer Practice and Information Processing.

The third participant from College 2 (Participant 3) was a young energetic male holding a Bachelor's degree of Science in Applied Mathematics and Information Technology and Bachelor of Commerce Honours from the University of KwaZulu-Natal as well as a Post Graduate Certificate in Education and Bachelor of Education-Honours from the University of South Africa. He lectured Computer Practice as well as Entrepreneurship and Business Management.

The fourth participant from College 2 (Participant 4) was a middle-aged female with a Post Graduate Certificate in Education and Bachelor of Education-Honours from the University of South Africa. Teaching modules for participant four (P4) included Computer Practice, Office Data Management, Management Communication and Sales Management.

Participant 5 (College 3) was a young enthusiastic male holding a Bachelor of Technology in Information Systems from Mangosuthu University of Technology as well

as a Diploma in Information Technology from University of KwaZulu-Natal. He was also a qualified lecturer with a National Professional Diploma in Education obtained from University of KwaZulu-Natal. He lectured NATED programmes particularly Computer Practice as well as IT specialising in an Introduction to Systems Development. Participant 6 was a male who holds a Bachelor of Commerce in Information Management Systems from the University of Zululand. He lectured the Computer Practice module.

4.3 PRESENTATION AND ANALYSIS OF THE DATA

In this section, data gathered from the interviews with TVET College lecturers (*cf.* Appendix J) is discussed. The investigation probed the lecturers to give insight regarding their experiences of the computer practice module at TVET colleges, ICASS planning, the processes followed to set ICASS, the ICASS tools used to mark activities and the recording of ICASS marks. Further questions required participants to explain the monitoring and moderation of assessments processes, the forms of feedback offered to students, challenges that hinder ICASS implementation, support strategies offered to lecturers and lastly, the methods used to assess the students' work. The following verbatim responses to the questions were recorded, summarised and reported.

4.3.1 In-depth Individual Interview Data

The following section presents the findings emerging from interview data gathered from six TVET College lecturers. The interview schedule is followed in presenting the data.

4.3.1.1 Describe your experiences of ICASS at your college?

With regards to this question, participants admitted that assessment was a crucial component of teaching and learning. They indicated that effective assessment processes were limited by lecturers' qualifications, time constraints, student absenteeism, infrastructural problems and insufficient equipment.

- **Lecturers' qualifications**

Investigations during this study showed that three participants out of six did not train as professional educators. When asked about educational qualifications, their responses were as follows:

I did not have a teaching qualification. I did B-com in information management systems. (Participant 6, College 3)

I have a diploma in IT and I majored in programming, I also did a Bachelor of Arts in Psychology. I do not have any qualification in teaching. (Participant 1, College 1)

My qualifications are in IT and engineering, I never did education. I have a bachelor's degree in information technology and a diploma in electrical engineering. (Participant 2, College 1)

Emerging from data obtained during the interviews, 50% of the participants did not train as professional lecturers which did not equip them with the ability to execute the tasks of teaching, learning and assessment effectively.

- **Time constraints**

On the same question, participants claimed that assessment processes were constrained by time factors. They said that they were required to engage in various teaching, learning and assessment activities such as setting assessments, invigilation, marking, recording and reporting all of which needed proper time allocation. Participants felt that they were not allocated enough time to teach all the, knowledge, skills and attitudes upon which students were assessed. Their responses were:

The trial test should cover 100% of the syllabus, which means that the examination should take three hours and usually we do not have that kind of time. (Participant 1, College 1)

Computer practice requires a lot of time when it comes to assessing, because you cannot make a test short, you have to cover content that has to be assessed and there are technical aspects, so I cannot just rush, I need to take time. (Participant 2, College 1)

Aaaa, the time we are allocated is not enough. So, there is limited time for planning, for setting and marking, and another thing, is with marking that I take home. If I have like three hundred students it will take a long time for me to mark and return the marks to the students. So, the time we are given is even less, we can't give individual attention to students. (Participant 5, College 3)

Time is not enough. In fact, we did not even complete the curriculum but students are writing examinations next week. Eee paperwork is too much, even when we are setting examinations, those manuscripts we need to put, it is not easy. (Participant 6, College 3)

From the discussion with participants concerning time constraints, it was deduced that the computer practice module curriculum required a number of assessment tasks of computer practice module which are diverse and technical to be completed within the allocated time. Lecturers were not only occupied with teaching and assessment duties, but they were also mandated to execute administrative tasks.

- **Students' absenteeism**

Participants stated that student absenteeism in TVET colleges was a major concern because it disrupted assessment practices. Interview findings revealed that student absenteeism was a result of student-related factors as well as school-related issues. The participants indicated that:

Like now, there is a strike and students are not coming. Low marks that are less than 40% or lack of marks automatically disqualifies students from

writing the final examinations. So, I have to administer remedial assessments for those who scored less than 40%. (Participant 5, College 3)

Sometimes students are not attending lectures due to strikes, illness and some with lack of interest, and they also miss assessments. Those who fail to turn up for tests are normally assessed differently with a whole set of new assessments. I have to set another test for them because they need term marks. This is time consuming. Students do not qualify to write external final examinations if they have low or do not have ICASS marks. (Participant 2, College 1)

Student absenteeism was a great concern and lecturers viewed it as an inconvenience as it had consequences for students being allowed to write the final examination and complete the module.

- **Infrastructure**

A further issue which lecturers had to deal with was infrastructure. The two participants lamented the lack of a proper computer laboratory setup and the non-functioning of air conditioners. Their responses were as follows:

Sometimes you find that at our colleges we do not have enough resources, like the computer laboratory is supposed to have like thirty computers, but you find out that may be like two or three computers are not functioning at their best. (Participant 1, College 1)

Yeah, the computer lab should have a limited number, however it is always overflowing so we have to move the students around in search of space. Some of the computer laboratories do not have air conditioners and some air conditioners are leaking. (Participant 4, College 2)

From the study findings, it is assumed that lecturers find it hard to implement effective assessment processes due to poor infrastructure which has an impact on the effective teaching and learning process.

- **Equipment**

On the same question, participants claimed that there was not enough support equipment such as computers, projectors and printers given to the lecturers to assist them with effective assessment of computer practice module. The participants stated that:

You find that computers are not always fully functional, so we get like 80 computers and only to find that only 25 computers are working and the other part is more of the technical nature. (Participant 3, College 2)

Sometimes the projector is not working and due to COVID-19 we have to divide students. Computers are not enough and time to assess different groups. (Participant 6, College 3)

So yeah, sometimes the printer is not working, and it takes a long time to be fixed. We find it difficult to teach students printing skills and to print their work. (Participant 4, College 2)

The remarks from the participants during the interviews showed the frustration that TVET College lecturers had regarding equipment required for effective teaching and assessment of the computer practice module.

4.3.1.2 How are the ICASS for the computer practice module planned at your college?

When asked this question, participants indicated that planning for ICASS is usually done before the start of learning period. Internal assessments for the computer practice module in TVET colleges should be planned at all levels before the start of

the academic period. An assessment plan showed that all the tasks must be designed with stipulated assessment dates as well as details of the learning aims covered in each assessment task. Their responses were as follows:

We prepare three assessments, a test, an assignment and a trial exam. When combined should cover 100% of the syllabus. Ok, in fact we normally locate a week for tests. (Participant 3, College 2)

We plan assessments prior, for this year we have already set assessments before the start of the year. Students receive year plans and the assessment plans or the year calendar. But sometimes we deviate from the assessment plans because we do not have enough time. (Participant 4, College 2)

In fact, when we plan, we use ...assessment plan, we plan before assessments, ...two months before we start classes. Unfortunately, because of the strike we did not focus on the assessment plan. (Participant 6, College 3)

I need to submit the question paper, the marking guidelines and the moderation checklist to the senior lecturer a week before tests. I collect the question paper on the day of assessment. (Participant 1, College 1)

From the interviews, it was noticed that assessments were prepared two months before the start period and they were administered for a week. Findings showed that assessment plans were not followed due to strikes which took away time from the teaching and learning process.

4.3.1.3 What processes are followed to set ICASS for the computer practice module?

During the investigations, participants mentioned that internal assessments are set and administered by one campus and distributed to other campuses. However, when

participants were asked to explain the process of setting internal assessments, they said:

I take past examination papers and make a few modifications or exactly as it is, and also our books, the lecturer guides have set questions. (Participant 5, College 3)

I get past examination papers and make changes, also I get other questions from the textbooks. (Participant 6, College 3)

In computer it is always a practical test, so, we have three that are divided into two tests and one trial exam. I try to make it close as possible to the final examination, so we take past examination papers and make a few modifications or exactly as it is. When setting assessments, I need to follow Bloom's taxonomies. (Participant 4, College 2)

When documents were analysed, it was observed that four participants had only administered two assessment tasks and missed the third task yet responses from participants during the interviews revealed that three assessment tasks had been planned. The analysis of documents discovered that two lecturers set questions that only covered remembering and understanding levels of knowledge.

The subject guidelines and assessments are used to set tests. Normally when I set assessments, I use Bloom's taxonomy, like I must start with short questions, like the multiple-choice questions, so I normally have my short responses, that will be true or false followed by medium response and the third ones are the extended responses those ones are analysis, synthesis and evaluation. The assessment needs a balanced question paper. (Participant 1, College 1)

We have three different assessments comprised of an assignment, a test and a trial examination, which together should cover 100% of the syllabus because, that is in preparation for final examination set by DHET, so

whatever we do internally affects the final external examination marks. We give students time to study, and we also provide them with timetables. We give them a month to prepare. (Participant 3, College 2)

From this study it was assumed that internal assessments were set by copying and pasting questions from the previous examination papers. It was discovered that four TVET College lecturers applied Bloom's taxonomy to set assessments as a requirement to develop students' critical thinking skills.

During the interviews, it was found that some lecturers do not have full knowledge of all the aspects of internal continuous assessments such as the percentage mark that ICASS contributes to students' final achievements. When participants were asked about the percentage contribution of the ICASS marks, their response was as follows:

Aaaaaa, I am not sure what percentage mark contributes to final examination. (Participant 3, College 2)

From this study, it was assumed that lecturers lack sufficient knowledge of ICASS.

4.3.1.4 In your position as a lecturer, explain the tools that you use to mark ICASS?

On this question, participants stated that designing marking guides for computer practice is complicated. The indication was:

I use a memorandum to mark assignments and tests, but computer practice memos are difficult. (Participant 5, College 3)

We mark with memorandums, but sometimes, yeah, I mark even without a memorandum because if you are going to do it, you need a lot of time. (Participant 6, College 3)

All the participants indicated that setting the memorandum as an assessment marking tool is time consuming and, in some instances, lecturers find it difficult to use. It was revealed during document analysis that three participants did not include comprehensive memorandums that covered all the questions.

4.3.1.5 How do you record ICASS marks?

Regarding this question, participants stated that ICASS marks were stored carefully as evidence of assessment.

I record marks on the record sheet and on the system because DHET does not take hard copies, it must be a text file. (Participant 2, College 1)

Now we have to send the file with marks to the Department, we call it text file, where we record the marks on the system, but we also use mark sheets which we put in our portfolio of evidence. But you know sometimes the system for capturing is a problem. (Participant 5, College 3)

Using the system to capture the internal assessment marks was, at times, a challenge to the participants, although it was necessary for these marks to be recorded electronically.

4.3.1.6 How is monitoring and moderation of ICASS done at your college?

When responding to this question, participants mentioned that the DHET, senior lecturers and subject heads of departments (HODs) were responsible for evaluation of the standards of assessments. The participants stated that monitoring of internal assessments in TVET colleges was carried out by senior management.

We set tests, mark and submit to our seniors and HOD. (Participant 1, College 1)

Yeah, assessments are supposed to be monitored by the curriculum manager from the central office at the end of the semester aaaahh we submit our files which have facilitation and assessment plans. (Participant 5 College 3)

On the same question, TVET College computer practice lecturers are required to develop assessment files which are continuously monitored by the Department to verify the presence of the assessment evidence. Then, moderation for internal continuous assessments is conducted to determine the criteria that needs to be met to ensure quality in assessments and effective teaching and learning process. Participants concurred that TVET College lecturers tend to moderate for each other. They indicated that:

We moderate for each other, but we do not just pick anybody, but the senior lecturers are the ones who allocates the moderators. (Participant 3, College 2)

We always moderate for each other. (Participant 2, College 1)

On the other hand, participants pointed out that moderation of internal assessments processes is executed. The participant said:

Obviously, I will need a moderator to moderate my test. For internal assessments we use internal moderators. We are supposed to have, we call it portfolio of evidence and subject files, so when external moderators come and ask us for those files, so normally they give us feedback on the files we submitted. (Participant 1, College 1)

The study findings revealed that the moderation exercise was taken lightly and therefore there was no importance attached to moderation feedback. Participants admitted that moderation was a fruitless exercise. Participants stated that:

We moderate for each other ... but moderation is just a formality, I can even moderate for myself. (Participant 5, College 3)

Sometimes we get moderation feedback but sometimes we do not get feedback. ... in fact, I won't lie I don't do anything. (Participant 6, College 3)

Based on the response, it seems that feedback on moderation is often not given, but if given and implemented, it could enhance the quality of the task. During document analysis, the researcher observed that moderation reports were not presented.

4.3.1.7 What forms of feedback do you offer to your students after assessing them?

The data revealed that participants normally offered assessment feedback to students.

Feedback that students get is in the form of marked paper and we do revision of the written paper. (Participant 1, College 1)

Ok so ..., after writing the test we write the feedback on the answer sheet. I do not even think that students even read the feedback, they just see the mark. (Participant 5, College 3)

After marking, I give students their scripts to see their results and comments, and after going through that assessment, I correct the scripts from the students. (Participant 2, College 1)

Even though the correct answers are given and feedback about performance is offered, it seems that students did not take the comments into consideration as they are only interested in the mark.

4.3.1.8 What support strategies does your college offer to the lecturers in order to ensure effective ICASS processes?

Concerning this question, the data revealed that professional development activities would assist in addressing teaching and learning needs by expanding lecturer knowledge and skills and instil a positive attitude as well as encouraging best assessment practices. Participants indicated that support was not offered to ensure productivity in assessments. The data revealed that participants felt that there was an absence of lecturer development mechanisms. Their comments were as follows:

There is no support offered to us. (Participant 3, College 2)

Haaahaa, the training we were provided was the assessor and facilitator training for SASSETA programmes, not for NATED programmes. Even when the course changes, like when N4 changed, there was no training. (Participant 5, College 3)

Eee, I do not get any support may be is because of the experience I have. (Participant 6, College 3)

I was trained once as an assessor in 2015 and I have an assessor certificate. (Participant 4, College 2)

Evidence from the interviews indicates that only one lecturer was trained as an assessor and moderator though the training was afforded long ago.

4.3.1.9 Explain the different ICASS methods that you use to assess students in your class?

The data revealed that participants used question-and-answer method, peer assessment and support, practical presentations, observations, group work and tests to assess their students. Their responses were as follows:

- **Question-and-answer method**

Data revealed that TVET College lecturers make use of questions from the study guides and textbook activities to assess the level of student knowledge.

Aaa, most of the time we orally use past question papers and also textbooks because there are activities in the textbooks. (Participant 4, College 2)

Yeah, except the textbooks that I use, I also make sure that I expose them to the past question papers. (Participant 2, College 1)

It was discovered that textbook activities and past question papers were a convenient method of assessing students' learning progress.

- **Peer assessment and support**

Participants said that peer assessment modes are effective in assessing the computer practice module.

Peer-to-peer that means students assess fellow students. (Participant 3, College 2)

Participants viewed peer-to-peer assessment method as a practical method of assessing the computer practice module.

In addition, the data revealed that peer support is vital as some students are more likely to learn easier when they get assistance from their peers.

Ok, we try to use multiple ways of supporting students like sitting the students next to the students who know the work so that they can assist them. (Participant 1, College 1)

- **Practical presentations**

Data on assessment methods revealed that participants felt that presentations are an effective mode of assessment.

We could go for presentations right, but now it depends on Level 4 or N4, remember many of them come from humble backgrounds so they have never seen computers, that means you spend more time making them to be comfortable with computers. When you go to N5 and N6, you can now see those are experienced and comfortable with computers, so we can make presentations. (Participant 3, College 2)

So aaa, I start by practically presenting those concepts and after presenting using my own examples, I open and give students exercises and go to each student to see if they are doing it correctly. (Participant 5, College 3)

When I am practically presenting and telling them to do a certain part, this helps. (Participant 1, College 1)

Practical presentation was assumed as a good example of the assessment method and helped students in skills achievement, although presentations were noted to be mostly applicable at higher levels of learning where students were more experienced with regards to working with computers.

While some of these students do not have computers at home and do not even know how to hold a mouse. They only touch a computer when they are here. (Participant 3, College 2)

- **Observations**

Participants indicated that they used observations to measure students' level of understanding. Lecturers believed that observation is a common method of assessing students' level of learning.

Eee to assess my students, I use observations. (Participant 6, College 3)

Observations involved lecturers being able to carefully analyse students' theoretical and practical computer knowledge.

- **Group work**

Group work was proved to be one of the methods used to assess computer practice module in TVET colleges. The data revealed that participants felt that group work yields good results; however, since the onset of the COVID-19 pandemic, the participants indicated that co-operative assessment methods were limited to avoid spread and contamination of the virus.

Another way which we should be using but we cannot, due to COVID-19 is to group students and have assessment session with them. (Participant 1, College 1)

Participant 4, College 2 affirmed that:

Now that there is COVID-19 we cannot go closer to them for assistance.

Participants indicated that co-operative assessment methods were limited to avoid spread and contamination of the virus. This in turn had a negative impact on the general students' performance. The findings showed that the COVID-19 pandemic made it a challenge to teach and assess students especially those with limited computer literacy levels.

- **Tests**

Since the computer practice module is a practical subject, the data revealed that practical activities are effective. Lecturers felt that assessment tests are an effective measure that assists them in assessing student progress.

The computer module is practical, so we have three or two tests and one trial exam. (Participant 5, College 3)

Eee to assess my students, I use practical tests. (Participant 6, College 3)

The study found that tests for the computer practice module in TVET colleges were mostly practical in nature and were a good indication of student progress and predicting the students' final achievement.

4.4 THEMES AND SUB-THEMES

Findings from the interview and document analysis data, which were analysed based on the six phases of Braun and Clarke's (2006) thematic data analysis process (*cf.* Chapter 3.4.3), are presented in this section supported with participants' verbatim responses. Table 4.2 presents the emerging themes and sub-themes

Table 4.2: Emerging themes and sub-themes

QUESTIONS	THEMES	SUB-THEMES
What are computer practice module lecturers' experiences of internal continuous assessment at three KwaZulu-Natal TVET colleges?	Theme1: Lecturers' experiences of ICASS	Sub-theme 1.1: Qualifications Sub-theme 1.2: Time constraints Sub-theme 1.3: Student absenteeism Sub-theme 1.4: Infrastructure Sub-theme 1.5: Equipment Sub-theme 1.6: COVID-19 pandemic
How do computer practice module lecturers plan for the ICASS?	Theme 2: ICASS planning	Sub-theme 2.1 Setting ICASS Sub-theme 2.2: ICASS tools Sub-theme 2.3: Monitoring and moderation of ICASS Sub-theme 2.4: ICASS feedback.

QUESTIONS	THEMES	SUB-THEMES
What support do lecturers get to enhance ICASS in computer practice module?	Theme 3: Support provided to lecturers	
What ICASS methods do computer practice module lecturers use to assess students' diverse needs?	Theme 4: ICASS methods	

(Source: Researcher's depiction)

To arrive at the themes and sub-themes shown in Table 4.2, the researcher intensively read the transcribed data from the interviews and document analysis, as reported in depth in Chapter 3. Initial codes were developed by grouping similar ideas from the data. The codes were sorted and named. The potential themes were revised and minimised as some having the same ideas were merged. Continuous comparison of the potential themes with the raw data was done to eradicate duplication which led to the writing of a narrative report, which is presented below.

Interpretation of data refers to the process of examining information by following predefined procedures that assist in allocating some meaning to the information and making informed deductions (James, 2012). The researcher analysed data and drew from the literature to arrive at the conclusions. The constructivist perspective points towards participatory processes that offered the understanding of lecturers' experiences of assessment practices (Van der Walt, 2020). The researcher's analysis was based on the interactive dialogue by looking at the lecturers' individual views about assessment practices of the computer practice module. Questions that participants were asked during the interviews were based on the four themes, as set out in this study.

4.4.1 Theme 1: Lecturers' Experiences of ICASS

Lecturers reported their experiences with regards to the aspects that influence assessment practices of the computer practice module which included qualifications,

time constraints, student absenteeism, infrastructural problems and equipment (cf. 4.3.1.1).

Sub-theme 1.1: Qualifications

It was found that in two colleges lecturers lacked the ability to handle intricate activities that form teaching and assessment. The study revealed that out of six participants, only three of the computer practice lecturers were qualified as professional educators. The other three participants hold qualifications in other specialised fields. Not having an education qualification, such as a Post Graduate Certificate in Education, could compromise assessment implementation and student performance, which concurs with Lutaaya (2017) and Shereni (2020) who found that lack of appropriate qualifications, compromises the standard of assessment practices. From a constructivist point of view, lecturers need to be knowledgeable based on the qualifications they possess to be able to assist students in creating new knowledge (Umida *et al.*, 2020). Lecturers' qualifications indicate possession of the previous knowledge which is essential in understanding the implementation of the new information. Constructively, the lecturers' role in assessment is interactive and requires professional and creative skills reflected through qualifications to organise challenging individual and group assessment tasks to foster learning.

Sub-theme 1.2: Time constraints

It was assumed that the allocated time for teaching and assessment was not sufficient. Lecturers are tasked with planning and implementation of ICASS which entails setting, moderation, marking, administration of remediation activities and recording of assessment marks. Lecturers are also required by the DHET to keep two files related to the teaching and assessment of their subjects. The internal examinations, administered as part of ICASS, should cover the whole curriculum. However, it was found that due to time constraints, the coverage of the whole curriculum was compromised. This means that lecturers' desire to conduct assessment effectively was disadvantaged as they only focused on meeting deadlines and not ensuring assessment of student learning. In some cases, the assessment process seemed

unfair as assessment tasks administered to students included content that had not been taught.

The Internal examination, which is administered as part of ICASS, should cover the whole curriculum and is normally allocated three hours. It was found that due to the limited number of computers, students had to be divided into several groups and each group was assessed at different times. As a result, lecturers were forced to operate outside the assessment schedule in order to incorporate various groups of students. Findings revealed that lecturers administered the same tasks to all students even though assessments were not done in one sitting, a situation which compromised the reliability of the assessments.

This research showed that completion of the curriculum was difficult to achieve owing to limited time. The study findings indicated that lecturers were constrained with the number of teaching and assessment administrative activities that were supposed to be completed in a given set of time. The study findings concur with the research of Kanyane (2016), Lutaaya (2017) and Sebetlene (2016) who found that time allocated for lecturers on the timetable was not adequate to cater for students' diverse needs. Lecturers reported that they needed more time to devote to teaching and assessment. Constructivist learning calls for sufficient time to allow assessment processes to take place (Olusegun, 2015) as lecturers should assess the level of students' cooperative and individual learning.

Sub-theme 1.3: Student absenteeism

Absenteeism proved to be a major problem that undermined students' ability to perform well in assessments, according to the lecturers. Lecturers indicated that some students stayed away during the assessment period. In other cases, some students were not able to engage in assessments due to physical ailments that ranged from common illnesses to chronic infirmities. In this way, students ended up missing assessments which automatically disqualified them from writing the external DHET final examination. To avoid disqualification of students, lecturers organised assessments outside the set schedule in order to cater for students who had missed

writing the examination as well as those who had scored below average marks. The findings are in agreement with Kanyane (2016), Lutaaya (2017) and Sebetlene (2016) who state that TVET College students lack interest in participating in the assessments and hence usually opt to be absent at the time when assessments are conducted.

Additionally, student strikes were indicated as a common occurrence in TVET Colleges. This act affected the teaching and assessment time. Participants stressed that some students were unable to engage in assessments when strikes took place. This finding aligned with several scholars who concur that student absenteeism may be the result of failure by college management to take care of students' educational needs (Gillis, 2021; Kanyane 2016, Lutaaya 2017; Sebetlene 2016; Shereni, 2020). Strikes lead to absenteeism which result in diminished constructive learning which negatively affects students' marks (Van der Walt, 2020). From the researcher's perspective, further learning cannot be realised when students do not acquire new knowledge due to absenteeism.

Sub-theme 1.4: Infrastructure

This study found that infrastructure in the form of computer laboratories was insufficient to support the demanding ICASS tasks. In addition, the laboratory air conditioning was not working in many cases which meant that the environment was not conducive to teaching and learning as well as affecting the computers. Lack of effective air conditioning system was found to be a challenge facing the assessment of the computer practice module. Due to the heat produced by the computers in the laboratory, it was necessary that air conditioning system operated optimally so that assessment processes could be carried out effectively. The findings concur with Sebetlene (2016) that TVET colleges did not have enough physical resources. The number of computers in the laboratory were insufficient and as a result, did not cater for all the students in a single seating which forced lecturers to divide the classes into several groups and required additional time to assess the various groups.

The study by Siyepu (2013) adds that learning in ZPD is facilitated on social and psychological plane which incorporates the aspect of physical technical tools such as

computers and lecture rooms. Siyepu (2013) illustrates that the computers, air conditioned computer laboratory, desks and chairs in the assessment of computer practice module class are of importance as they create a suitable assessment environment.

Construction of knowledge in computer practice module is facilitated by the availability of a favourable learning environment owing to the presence of infrastructure including enough seats and computers. In return, active learning is facilitated which assists to develop an understanding of new concepts in real-life contexts.

Sub-theme 1.5: Equipment

The study discovered that printers were not always operational due to technical faults. The lecturers found it difficult to assess students' ability to print the assessments and also hindered the acquisition of the printing skills. Sometimes projectors were either unavailable or faulty and usually fixing was not done timely. These findings agree with the study conducted in KwaZulu-Natal Province regarding implementation of TVET College curriculum by Lutaaya (2017) that some equipment is old, outdated and sometimes completely unavailable. The creative nature of the constructivist assessment environment requires fully functioning equipment to create tasks that enhance assessment (Fernando & Marikar, 2017). The availability of equipment assists the lecturers in designing higher order assessment tasks which require students to synthesise, evaluate and apply information. As a result, student collaboration and autonomy are enhanced as well as constructive investigation, reflection and communication. According to Vygotsky (1978) assessment in the ZPD is a joint activity in which a lecturer simultaneously keeps an eye on the functionality of the equipment which will fulfil the goal of the assessment tasks.

The findings also show that effective assessment processes in TVET were met with diverse challenges. According to the participants' responses, most of the students did not have personal computers as they came from underprivileged socio-economic settings and as a result, their exposure to computers was limited. The implication is that lecturers worked hard to instil the skills in this module as students struggled to

understand the basic components of the computer and their importance. Lecturers expressed that they had to hold students' hands to teach them how to use a mouse (cf. 4.3.1.1). Without personal computers, lecturers felt that students are unable to practise what had been taught. This means that the only time that they saw and touched a computer was when they were at college. The computer practice module is practical in nature and students need greater access to computers and more time to be able to master the basic content. If TVET colleges were provided with all the necessary equipment to achieve assessment practices, lecturers would be able to ensure that students acquire and develop the relevant knowledge and skills. In constructivist assessment environments, lecturers should create opportunities for students to make meaning of the learning by using real-life situations (Umida *et al.*, 2020). When lecturers give students the opportunity to observe and use concrete aids during assessments, meaning making is enhanced.

Sub-theme 1.6: The COVID-19 pandemic

The COVID-19 pandemic had a major effect on the assessment process of the computer practice module. Lecturers found it difficult to get closer to the students to offer them the most needed support. Adherence to COVID-19 protocols was compulsory for all lecturing staff as well as students (DHET, 2020b). Non-compliance was subject to disciplinary procedures for both lecturers and students. Due to the COVID-19 pandemic, lecturers could not assess large groups of students at the same time in a single venue. The division of classes was required which ultimately called for more time to be able to cover all the groups. This also increased lecturers' workload as invigilation time was extended owing to the different groups of students that were assessed at varied times. Findings showed that assessing different groups extended the time of teaching, learning and assessment. From the researcher's understanding, the teaching and assessment process was constrained as a result of the 'new normal' brought about by the COVID-19 crisis.

4.4.2 Theme 2: ICASS Planning

Internal continuous assessments should be planned, set, monitored and moderated in order to ensure that standards have been met. TVET College lecturers are required to develop assessment files which are continuously monitored by the Department to verify the presence of the assessment evidence. However, it was found that assessment plans that were designed to guide processes of assessment were not followed in the three KwaZulu-Natal TVET colleges. The researcher agrees with Jaiswal (2019:1075) that assessments plans need to be adhered to so that learning can be easily tracked. It was found that lecturers tended to deviate from the plans to suit the demands of the circumstances. In order to meet the expected learning outcomes, TVET College lecturers need to use the assessment plans. Learning outcomes elucidated in the assessment plans assist lecturers to predict what students should be able to know and do as a result of their course work and educational experiences. These outcomes encompass areas of knowledge, understanding, abilities, modes of inquiry, values and habits of mind (Jaiswal, 2019). Planned assessments serve as a tool for effective knowledge creation. Vygotsky (1978) believes that assessment involves mutually interactive participation between lecturers and students with an intention to bring the students gradual independent learning.

Sub-theme 2.1: ICASS setting

The setting of internal assessments was compromised in TVET colleges as lecturers simply copied and pasted questions from the previous examination papers (*cf.* 4.3.1.3). In this way, lecturers end up assessing from content that students have not yet been taught. Constructivist lecturers structure assessments to immerse students with experiences which allow them to engage in imagination, action, interaction, invention, personal reflection, hypothesising and meaning making inquiry (Umida *et al.*, 2020). Lecturers needed to recognise how students use prior knowledge as well as their social and physical environments to create understanding. The primary goal of constructivist assessments is to produce a just and democratic learning environment that offer favourable experiences for students (Van der Walt, 2020). When document analysis was conducted, it was revealed that four participants had

conducted two assessment tasks and missed the third task. In this way, evidence that all tasks were administered but absent from the files, was not guaranteed. It was found that only two participants had conducted all three assessment tasks, however, the tasks were composed of questions which only assessed remembering and understanding as levels of knowledge. The analysis showed that standardisation was not prioritised according to Bloom's taxonomy, as some question papers did not cover higher-order levels of knowledge namely, analysis, application and evaluation. This implies that compliance to quality ICASS procedures were not adhered to. The availability of assessment schedules encourages computer practice lecturers to teach and assess the intended outcomes (DHET, 2020).

Sub-theme 2.2: ICASS tools

To activate prior information, the researcher analysed documents which revealed that three participants did not create memorandums for assessments. Designing assessment memorandums is a constructivist task and it requires lecturers to recall previous knowledge to create new understanding which is referred to as appropriate answers. Well designed and content aligned assessment tools allow lecturers to mark assessments in a fair and standardised manner. Memorandums for three lecturers were not comprehensive and some questions did not have answers. This meant that some questions were marked with no clear guidelines which compromises mark allocation. Lecturers indicated that assessment tools for computer practice are difficult to formulate. Sub-standard marking guidelines lead to poor marking and grading of students' achievements.

Sub-theme 2.3: Monitoring and moderation of ICASS

Interviews revealed that pre-moderation and post moderation of the ICASS was less considered by the lecturers. When document analysis was done, it was discovered that three lecturers did not have moderation reports in their files. This indicated lack of compliance to quality assurance protocols which are set by Department. Document analysis aimed at constructing more knowledge regarding ICASS monitoring and moderation in three Kwa-Zulu Natal TVET colleges. Pre-moderation reports assist

lecturers in setting assessments according to all levels of knowledge, which is remembering, understanding, analysing, application and evaluation (DHET, 2017). On the other hand, post-moderation reports assist lecturers in identifying mistakes that occur during the marking of assessments. Moderation templates are provided by the Department (DHET, 2017) which includes both pre-moderation and post-moderation checklists that guide the moderation exercises. Pre-moderation covers content coverage, cognitive skills, technical criteria, types of questions, language and bias, assessment tools as well as overall impression while post-moderation includes the number of scripts moderated, new marks allocated and feedback to the lecturer. According to the Department (DHET, 2017), lecturers are entitled to keep all evidence of the moderation process. Therefore, monitoring and moderation exercises are rooted in constructivist theory since the approach regards a lecturer as an assessor who possesses expert knowledge regarding assessment practices (Fernando & Marikar, 2017). Monitoring and moderation of assessment aims at verifying the extent to which the assessments meet the criteria required to measure the students' level of learning. The monitoring and moderation reports bring forth the available knowledge regarding ICASS.

Sub-theme 2.4: ICASS feed back

The findings revealed that assessment feedback was not considered as a critical aspect in assessment for learning. Study findings revealed that students did not consider lecturers' comments and lecturers did not follow up with students' comments and understanding, which result in assessment of learning. The findings contradict Jaiswal (2019:1076) who states that assessment feedback is a crucial component of the teaching and learning process as it motivates improved performance when correctly applied. An important aspect of constructivist assessment is that it has to be a participatory process that allows a dialogue between lecturers and students by using feedback. According to Olusegun (2015:67), knowledge acquisition is prominent when sharing of information is incorporated in the assessment process. Constructive feedback is by far one of the most important tasks undertaken by lecturers to facilitate student introspection and engagement with the learning journey. The ability of the lecturer to dispense feedback that is scaffolded with in socially constructed arena to

facilitate student engagement and internalisation results into knowledge and skill acquisition (Vygotsky, 1978).

4.4.3 Theme 3: Support provided to lecturers

In a constructivist assessment environment, learning is lifelong (Olusegun, 2015) and the development of skills by means of training is needed. Based on the investigation, creation of knowledge regarding assessment practices was inhibited by failure to train lecturers.

The findings revealed that TVET College lecturers were not offered adequate support. Only one lecturer was trained as an assessor and moderator though the training was undergone a while back and not reinforced. This means that lecturers in many instances, were not equipped with the necessary knowledge and skill to plan, prepare and conduct ICASS effectively, which could have an effect on the teaching and learning process and compromise student achievement. Training is designed to equip and support lecturers with sufficient knowledge and pedagogical skill to be able to execute their assessment duties effectively. Even when the programme changed, no training was organised to equip lecturers with the new programme activities. It was assumed that some of the lecturers were given the form to fill in for in-service training attendance, however, training was not attended. When lecturers lack knowledge, the standard of assessments is greatly affected. As a result, lecturers tend to use convenient means to assess students without considering the expected subject outcomes. These finding coincide with Gillis (2020) and Lutaaya (2017) who assert that the majority of TVET College lecturers are not given support to train as assessors and moderators. Lecturers have to struggle to acquire knowledge necessary to ensure effective and authentic assessment (*cf.* 4.3.1.8). This implies that lack of assessment knowledge compromises the realisation of student results. Chetram (2017) and Matshaya (2016) assert that TVET College lecturers need to be developed through well aligned induction and mentorship programmes, workshops, seminars and conferences which are fertile grounds for lecturer development. Assessment knowledge is acquired through training, and this is seen as a constructivist approach which would equip lecturers with the necessary knowledge to conduct assessment

successfully and ensure that students demonstrate their learning and application of new knowledge. According to Van der Walt (2020:61), constructivists believe that knowledge is dynamic, and lecturers' experiences evolve with time. Therefore, TVET College lecturers need to be knowledgeable to adapt to the ever-changing world of assessment through training and support.

4.4.4 Theme 4: ICASS methods

Computer practice is a practical module and the assessment thereof requires students to demonstrate their ability to apply the knowledge and skills that they have learnt. Practical and theoretical assessments are crucial because they contribute to the final achievement of the students. In order to ensure effective teaching, learning and assessment, lecturers need to apply various assessment methods to meet the diverse learning needs of the students (DHET, 2021). However, it was found that lecturers used a limited number of assessment methods and tended to predominantly use traditional methods like the question-and-answer method, peer assessments and support, practical presentations, observations, group work and tests (*cf.* 4.3.1.9). Railean (2020) affirms that case studies and simulation assessments, which were not applied, allow lecturers to assess students' ability to learn in an environment similar to the work situation. Constructivist lecturers use different methods of assessment to enhance learning and to allow students to reflect and talk about the assessment tasks to determine how their level of knowledge is changing (Umida *et al.*, 2020). Cognitive and collaborative learning are enhanced when lecturers adopt individual as well as co-operative assessment methods.

4.5 REVISING CONSTRUCTIVISM THEORY

Constructivism is unique because it focuses on developing the lecturers' knowledge by constructing the world around them through experience, observation, documentation, analysis and reflection (Van der Walt, 2020). Assessment from a constructivist perspective focuses on assessment of the whole process. In this study, from a constructive point of view, the lecturers' experiences were grounded from their previous knowledge as well as the existing information regarding assessment of

computer practice module. Effective teaching, learning and assessment process requires that lecturers attain adequate knowledge reflected through the professional qualifications they possess (Fernando & Marikar, 2017). Successful knowledge construction is backed by sufficient time to allow lecturers to cover the necessary content. Lecturers require enough time to complete the curriculum in order to create new knowledge.

Cognitive and social learning is enhanced through dialogues between lecturers and students, students and students as well as lecturers and the world outside classroom environment. Constructive assessment of computer practice module takes place in the presence of infrastructure and fully functioning equipment. The concept of professional development through lecturer training programmes is motivated by need to develop new understanding (Van der Walt, 2020). Constructivist assessment uses assessment methods which allow both collaborative and individual learning (Olusegun, 2015). Constructive assessment new knowledge is created in relation to pre-existing knowledge. Group work tasks and tests require recall of previous knowledge, a typical characteristic of constructive learning. Challenging class activities allow knowledge to be built in as attempt to arrive at solutions to the problems (Railean, 2020). Presentations provide the lecturers with an opportunity to compare the pre-existing schema to the novel situation.

4.6 CONCLUDING REMARKS

The intention of ICASS is positive. Learning cannot occur in the absence of assessment. The case in question is the mode in which internal assessment procedures are applied by TVET College lecturers. This study investigated the experiences of computer practice TVET College lecturers concerning assessment practices. The study revealed that empowerment of lecturers with appropriate knowledge and skills was crucial to ensure effective teaching, learning and assessment processes. It was also observed that lecturers' assessment practices were hindered by time constraints, student absenteeism, lack of infrastructure and equipment.

It was concluded that ICASS processes were compromised in the three TVET colleges. It seems that lecturers tended to use past examinations when setting assessments instead of developing activities based on the content they presented to the students. The researcher feels that lecturers should assess what they actually teach students as opposed to mere extraction of questions from an external source as this tendency reduces the chances of measuring the actual learning outcomes. It was observed that lecturers did not consider moderation of assessments as important. Greater importance should be attached to moderation exercises to determine usefulness of assessments. Limited methods of assessments diminish students' opportunities to learn faster and develop better understanding of the content knowledge and skills. Diverse planning for teaching, learning and assessment is important to cater for needs of the students.

4.7 CHAPTER SUMMARY

Chapter 4 presented findings emerging from the data analysis of the interviews and document analysis. The themes and emerging sub-themes from semi-structured interviews included: TVET College lecturers' experiences of computer practice module assessment practices (selective approach for course attendance, lecturers' qualifications, time constraints, students' absenteeism, infrastructural problems and equipment), ICASS planning of assessments in TVET colleges (setting of ICASS, ICASS tools, recording, monitoring and moderation of ICASS, assessment feedback and ICASS implementation challenges), support provided to TVET College lecturers (professional development) and TVET College ICASS methods (question-and-answer method, peer assessment and support, practical presentations, observations, group work and tests). Evidence from document analysis of assessment policies, ICASS schedules, ICASS tasks, and ICASS tools, pre- moderation of assessments and post-moderation of assessment was discussed. The development of the themes was aimed at addressing the research questions.

Chapter 5 provides the summary, conclusions and recommendations for the study.

CHAPTER FIVE

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 INTRODUCTION

The aim of this study was to explore computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges.

The research objectives for this study were to:

- investigate how computer practice module lecturers' plan for ICASS?
- identify the support TVET College lecturers get to enhance ICASS in the computer practice module.
- explore ICASS methods that computer practice module lecturers use to assess students' diverse needs.

This chapter presents the summary of research findings, the research conclusions, the limitations as well as the contribution of the study, recommendations, avenues for further research, and finally concluding remarks.

Chapter 1 presented an introduction and background to the research, rationale of the study, theoretical framework and discussed the problem statement, aims and objectives of the study. A brief explanation of research methodology and data analysis process was given. The criteria that were used to determine trustworthiness as well as ethical considerations were elaborated on. As indicated in Chapter 1, section 1.3, this study was based on the constructivist theory namely: cognitive constructivist theory and social constructivism.

Chapter 2 discussed the conceptualisations of assessment, the overview of assessment and assessment changes in South African education system. The constructivist theory, thus cognitive and social constructivism, which formed the basis of the study, were also discussed. The chapter further offered insight into computer practice module assessment in TVET colleges as well as policies set up by

educational bodies to ensure quality assurance. This was followed by a general discussion on the significance of assessment in the teaching and learning process. Implementation of ICASS, planning, moderation and implementation were explained. Information on TVET College lecturers' experiences of computer practice assessment was given. The chapter discussed the support provided to TVET College lecturers for the implementation of ICASS methods.

Chapter 3 presented the research methodology informed by the interpretivist paradigm. The chapter also discussed qualitative data collection methods, thus semi-structured interviews and document analysis, used to collect data from the selected multiple cases. Data analysis through the thematic data analysis method was covered. Trustworthiness and ethical considerations were discussed in this chapter

Chapter 4 dealt with answering the research questions through comprehensively analysing qualitative data which was gathered through semi-structured interviews and analysis of document. The discussions were aligned against themes and sub-themes, derived from participants' verbatim responses, were discussed. Lastly, interpretations of the findings were discussed.

The following section gives the summary of main findings.

5.2 SUMMARY OF RESEARCH FINDINGS

According to De Vos *et al.* (2011), the rationale for research is to gain a true understanding of the phenomenon. For this study, the research objectives stated in the introduction of this chapter were achieved. The analysis of the responses obtained from the participants answered all the research questions.

5.2.1 Key Scholarly Review Findings

The vision of the White Paper (2013) for TVET colleges was to enhance students' knowledge, skills and attitudes necessary for employment in the global labour market. Effective assessment practices were deemed necessary to allow appropriate learning.

It was highlighted that TVET College lecturers were not trained as assessors and moderators (*cf.* Chapter 4, sub-section 4.3.1.1). It was also found that lecturers lacked assessment and moderation knowledge. The study shows that TVET colleges' managements did not take sufficient initiative to upgrade lecturers' knowledge and skills (*cf.* Chapter 4, sub-section 4.3.1.1). This implied lack of adequate expertise to conduct effective teaching, learning and assessment processes. The White Paper (2013) acknowledges educational benefits of updating the industry assessment knowledge and experience of lecturers by providing appropriate training for TVET College lecturers. It is indicated in Chapter 4, sub-section 4.3.1.1 that in one of the TVET colleges in KwaZulu-Natal Province, 34% of the lecturers were not professionally trained educators.

It was noted that the time factor constrained effective assessment processes. TVET College lecturers were confronted with diverse administrative tasks (*cf.* Chapter 4, sub-section 4.3.1.1). Lecturers were required to compile a subject file and an assessment file for each module which adds an additional administrative burden on their teaching responsibilities. This implies that lecturers need to set aside time to cater for the administrative work. Lecturers felt that less paperwork would allow sufficient time for teaching and learning. Absenteeism was noted in (*cf.* Chapter 4, sub-section 4.3.1.1) to be common in TVET colleges. This tendency compromised administration of computer practice assessment. Consequently, lecturers were forced to create extra time to assess students who were absent when assessments were administered.

In Chapter 4, sub-section 4.3.1.1 it was indicated that infrastructural problems such as lack of computers, printers and projectors affected assessment processes. Effective assessment of computer practice module requires the availability of operational computers, printers and projectors.

The theoretical framework underpinning this study was discussed in Chapter 2, subsection 2.10.1, namely constructivist theory encompassing cognitive and social constructivism. In Chapter 2, subsection 2.10.1.1, the cognitive constructive perspective agrees that learning takes place when individual students participate actively in challenging learning environments to enhance thinking abilities (Powel &

Kalina, 2009). This means that lecturers should design formative and summative assessments that encourage critical thinking. Chapter 2, Sub-section 2.10.1.2 presented social constructivism theory which highlights that students learn more when they get assistance from the lecturers and their peers (Fry *et al.*, 2009).

5.2.2 Key Empirical Findings

This section discusses key empirical findings according to the themes and sub-themes, as tabled in Table 4.2.

5.2.2.1 Computer practice module lecturers' experiences of ICASS

The constructivist approach undertaken in this research required the exploration of lecturers' personal views based on the previous knowledge and experiences. Lecturers felt that TVET College management did not empower them to comply with the assessment processes. The research revealed that only 10% of the interviewed participants were trained as assessors (*cf.* Chapter 4, 4.4.1.8). This contravenes South African policy which requires continuous lecturer development (SACE Act No.31 of 2000, DoE, 2006). Inadequate lecturer knowledge on student assessment has a direct effect on students' learning and ultimately the achievements they obtained. Constructivist learning is grounded in previous knowledge which students can only obtain if the lecturers who serve as knowledge transmitters and facilitators are well equipped.

Study findings revealed that lecturers had limited time with teaching, learning, and assessment as administrative activities took up much time. Lecturers admitted that time was not enough to conduct all the assessments (*cf.* Chapter 4, sub-section 4.3.1.1).

The investigation revealed lecturers' frustrations regarding student absenteeism. Owing to absenteeism, lecturers were forced to allocate time outside the normal assessment schedule to cater for the students who missed the assessment tasks and disrupted the ICASS process, necessitating the development of additional assessment

which could compromise student learning (*cf.* Chapter 4, sub-section 4.3.1.1). Absenteeism stole lecturers' time for teaching which caused failure to complete the syllabus. Lecturers' workload also increased as they had to set and administer new tests to ensure the reliability and validity of assessments.

It was found that computer laboratories lacked enough operating computers and printers. The air conditioners were found in a non-operational state due to technical faults. Faulty air conditioners were a problem, as conditioners are needed to maintain a constant temperature in the laboratories to cool the computers and control dust which could affect the functioning of the machines. This restricted lecturers' ability to effectively execute the teaching, learning and assessment processes (*cf.* Chapter 4, sub-section 4.3.1.1).

5.2.2.2 ICASS Planning

From this study, it became clear that lecturers at TVET colleges did not adhere to the assessment plans (*cf.* Chapter 4, sub-section 4.3.2.1). Subject assessment plans are drawn by subject lecturers or heads prior to the beginning of the academic period, and they indicate the assessment tasks that have to be administered (DHET, 2021). Constructivist assessment requires that lecturers should have a clear understanding of what students can do at the end of the learning period.

It was found that lecturers used past question papers to set internal assessments (*cf.* Chapter 4, sub-section 4.3.2.3). This means that students were often assessed on the knowledge that they did not acquire and therefore achievements do not really equate to what students would have achieved. TVET College lecturers are expected to carefully design the assessments in a manner that allows them to cover the subject learning objectives, drawing on Blooms' taxonomy. The empirical investigation revealed that memorandums for computer practice assessment tasks were complicated to develop (*cf.* Chapter 4, sub-section 4.3.1.4). However, marking tools are useful for successful post-moderation exercises.

When documents were analysed, it was revealed that only two participants out of six had administered the three assessment tasks (*cf.* Chapter 4, sub-section 4.4.1.2). This was an assumption that compliance to the assessment procedures was lacking in TVET colleges. In this way, evidence that all tasks were administered yet absent from the portfolios of evidence, was not guaranteed. Therefore, the performance of students in the external assessments could not be well detected when internal assessment protocols were compromised. Analysis of documents discovered that memorandums for marking were not comprehensive and not all questions had guidelines for marking (*cf.* Chapter 4, sub-section 4.4.1.2). This means that some questions were marked with no clear guidelines which could have compromised mark allocation.

The researcher noted that lecturers did not take into consideration the moderation feedback (*cf.* Chapter 4, sub-section 4.3.1.6). This implies that there were no attempts taken to improve or revise the assessments. It emerged from the documents analysed that four lecturers did not possess moderation reports in their files (*cf.* Chapter 4, sub-section 4.4.1.2). Moderation of internal continuous assessment is conducted to determine the criteria that needs to be met to ensure quality in assessments and the effective teaching and learning process (DHET, 2021). Pre-moderation and post-moderation exercises are necessary to administer standard assessments.

Lecturers reported that assessment feedback hardly served its purpose (*cf.* Chapter 4, sub-section 4.3.1.7). Assessment feedback should provide information that students utilise to inform their learning and boost their achievements (Ali, 2018). The engagement of students with various tasks requires that they refer to former knowledge and previous learning to develop an individual understanding of learning expectations of the desired assessment tasks.

It was noted that computer practice lecturers were challenged with students' low levels of computer literacy which was exacerbated by the COVID-19 pandemic (*cf.* Chapter 4, sub-section 4.3.1.1). The study discovered that some students were socially and economically deprived, as a result, they could not afford personal computers to ensure that they could practise and thus develop their computing skills. This means that students only accessed computers when they were at the college. The computer

practice module needs constant practice which is possible when students have personal computers.

5.2.2.3 Support provided to lecturers

The study findings noted that lecturers were not offered support in the form of training and development (*cf.* Chapter 4, sub-section 4.3.1.9). The findings illustrated a contravention to the South African teaching requirements because the lecturing personnel are supposed to be trained and developed for effective performance. The South African policy framework advocates continuous professional development of lecturers as a way to equip them with necessary knowledge and pedagogical skills needed for effective teaching and learning (DoE, 2006). TVET College lecturers are faced with multiple and complex roles that need constant upgrading of skills in order to handle the degree of dynamics in the education sector. Lack of support in the form of training and development means that TVET College lecturers have to battle with the technicality of assessing the computer practice module.

5.2.2.4 ICASS Methods

The empirical investigation discovered that lecturers used only a few methods of assessment (*cf.* Chapter 4, sub-section 4.3.1.9). Computer practice lecturers mostly applied the question-and-answer method, peer assessments and support, practical presentations, observations, group work and tests. It was found that group work could not be used because of restrictions of the COVID-19 pandemic. Selecting appropriate assessment methods for the computer practice module is critical in the teaching and learning process in order to cater for diverse students.

5.3 RESEARCH CONCLUSIONS

The findings highlighted inconsistencies that existed in the assessment processes which compromised the quality of education provided by the TVET College lecturers. From the investigation, the researcher concluded that effective assessment practices of the computer practice module were hampered by a number of factors such as failure

to implement assessment plans, lack of training, infrastructural problems, lack of equipment, student absenteeism and COVID-19 related problems. It was also concluded that computer practice lecturers used limited methods to assess students.

The main research question was: *What are Computer Practice Module Lecturers' experiences of Internal Continuous Assessment at three KwaZulu-Natal TVET colleges?* Three sub-questions were developed to answer the main question. Research conclusions emanated from the participants' responses to the research questions.

5.3.1 RQ 1: How do TVET College lecturers plan ICASS in the computer practice module?

The research confirms that ICASS plans are a formality in TVET colleges. Lecturers did not follow the plans to administer the assessment. Time constraints due to student strikes forced lecturers to divert from the assessments plans. This means that assessments were compromised and therefore unable to assess the reality of teaching and learning. TVET colleges are supposed to adhere to the standards required to be followed to ensure credibility of the assessments.

5.3.2 RQ2: What support do TVET College lecturers get to enhance ICASS in computer practice module?

It was confirmed that TVET College lecturers were not offered the necessary professional development and training on assessment. The South African policy framework advocates for continuous professional development of lecturers as a way to equip them with necessary knowledge and pedagogical skills needed for effective teaching and learning. TVET College management need to carefully plan and budget for lecturers' development and training. This will assist lecturers in gaining the necessary knowledge and pedagogical skills that are relevant in the education sector and the related industries.

5.3.3 RQ3: What ICASS methods do TVET College lecturers use to assess diverse students' needs in computer practice module?

On this question, the empirical investigation confirmed that lecturers' assessment methods were inadequate. The question-and-answer method, peer assessments and support, practical presentations, observations, group work and tests were used to assess learning. It is clear that lecturers used few ICASS methods which implied that assessment was limited. Students' learning styles and needs are diverse therefore, to cater for diversity, TVET College lecturers should use different assessment methods.

5.3.4 Main research question: What are Computer Practice Module Lecturers' experiences of Internal Continuous Assessment at three KwaZulu-Natal TVET Colleges?

Regarding the main question, it was found that TVET College lecturers' ICASS processes were affected by selective course attendance, qualifications, time constraints, student absenteeism, infrastructural problems, lack of enough equipment and the COVID-19 pandemic. From this study, it emerged that TVET College management did not equip lecturers with assessment and moderation knowledge. It emerged that 50% of the lecturers were not trained educators. Teaching calls for professional knowledge that should be acquired during the training period. The study concluded that limited time affected the implementation of assessment processes negatively. Teaching, learning and assessment activities need sufficient time to ensure standardisation of assessments. Study findings confirmed that computers laboratories were not well equipped and as a result, students had to be grouped and assessed at different times. Lecturers were forced to create time outside the designed assessment schedule to incorporate all the groups. It was also noted that the printers were not operational which affected the lecturers' ability to teach the printing skills and to print student work. It was found that air conditioners and projectors were dysfunctional. Air conditioners are necessary to cool the heat produced by computers in the laboratory. Excessive heat creates an uncondusive teaching and learning environment. Projectors are helpful during demonstrations as they ensure that content is visible for

the whole class. The pace of learning is slowed down when lecturers teach and assess without projectors.

It was noted that the COVID-19 pandemic disrupted the assessment processes of the computer practice module. Lecturers found it difficult to get closer to the students to offer them the needed support. The protocols for the prevention of COVID-19 transmission were adhered to by the lecturers and the students. Non-compliance was subject to disciplinary procedures for both students and lecturers. The study findings revealed that lecturers found it challenging to assess large groups of students in a single venue. The division of students into groups implied more time to cover all the groups. Invigilating various groups increased lecturers' workload and consumed time for teaching and learning.

5.4 RECOMMENDATIONS

In this section, recommendations based on the findings are offered.

5.4.1 Recommendation for Policy Makers

Recommendation 1: Lecturer empowerment

The researcher recommends that TVET College management should offer regular specialised workshops and in-service training for professional development. Short term assessor and moderator courses are deemed proper for improving lecturers' knowledge regarding teaching, learning and assessment. Regular training will assist lecturers in solving the critical challenges they face in the process of imparting skills and knowledge to the students. The Department should set minimum specifications for computer practice lecturers in order to improve the implementation of assessment processes. A teaching qualification should be a requirement when hiring new computer practice lecturers. Courses like the Post Graduate Certificate in Education (PGCE) at universities should be considered for lecturers without teaching qualifications. A comprehensive relevant induction programme of the newly recruited lecturers should be boosted with the intention of creating a balance between practical experience and pedagogical skills which are all necessary for effective assessment of

the computer practice module. It is recommended that continuous appraisal of lecturers' performance should be strengthened to ensure application of skills, knowledge and attitudes.

Recommendation 2: Infrastructure development

The management of TVET colleges should focus on strengthening capacity for the effective implementation of internal assessments. It is recommended that college management should carefully prioritise the development of infrastructure and supply of equipment for productive assessment practices. TVET colleges should be given more independence to determine their financial requirements and to prioritise expenses. More laboratories for computers should be constructed and furnished with furniture, printers, machinery and air conditioners. Computer practice being a technical and practical module, requires equipment in a good working order for effective assessment processes to be conducted.

Recommendation 3: Strengthening monitoring and evaluation of assessment practices

TVET colleges should establish committees responsible for evaluating the academic operations of the college. Reports from the DHET monitoring visits should be distributed to the concerned lecturers for the purpose of future improvements.

Recommendation 4: Revision of the assessment policy

New relevant policies that align with the assessment requirements of the computer practice module should be drawn up by the Department. For example, computer practice assessments should be allocated more hours since it is a practical subject to allow for fair assessment processes. Adjustment of assessment policies should also cater for the diverse learning needs of students.

Recommendation 5: Implementation of a remedial policy for ICASS

It is recommended that the Department should establish remedial policies in consideration of students who fail to perform well in the first set of assessments. This will assist in meeting the diverse learning needs of the students. The remedial assessments should also form part of the assessment schedules.

Recommendation 6: Reduction of administrative tasks

The researcher recommends that paperwork for lecturers should be condensed. The two files which include a subject file and an assessment file for each module should be amalgamated into one single file for an individual module. This will create more time for lecturers to focus on teaching and assessment.

Recommendation 7: Increased support with learning materials

The Department should incorporate additional support learning materials such as subject manuals and study guides for each module. The subject manuals should include a summary of the modules' basic content and the achievement requirements while subject guides should cover possible questions and answers. Emphasis should be placed on using the additional materials together with textbooks to ensure effective learning. Additional support study materials will broaden students' subject knowledge to enhance good performance.

5.4.2 Recommendations for TVET College management**Recommendation 8: Support services for students**

The researcher recommends that TVET College management should appoint and train personnel to deal with counselling students on physical and emotional issues which affect their learning and eventually lead to poor achievement in assessment. The Department requires that each TVET College should select a COVID-19 official, as an expert in the medical field, who is knowledgeable about the medical procedures that have to be followed.

Recommendation 9: Establish an absenteeism policy

It is recommended that TVET College management should set internal absenteeism policies that assist in reducing absenteeism that affects effective assessment processes. This will enable lecturers to focus on effective teaching to complete the syllabus.

Recommendation 10: Revise student orientation programme

TVET College management should implement effective orientation of the newly registered students. Lecturers should utilise the college opening day to educate students about the requirements of each module to ensure future excellent performance. In this way, students will learn the expectations and the effort required to succeed in each module.

5.4.3 Recommendations for Lecturers

Recommendation 11: Diversify assessment methods

Computer practice lecturers should incorporate diverse assessment modes when planning for teaching and learning that can prompt student learning. TVET College lecturers should apply other methods such as simulations and case studies to assess students. Various assessment methods will give lecturers a clear understanding of student abilities to be able to support them for improved skills acquisition.

Recommendation 12: Increase time for student practical revisions

The researcher recommends that lecturers should offer extra lectures to students with limited or no previous computer knowledge. Increased exposure to computers will enhance learning and eventually upgrade achievements. Lecturers should be offered enough time for teaching activities to enhance effective learning.

Recommendation 13: Assessment feedback

TVET College lecturers should encourage students to follow the assessment feedback in the form of comments. Lecturers' assessment feedback provides tips that foster improvements in students' future achievements. Therefore, computer practice lecturers are recommended to cultivate a culture of following up students to ensure that they apply assessment feedback.

5.5 AVENUES FOR FURTHER RESEARCH

ICASS assessments are a critical component of computer practice students' final achievements. The findings of this investigation give an opportunity for further

research on the challenges that lecturers face to ensure compliance to ICASS processes in TVET colleges. The study should focus on the physical, financial and human resources particularly the criteria used to employ TVET College lecturers. Additional studies should also focus on involvement of TVET College lecturers in ICASS planning. A similar study should be conducted in other provinces to verify whether lecturers share the same challenges and experiences.

Other suggested areas of future studies include:

- Effective teaching and learning in TVET College sector.
- Validity of ICASS marks
- Professional development of lecturers
- How remedial assessments are conducted in TVET colleges

5.6 LIMITATIONS OF THE STUDY

The study was limited by the number of cases that were selected. Three KwaZulu-Natal TVET colleges were selected, and two participants were interviewed from each college. The findings from this investigation cannot be generalised to all the colleges and lecturers in the province. The limitation is a characteristic of a qualitative study which aimed at soliciting detailed information to highlight diverse experiences of the few selected participants regarding ICASS in the computer practice module. As the investigation was confined to KwaZulu-Natal Province this therefore implies that the study was not representative of all the TVET colleges in South Africa. Findings from this study cannot be generalised to all the TVET colleges in South Africa.

In addition, the study adopted only two data collection methods thus interviews and document analysis, which limited the quantity and quality of data that could have been obtained if additional methods such as observation were employed. The study is limited in its scope as it only followed a qualitative approach. A mixed methods approach is likely to offer an intensive understanding of the research problem. In addition, the study only focused on the computer practice module, which limited the

scope of data as more information concerning ICASS would be obtained if more than one module was to be considered.

The Covid-19 pandemic was found to be a limitation. The National lockdowns compromised time for teaching learning and assessment. The global pandemic brought numerous changes with regards to TVET College management plans, so at the time of data collection, participants were always busy even during break and lunch time to close the gap created by COVID-19 lockdowns. There were several adjustments on the appointment dates to interview the participants.

5.7 CONCLUDING REMARKS

This study was a product of the need to understand the experiences of TVET College lecturers regarding computer practice module assessment practices. Having worked in TVET colleges for over five years, the researcher made careful observations in assessment areas. Inconsistencies and challenges characterised the assessment practices. The desired contribution of the study was to impact positively on teaching, learning and assessment. The researcher understands assessment as the final lap in the journey of teaching and learning. Effective execution of assessment is a clear indication of how well teaching and learning took place.

The revelations of this study are of value to policy makers and implementers to tackle the spots which lacked enough attention in the assessment of the computer practice module in TVET colleges. The findings will guide the Department and TVET College management in addressing non-compliance to ICASS processes and also to consider appropriate development of lecturers. Insights from this investigation contribute to the existing literature regarding the challenges that limit effective application of computer practice module assessment procedures in TVET colleges.

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APPENDICES

Appendix A: Proof of registration



0856 M1RST

ATUKUNDA J MS
SPRINGFIELD FET COLLEGE
6TH FLOOR
40 COMMERCIAL CITY BUILDING
COMMERCIAL ROAD
DURBAN
4001

STUDENT NUMBER : 5628-946-4

ENQUIRIES NAME : M&D ADMIN SUPPORT
ENQUIRIES TEL : (012) 441-5702

DATE : 2021-04-07

Dear Student

I wish to inform you that your registration has been accepted for the academic year indicated below. Kindly activate your Unisa mylife (<https://myunisa.ac.za/portal>) account for future communication purposes and access to research resources.

DEGREE : MED (CURRICULUM STUDIES) (98434)

TITLE : Technical Vocational Education and Training college lecturers' experiences of assessment practices in Kwa-Zulu Natal Province

SUPERVISOR : Dr MM MAJA (majam@unisa.ac.za)

ACADEMIC YEAR : 2021

TYPE : DISSERTATION

SUBJECTS REGISTERED: DFDID95 MED - Didactics

A statement of account will be sent to you shortly.

You must re-register online and pay every academic year until such time that you can submit your dissertation/thesis for examination.

If you intend submitting your dissertation/thesis for examination you have to submit an Intention to submit form (available on the website www.unisa.ac.za) at least two months before the date of submission. If submission takes place after 15 November, but before the end of January of the following year, you do need not to re-register and pay registration fees for the next academic year. Should you submit after the end of January, you must formally re-register online and pay the full fees.

Please access the information with regard to your personal librarian on the following link:
<https://bit.ly/3hXNqVr>

Yours faithfully,

Prof M S Mothata
Registrar



University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

Appendix B: Ethical clearance certificate



UNISA COLLEGE OF EDUCATION ETHICS REVIEW COMMITTEE

Date: 2020/10/14

Ref: **2020/10/14/56289464/21/AM**

Dear Ms J Atukunda

Name: Ms J Atukunda

Student No.:56289464

Decision: Ethics Approval from
2020/10/14 to 2023/10/14

Researcher(s): Name: Ms J Atukunda
E-mail address: 56289464@mylife.unisa.ac.za
Telephone: 0784133157

Supervisor(s): Name: Dr. M. M. Maja
E-mail address: majam@unisa.ac.za
Telephone: 0124296201

Title of research:

Technical Vocational Education and Training College lecturers experiences of assessment practices in Kwa-Zulu Natal Province.

Qualification: MEd Curriculum Studies

Thank you for the application for research ethics clearance by the UNISA College of Education Ethics Review Committee for the above mentioned research. Ethics approval is granted for the period 2020/10/14 to 2023/10/14.

*The **low risk** application was reviewed by the Ethics Review Committee on 2020/10/14 in compliance with the UNISA Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.*

The proposed research may now commence with the provisions that:

1. The researcher will ensure that the research project adheres to the relevant guidelines set out in the Unisa Covid-19 position statement on research ethics attached.
2. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.



University of South Africa
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www.unisa.ac.za

3. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the UNISA College of Education Ethics Review Committee.
4. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
5. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing.
6. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
7. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
8. No field work activities may continue after the expiry date **2023/10/14**. Submission of a completed research ethics progress report will constitute an application for renewal of Ethics Research Committee approval.

Note:

*The reference number **2020/10/14/56289464/21/AM** should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.*

Kind regards,



Prof AT Motlhabane
CHAIRPERSON: CEDU RERC
motlhat@unisa.ac.za



Prof PM Sebate
EXECUTIVE DEAN
Sebatpm@unisa.ac.za



Appendix C: Letter requesting to conduct research – Department of Higher Education and Training: Pretoria



Crane International Academy
320 Building, 7th floor,
Dr Pixley Kaseme, West Street
Durban 4001
Date: 18th August 2020

The Chief Directorate
Department of Higher Education and Training
Private Bag X174, Pretoria, 0001
123 Francis Baard Street
PRETORIA

Dear Sir/Madam

Request for permission to conduct research at: Thekwini TVET College (KwaZulu-Natal Province), Elangeni TVET College (KwaZulu-Natal Province) and Coastal TVET College (KwaZulu-Natal Province)

I, Jackline Atukunda am doing research under the supervision of Margaret Malenaweng Maja a Professor in the Department of Curriculum and Instructional Studies (College of Education) towards a master's degree in Education (M.Ed.) at the University of South Africa. There are six computer practice lecturers to participate in a study entitled: **Computer Practice Module Lecturers' Experiences of Internal Continuous Assessment at Technical Vocational Education and Training Colleges.**

The aim of this study was to explore computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges.

The research objectives are to:

- investigate how computer practice module lecturers plan for the ICASS.
- find out the support lecturers get to enhance ICASS in computer practice module.
- explore ICASS methods computer practice module lecturers use to assess students' diverse needs.

The Colleges have been selected because they offer programmes that incorporate computer practice module which happens to be my area of focus in this study.

The study entails the use of face-to-face semi-structured interviews with open ended questions that will be asked with in a period of forty-five (45) minutes to one hour. The study further involves analysis of lecturers' assessment schedules, assessment tasks, assessment tools, records of assessments, moderation reports and the college assessment policy. I kindly request for your permission to audio tape the dialogue so as to capture data in a timely manner. I also request to allow probing and clarifications during interviews.

Findings from this study are geared towards effective assessment and ultimately quality assurance in South African TVET colleges. The potential risks are of inconvenience and discomfort as interviews will take place at the time when participants are supposed to get their lunch break. No other risks are expected as the colleges (research sites) and participants will not be identifiable in report writing. Pseudonyms will be used.

Participation in this study is voluntary and participants can withdraw at any time if they wish so. There will be no reimbursement or any incentives for participation in the research.

Upon completion of the dissertation, a meeting with participants will be requested. Feedback on important findings and recommendations will be presented in the meeting and a hard copy of the research report will be given to each college that participated in the research.

If you require more research related information, feel free to contact my supervisor Prof Malenaweng Margaret Maja. Her contact details include: 0124296201, email address: majam@unisa.ac.za.

Your contribution in this study is greatly acknowledged

Yours sincerely



Jackline Atukunda

Researcher

Cell phone number: 0784133157

Email address: 56289464@mylife.unisa.ac.za

Appendix D: Acceptance letter from Thekwini TVET College



higher education
& training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA



Enquiries: PA to the Principal
Imibuzo: Ms N Dlamini
Navrae:

Telephone: 031 250 8400
Fax Number: 031 250 8404
Address:

Date: 2021-03-02
Usuku:
Datum:

Ms J Atukunda
Crane International Academy
320 Building, 7th Floor
Dr Pixley KaSeme
4000

Dear Ms Atukunda

RE: REQUEST FOR USING COLLEGE AS SITE OF RESEARCH

Thekwini TVET College has no objection to you using our College as a site of research on **Technical Vocational and Training College lecturers' experiences of assessment practice in Kwa Zulu-Natal province.**

However, the following conditions for external research apply:

- The College will have right to approve content with regard to research instruments and research analysis.
 - The relevant documents must be forwarded to the College Principal and approval of usage will be given by the College Principal in writing.
- The name of the College or any of its sites cannot be used in any documents
- The name/s of staff employed by the college cannot be used.
- The use of any findings that reflect negatively on the College, its partners or any related body must be approved in writing by the College Principal.

Please note that the failure to comply with all of the above conditions will result in the necessary legal action against you.

Your cooperation in this regard will be highly appreciated.

Yours faithfully

Mr. NE Mchunu
College Principal

I have read the content of this letter and I accept the conditions

ATUKUNDA SPARKLINE

NAME

[Signature]

SIGNATURE

05/03/2021

DATE

Appendix E: Acceptance letter from Elangeni TVET College



higher education
& training
Department
Higher Education and Training
REPUBLIC OF SOUTH AFRICA



**Elangeni
College**
Technical and Vocational
Education and Training

An ISO 9001 and OSHAS 18001 certified organisation.

09 April 2021

Dear Ms J Atukunda

RE: REQUEST FOR USING COLLEGE AS SITE OF RESEARCH

Your communication dated 17 November 2020 refers:

Elangeni TVET College has no objection to you using our campuses as sites of research for "Technical Vocational Education and Training College lecturers experiences of assessment practices in Kwa-Zulu Natal province."

However, the following conditions for external research apply:

The college will have the right to approve content with regard to research instruments and research analysis.

- The relevant documents must be forwarded to the Rector and approval of usage will be given by the Rector in writing
- The name of the college or any of its sites cannot be used in any documents.
- The name/s of staff employed by the college cannot be used.
- The use of any findings that reflect negatively on the College, its partners or any related body must be approved in writing by the Rector.

Please note that failure to comply with all of the above conditions will result in the necessary legal action being taken against you.

Your cooperation in this regard will be highly appreciated

Yours sincerely

T.J Aryetey
Principal

I have read the contents of this letter and I accept the conditions

NAME SIGNATURE

14th/04/2021
DATE

SABS
ISO 9001

Central Office: 15 Portsmouth Road, Pinetown, 3610 Postal Address: Private Bag X9032, Pinetown, 3600

SABS
OHSAS 18001

Email: info@elangeni@elangeni.edu.za Phone: 031 716 6700 Fax: 031 716 6777

INANDA 131 of Street 1088/2 Inanda Tel: 031 519 0933	KWADABEKA 140 Khubeka Road Cape Town Tel: 031 71 0313	KWAMASHU F.S. Mtshandile Road Kwad Mashu Tel: 031 503 9208	MPUMALANGA 280 Shazi Man Road Pretoria Tel: 031 771 0148/3568	NDWEDWE P100 Mpani Road Ndwedwe Tel: 074 562 9178	NTUZUMA G 334 Rhandete Drive Ntuzuma Tel: 031 509 1924	PINETOWN 38 Bambani Lane Pinetown Tel: 031 702 3260	QADI Zulu Reserve Road Butha Buthe Tel: 031 777 1742
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Appendix F: Acceptance letter from Coastal TVET College



higher education
& training
Department
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

DURBAN CAMPUS

1 Jameson Crescent, Umbilo - Private Bag x01, Congella, 4013
Tel: (031) 206 0616/7/8 - Fax: (031) 206 0945
www.coastalkzn.co.za



Date: 03 March 2021

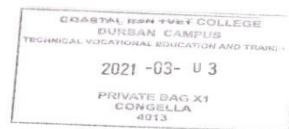
To Whom It May Concern

This letter serves to confirm that Ms Atukunda J, student number 56289464 has been granted permission to conduct research at Coastal KZN TVET College (Durban Campus).

For further information, please contact the details above.

Yours Sincerely

VSR Mazibuko
(Campus Manager)



Appendix G: Letter requesting permission to conduct research – Principal



Crane International Academy
320 Building, 7th floor,
Dr Pixley Kaseme, West Street
Durban 4001
Date: 18th August 2020

The Principal
Elangeni TVET College
15 Portsmouth Road
Pinetown 3610

Dear Sir/Madam

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT YOUR COLLEGE

I, Jackline Atukunda am doing research under the supervision of Margaret Malenaweng Maja a Professor in the Department of Curriculum and Instructional Studies (College of Education) towards a master's degree in Education (M.Ed.) at the University of South Africa. There are six computer practice lecturers to participate in a study entitled: **Computer Practice Module Lecturers' Experiences of Internal Continuous Assessment at Technical Vocational Education and Training Colleges.**

The aim of this study was to explore computer practice module lecturers' experiences of internal continuous assessment in three KwaZulu-Natal TVET colleges.

The research objectives for this study are to:

- investigate how computer practice module lecturers plan for the ICASS.
- find out the support lecturers get to enhance ICASS in computer practice module.
- explore ICASS methods computer practice module lecturers use to assess students' diverse needs.

Your college has been selected because I know that your institution offers programmes that incorporate computer practice module which happens to be my area of focus in this study.

The study entails the use of face-to-face semi-structured interviews with open ended questions that will be asked with in a period of forty-five (45) minutes to one hour. The study further involves analysis of lecturers' assessment schedules, assessment tasks, assessment tools, records of assessments, moderation reports and the college assessment policy. I kindly request for your permission to audio tape the dialogue so as to capture data in a timely manner. I also request to allow probing and clarifications during interviews.

Findings from this study are geared towards effective assessment and ultimately quality assurance in South African TVET colleges.

The potential risks are of inconvenience and discomfort as interviews will take place at the time when participants are supposed to get their lunch break. No other risks are expected as the colleges (research sites) and participants will not be identifiable in report writing. Pseudonyms will be used. Participation is voluntary and participants can withdraw at any time if they wish so. There will be no reimbursement or any incentives for participation in the research.

Upon completion of the dissertation, a meeting with participants will be requested. Feedback on important findings and recommendations will be presented in the meeting and a hard copy of the research report will be given to your college.

If you require more research related information, feel free to contact my supervisor Prof Malenaweng Margaret Maja. Her contact details include: 0124296201, email address: majam@unisa.ac.za.

Your contribution in this study is greatly acknowledged

Yours sincerely



Jackline Atukunda

Researcher

Cell phone number: 0784133157

56289464@mylife.unisa.ac.za

Appendix H: Letter requesting permission to conduct research- lecturers



Crane International Academy
320 Building, 7th floor,
Dr Pixley Kaseme, West Street
Durban 4001
Date: 18th August 2020

Dear prospective participant

REQUEST FOR YOUR PARTICIPATION IN THE STUDY

My name is Jackline Atukunda and I am doing research under the supervision of Margaret Malenaweng Maja a Professor in the Department of Curriculum and Instructional Studies (College of Education) towards a master's degree in Education at the University of South Africa. We are inviting you to participate in a study entitled: **Computer Practice Module Lecturers' Experiences of Internal Continuous Assessment at Technical Vocational Education and Training Colleges.**

This study is expected to collect important information that could assist to improve assessment processes leading to upgraded quality assurance in South African TVET colleges.

The research objectives for this study are to:

- investigate how computer practice module lecturers plan for the ICASS.
- find out the support lecturers get to enhance ICASS in computer practice module.
- explore ICASS methods computer practice module lecturers use to assess students' diverse needs.

You are invited because you possess the necessary knowledge regarding the topic of the study. You are the best participant to contribute appropriate information, both in terms of applicability and depth. Your skills and expertise will greatly assist me in analysing the computer practice module lecturers' experiences of internal continuous assessment at TVET colleges.

I obtained your contact details from your principal. I therefore kindly request you to take part in the study by participating in an individual interview during lunch breaks because I do not need to disrupt your teaching and learning activities. Your role in the study is to answer the questions as honestly as possible. There are six participants selected to participate in this study.

The study entails the use of face-to-face semi-structured interviews with open ended questions that will be asked with in a period of forty-five (45) minutes to one hour. The study further involves analysis of lecturers' assessment schedules, assessment tasks, assessment tools, records of assessments, moderation reports and the college assessment policy. I kindly request for your permission to audio tape the dialogue so as to capture data in a timely manner. I also request to allow probing and clarifications during interviews.

Findings from this study are geared towards impacting positively on assessment which in turn will enhance quality assurance South African TVET colleges. Participating in this study is voluntary and you are under no obligation to consent to participation. If you do decide to take part, you will be given this information sheet to keep and be asked to sign a written consent form. You are free to withdraw at any time and without giving a reason. This study will assist you to understand the importance of adhering to effective assessment practices in your teaching and learning process.

There are no risks or discomforts anticipated during and after the research process, however I cannot guarantee any risk that may come from others identifying the person's participation in the research. The research findings will be made available to you in keeping with research ethics. There will be no reimbursement or any incentives for participation in the research.

You have the right to insist that your name will not be recorded anywhere and that no one, apart from the researcher and identified members of research team, will know about your involvement in this research. Your name will not be recorded anywhere and no one will be able to connect you to the answers you give. Your answers will be given a code number or a pseudonym and you will be referred to in this way in the data, any publications, or other research reporting methods such as conference proceedings.

Your answers may be reviewed by people responsible for making sure that research is done properly, including the transcriber, external coder, and members of the Research Ethics Review Committee of the University of South Africa. Otherwise, records that identify you will

be available only to people working on the study, unless you give permission for other people to see the records. Your anonymous data may be used for other purposes, such as a research report, journal articles or conference proceedings.

Hard copies of your answers will be stored by the researcher for a period of five years in a locked cupboard for future research or academic purposes; electronic information will be stored on a password protected computer. Future use of the stored data will be subject to further Research Ethics Review and approval if applicable. Hard copies will be shredded while automated copies will be permanently deleted from the hard drive of the computer through the use of a relevant software programme.

This study has received written approval from the Research Ethics Review Committee of UNISA. A copy of the approval letter can be obtained from the researcher if you so wish. Upon completion of the dissertation, a meeting with participants will be requested. Feedback on important findings and recommendations will be presented in the meeting and a hard copy of the research report will be given to your college.

If you would like to be informed of the final research findings, please contact Jackline Atukunda on 0784133157 or email 562894646@mylife.unisa.ac.za. The findings will be accessible after 2021. Should you require any further information about any aspect of this study please contact me.

Should you have concerns about the way in which the research has been conducted, you may contact Prof Malenaweng Margaret Maja on 0124296201, email address: majam@unisa.ac.za.

Thank you for taking time to read this information sheet and for participating in this study.

Thank you.

Yours sincerely



Jackline Atukunda
Researcher (MED-Curriculum and Instructional Studies)

Appendix I: Consent for lecturers

Consent to participate

I, _____ (participant name), confirm that the person asking my consent to take part in this research has told me about the nature, procedure, potential benefits and anticipated inconvenience of participation.

I have read (or had explained to me) and understood the study as explained in the information sheet.

I have had sufficient opportunity to ask questions and am prepared to participate in the study.

I understand that my participation is voluntary and that I am free to withdraw at any time without penalty (if applicable).

I am aware that the findings of this study will be processed into a research report, journal publications and/or conference proceedings, but that my participation will be kept confidential unless otherwise specified.

I agree to the recording of the interview.

I have received a signed copy of the informed consent agreement.

Participant Name & Surname (please print)

Participant Signature

Date

Researcher's Name & Surname (please print)

Jackline Atukunda

Atukunda

Researcher's signature

Date

Appendix J: Interview schedule

1. Describe your experiences of ICASS at your college?
2. How are ICASS for computer practice module planned at your college?
3. What processes are followed to set ICASS for computer practice module?
4. In your position as a lecturer, explain the tools that you use to mark assessments?
5. How do you record ICASS marks?
6. How is monitoring and moderation of ICASS done at your college?
7. What forms of feedback do you offer to your students after assessing them?
8. What support strategies does your College offer to the lecturers in order to ensure effective ICASS processes?
9. Explain the different ICASS methods that you use to assess students in your class?

Appendix K: Responses to the interview schedule

1. Describe your experiences of ICASS at your college?

1.1 Lecturers' qualifications

Participant 2, College 1: 'My qualifications are in IT and engineering.'

Participant 6, College 3: 'I do not even have a teaching qualification. I did B- com in information management systems.'

1.2 Time constraints

Participant 5, College 3: 'Time we are allocated is not enough.'

Participant 6, College 3: 'Time is not enough, in fact we did not even complete the syllabus.'

1.3 Student absenteeism

Participant 2, College 1: 'Sometimes students are not attending lectures regularly and they miss assessments.'

Participant 5, College 3: 'There is strike now and students are not coming.'

1.4 Infrastructural problems

Participant 1, College 1: 'Sometimes you find that at our college we do not have enough resources, for example, the computer laboratory is supposed to have like thirty computers, but you find like two are not functioning at their best.'

Participant 4, College 2: 'The computer laboratory is always overflowing, so we have to move the students around in search of space. Some computer laboratories do not have air conditioners.'

1.5 Equipment

Participant 3, College 2: 'You find that computers are not always functional, so we get 80 computers but only to find that only twenty-five are working.'

Participant 4, College 2: 'Sometimes the printer is not working.'

1.6 COVID-19 pandemic

Participant 6, College 3: 'Sometimes the projector is not working and due to COVID-19, we have to divide students.'

2. How are ICASS assessments for computer practice planned at your college?

Participant 1, College 1: 'I need to submit the question paper, the marking guidelines and the moderation checklist to the senior lecturer a week before tests. I collect the question paper on the day of assessment.'

Participant 3, College 2: 'We prepare three assessments, a test, an assignment and a trial exam. When combined should cover 100% of the syllabus. We normally locate a week for tests.'

Participant 4, College 2: 'We plan assessments prior, for this year we have already set assessments before the start of the year. Students receive year plans and the assessment plans or the year calendar. But sometimes we deviate from the assessment plans because we do not have enough time.'

Participant 6, College 3: 'When we plan, we use assessment plan, we plan for assessments before we start classes. Unfortunately, because of the strike we did not focus on the assessment plan.'

3. What processes are followed to set ICASS for computer practice module?

Participant 1, College 1: 'The subject guidelines and assessments are used to set tests.'

Participant 3, College 2: 'We have three different assessments comprised of an assignment, a test and a trial examination, which together should cover 100% of the syllabus because, that is in preparation for final examination set by DHET.'

Participant 4, College 2: 'In computer it is always a practical test, we have three, two tests and one trial exam. I try to make it close as possible to the final examination, so we take past examination papers and make a few modifications or exactly as it is.'

Participant 5, College 1: 'I take past examination papers and make a few modifications or exactly as it is.'

Participant 6, College 3: 'I get past examination papers and make changes, also I get other questions from the textbooks.'

4. In your position as a lecturer, explain the tools that you use to mark ICASS?

Participant 5, College 3: 'I use a memorandum to mark assignments and tests, but computer practice memos are difficult.'

Participant 6, College 3: 'We mark with memorandums, but sometimes. I mark even without a memo because if you are going to do it, you need a lot of time.'

5. How do you record ICASS marks?

Participant 2, College 1: 'I record marks on the record sheet and on the system because DHET does not take hard copies, it must be a text file.'

Participant 5, College 3: 'We record the marks on the system, but we also use mark sheets which we put in our portfolio of evidence. However, sometimes the system is down.'

6. How is monitoring and moderation of ICASS done at your college?

Participant 1, College 1: 'I will need a moderator to moderate my test. For internal assessments we use internal moderators.'

Participant 1, College 1: 'We set tests, mark and submit to our seniors and HOD.'

Participant 2, College 1: 'We always moderate for each other.'

Participant 3, College 2: 'We moderate for each other, but we do not just pick anybody, but the senior lecturers are the ones who allocates the moderators.'

Participant 5, College 3: 'Assessments are supposed to be monitored by the curriculum manager from the central office at the end of the semester.'

Participant 5, College 3: 'We moderate for each other. Moderation is just a formality, I can even moderate for myself.'

Participant 6, College 3: 'Sometimes we get moderation feedback but sometimes we do not get feedback.'

7. What forms of feedback do you offer to your students after assessing them?

Participant 1, College 1: 'Feedback that students get is in the form of marked paper and we do revision of the written paper.'

Participant 2, College 1: 'After marking I give students their scripts to see their results and comments, and after going through that assessment, I correct the scripts from the students.'

Participant 5, College 3: 'We write the feedback on the answer sheet. I do not even think that students even read the feedback.'

8. What support strategies does your college offer to the lecturers in order to ensure effective ICASS processes?

Participant 3, College 2: 'There is no support offered to us.'

Participant 4, College 2: 'I was trained once as an assessor in 2015 and I have an assessor certificate.'

Participant 5, College 6: 'The training we were provided was the assessor and facilitator training for SASSETA programmes, not for Nated programmes.'

Participant 6, College 3: 'I do not get any support may be is because of the experience I have.'

9. Explain the different ICASS methods that you use to assess students in your class?

9.1 Questions and answers method

Participant 2, College 1: 'Except the textbooks that I use, I also make sure that I expose them to the past question papers. It was discovered that textbook activities and past question papers were convenient methods of assessing students' learning progress.'

9.2 Peer assessments and support

Participant 1, College 1: 'Peer to peer that means students assess fellow students'

9.3 Practical presentations

Participant 3, College 2: 'We could go for presentations right.'

9.4 Observations

Participant 6, College 3: 'To assess my students, I use observations.'

9.5 Group work

Participant 1, College 1: 'Another way which we should be using but we cannot, due to COVID-19 is to group students and have assessment session with them.'

9.6 Tests

Participant 5, College 3: 'Computer module is practical, so we have three or two tests and one trial exam.'

Participant 6, College 3: 'To assess my students, I use practical tests.'

Appendix L: Checklist for document analysis

Number.	ITEMS	Yes	No
	Evidence of ICASS documents		
1.	ICASS schedules		
2.	Evidence of assignments		
3.	Evidence of ICASS test one and two		
4.	ICASS Memorandums for assignments and tests		
5.	Marks sheets with recorded ICASS marks for students		
6.	Evidence that marks were verified before being captured on the electronic system.		
7.	Evidence of additional support tasks		
8.	Students marked scripts		
9	Evidence of pre-assessment moderation		
10	Evidence of post-assessment moderation		
11	Moderation reports and checklists		
12.	Evidence of ICASS monitoring		
13	Evidence of feedback such as notes on improvement of the task		
14	Checklists for compliance to pre- and post-assessment moderation		

Appendix M: Proof of Editing

To whom it may concern

This letter serves to confirm that editing and proofreading was done for:

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**COMPUTER PRACTICE MODULE LECTURERS' EXPERIENCES OF INTERNAL
CONTINUOUS ASSESSMENT AT TECHNICAL VOCATIONAL EDUCATION AND
TRAINING COLLEGES**



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Appendix N: Turnitin Report

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