



**Teaching visually impaired students: A case study in one
Technical Vocational Education and Training College in**

KwaZulu-Natal

By

Zwethanda Derrick Msimango

**A thesis submitted in fulfilment of the academic requirements for the
degree of Master of Education**

to the

College of Humanities, School of Education

at the

University of KwaZulu-Natal

Supervisor: Dr Blanche N. Ndlovu

December 2019

DECLARATION OF ORIGINALITY

I, **Zwethanda Derrick Msimango** declare that:

- The research described in this thesis, excluding where then designated, is my own unique work.
- This thesis has not been submitted for examination at any other university.
- This thesis does not cover other persons' data, images, charts or other information unless specifically recognized as being sourced from other persons.
- This thesis does not cover other persons' writing unless specifically recognized as being sourced from other researchers. Where other written sources have been cited, then:
 - Their words have been re-written but the general information attributed to them has been referenced;
 - Where their exact words have been used, their writing has been placed inside citation marks and referenced.
- This thesis does not cover script, pictures or tables copied and pasted from the Internet, unless specifically recognized, and the source being detailed in the thesis and in the reference's sections.

Student: Zwethanda Derrick Msimango

Student No. (218068190)

Signed _____

Dated _____

STATEMENT BY THE SUPERVISOR

I, the candidate's supervisor, **agree/~~do not agree~~** to the submission of this thesis.

Signed : _____ Dated: _____

ACKNOWLEDGEMENT

- Above all, I thank Almighty God who granted me this opportunity to complete this research.
- I would like to express my truthful gratitude to my family members for their support, and encouragement during this course.
- I seriously appreciate the encouragement, belief that my wife, Smangele (MaMzimela) demonstrated.
- I also value the great support and encouragement from my three kids, Minenhle, Hlelelwe and Svuno.
- I would also like to thank my supervisor Dr Blanche Ndlovu, without her this would not be what it is now. Thanks to my colleagues Mr Mbhense, Ms Khumalo, Mrs Linda, Mr Zondi, Mr Sangweni, and Ms Sibiyana and many others who are not mentioned here. Certainly, you were by my side for the accomplishment of this dissertation.
- I cannot forget the Department of Higher Education and Training and the TVET College management who granted me permission to undertake the research in the college.
- Finally, I would like to thank all the lecturers and students who participated in this research.

DEDICATION

This thesis is dedicated to my wife: Smangele and our children: Mr Mathaba, Mrs Mathaba, and my Pastor's family who took some responsibility to look after my family while I was away from home for research. Their support, encouragement, and sacrifices gave me the chance to complete this research. My relatives and friends, words of encouragement forced me to finish this research. God bless you all.

ACRONYMS

TVET	Technical Vocational Education and Training
NATED	National Assembly Training and Education Department
NCV	National Certificate Vocational
DHET	Department of Higher Education and Training
HW	Hardware
SW	Software
CCTV	Closed Circuit Television
WHO	World Health Organisation
IQMS	Integrated Quality Management System
IE	Inclusive Education
IW	Ideological ware

DRAWINGS

Figure	Page
Ecological Systems Theory	36
Research paradigm	44
Ecological systems and their relations to the themes	79

TABLE OF CONTENTS

DECLARATION OF ORIGINALITY	i
STATEMENT BY THE SUPERVISOR.....	ii
ACKNOWLEDGEMENT.....	iii
DEDICATION.....	iv
ACRONYMS.....	v
DRAWINGS.....	vi
ABSTRACT.....	xi
CHAPTER ONE	1
INTRODUCTION TO THE RESEARCH	1
1.1 Introduction.....	1
1.2 Background of the research.....	1
1.3 Focus of the research	2
1.4 Purpose of the research	2
1.5 Rationale of the research.....	3
1.6 Critical research objectives.....	4
1.7 Critical Research questions.....	4
1.8 Clarification of terms.....	4
1.8.1 Further Education and Training (FET) College.....	4
1.8.2 FET College Lecturer	5
1.8.3 Learning Disabilities.....	5
1.8.4 Mainstream Classroom.....	5
1.9 Context of the research.....	5
1.10 Research design, methodology and paradigm.....	7
1.11 Structure of the dissertation.....	7
1.10 Conclusion of the chapter.....	8
CHAPTER TWO	9
LITERATURE ON TEACHING VISUALLY IMPAIRED STUDENTS	9
2.1 Introduction.....	9
2.2 Terminology clarification.....	11
2.2.1 Introduction.....	11
2.2.2 What is an experience?	12
2.2.3 Brief Notes on History of South African Education System (visual impairment).....	13
2.2.4 Lecturers challenges in teaching visually impaired students in TVET College	14
2.2.5.1 Lecturers' challenges and attitudes towards including students with visually impaired in their classrooms	16

2.2.5.2 Achievements and challenges of inclusive education	18
2.2.5.3 Significance of inclusive education to the research	18
2.2.5.4 Teaching visually impaired students in TVET College	19
2.2.5.5 Teaching approaches suitable for students with visual impairment	19
2.2.5.5.1 Multi-sensory approach, Kinaesthetic Learning, Tactile Learning or Sensory Approach	21
2.2.5.5.2 Auditory Learning Approach	22
2.4.3.3 Resources for teaching students with visual impairment	23
2.4.3.4 Lecturers' experiences of teaching impaired students	25
2.4.3.5 Assessment of visually impaired students	26
2.4.3.6 Support for lecturers teaching visually impaired students	32
2.4.3.7 The impact of visual disabilities on students' academic performance	33
2.4.3.8 Difference between visual impairment and blindness	35
2.4.3.9 Communication with visually impaired people and creation of chosen terminology	35
2.5 Theoretical framework- Ecological systems theory	36
2.5.3. The exosystem	39
2.5.4. The macrosystem	39
2.5.5. The chronosystem	39
2.5.6 Conclusion	40
CHAPTER THREE	41
RESEARCH DESIGN AND METHODOLOGY	41
3.1 Introduction	41
3.3 Research approach	42
3.5 Research Paradigm	44
The three dimensions of paradigms and methodology are shown in the figure below:	44
Figure 2: Research paradigm (worldview)	44
3.6 Methods of Data generation	45
3.6.1 Focus group interview	46
3.6.2 Classroom Observations	46
3.6.3 Document analysis	47
3.7 Selection of participants and sampling procedure	47
Participants of this research	49
Table 1 Data generation plan	49
3.9 Ethical consideration	51
3.10 Data presentation and analysis	53
3.11 Trustworthiness	53

3.12 Limitations to the research.....	55
3.13 Conclusion	56
CHAPTER FOUR.....	57
RESEARCH OUTCOMES AND DISCUSSION OF FINDINGS	57
4.1 Introduction.....	57
4. 2 Interviews.....	57
4.3 Training and qualifications for teaching visually impaired students.....	58
4.4 Presentation of the data	59
4.4.1 Thematic data analysis	60
4.5 Presentation of the Data	61
4.5.1 Theme 1: Lecturers experiences in teaching visually impaired students.....	61
4.5.1.1 Subtheme 1: Lecturers training in teaching visually impaired students	62
4.5.2 Theme 2: Different approaches to visually impaired students	67
4.5.2.1 Subtheme 2: Teaching assessment /approaches	67
4.5.2.2 Subtheme 2: Accommodating visually impaired students in the lesson.....	69
4.5.3 Theme 3: TVET College management	71
4.5.3.1 Subtheme 1: TVET College policies	71
4.5.3.2 Subtheme 2: TVET College or Higher Education and Training support.....	72
4.6 Merging the Findings with the Theoretical Framework	74
The data will be discussed as arranged below:.....	77
Table 3 Ecosystems and their relation to the themes and subthemes that occurred from the data	77
Figure 3 (Ecological Systems Theory) Adopted by Bronfenbrenner.	79
4.6.1 Microsystem.....	79
Theme 1: Lecturers experiences in teaching visually impaired students.....	79
4.6.2 Mesosystem.....	80
Theme 2: Different approaches to teaching visually impaired students.....	80
4.6.3 Exosystem	81
Theme 3: TVET College management.....	81
4.6.4 The Macrosystem	82
Theme 1: Lecturers experiences in teaching visually impaired students.....	82
4.7 Classroom observation	83
Lesson observation 1.....	84
Lesson observation 2.....	86
Picture no 3- Mr Autumn’s classroom.....	86
Lesson observation 3.....	89

Picture no 4 - Mr Winter's classroom	89
Picture 5 - Miss Spring's classroom	91
4.8 Arguments of classroom observation	93
4.9 Document analysis	95
4.10 Conclusion	97
RESEARCH SUMMARY, CONCLUSION AND RECOMMENDATIONS	98
5.1 Introduction	98
5.2 Summary of the Research	98
5.3 Recommendations	99
5.3.1 Recommendation one: Curriculum Support for visually impaired students	99
5.3.2 Recommendation two: Advancement of university training	99
5.3.3 Recommendation Three: Ongoing training and workshops and resources	100
5.4 Conclusion	101
References	102
APPENDICES	115
Focus group interviews	113
Appendix 2	114
Consent letter (Education of Higher Education and Training)	114
Appendix 3	116
Department of Higher Education and training letter	116
Appendix 4	117
Consent letter (Campus Manager)	117
CLASSROOM OBSERVATION SCHEDULE	119
Appendix 5	120
Consent letter (Participants)	120
INFORMED CONSENT DECLARATION	122
FOCUS GROUP DISCUSSION CONSENT FORM	123
Appendix 6	124
Ethical clearance letter (University of KwaZulu Natal)	124

ABSTRACT

The research required to gain insight and understanding into teaching visually impaired students in TVET College by exploring their experiences in teaching visually impaired students in TVET College. Inclusive education has, since then, become a serious aspect of the KwaZulu Natal education system. This research explores lecturers' experiences in teaching students with visual impairment in one TVET College in KwaZulu Natal. Using a qualitative, evocative and theoretical research design, the research hires a case research approach to answer the following questions: What are TVET college lecturers' experiences of teaching visually impaired students? What approaches are used to teach visually impaired students in TVET College? Why do they understand teaching visually impaired learners in particular ways?

The data was generated from a sample of four lecturers from one TVET College in KwaZulu Natal through semi-structured interviews, classroom observations, and document reviews. The research exposed that the lecturers have not been properly prepared for the application of the inclusive education policy in this college; this is reflected by their inadequate sympathetic of inclusive education. It also displays a weakness in the distribution of inclusive education policies as lecturers are not well trained, especially to assist students with visual impairment. The focus inclined to be only on children with visual impairment, or sight impairment. Therefore, there is a need for the TVET College, not only to review the policy and curriculum of inclusive education, but also unload the distribution process so that it empowers and ropes lecturers with information and practical approaches. The theoretical framework that directed this research was American psychologist Urie Bronfenbrenner's ecological systems theory. The submission of this theory permitted a focus on how the ecological systems lecturers exist in influenced their experiences of and need for teaching visually impaired students. The offer of this theory allowed a focus on how the ecological systems lecturers reside in influenced they are sympathetic to and need for teaching support. The data generation was analysed according to thematic coding with relations to the academic or theoretical framework.

CHAPTER ONE

INTRODUCTION TO THE RESEARCH

1.1 Introduction

This chapter introduces the background of the research, the rationale that aroused my interest to conduct the research on the phenomenon and the experience of TVET college lecturers in teaching visually impaired students. It also provides a brief background of the context where the research was conducted. The problem statement is accessible in this chapter followed by a brief overview of the literature surrounding the research. This is followed by the rationale for directing this research. The chapter articulated the research objectives as well as the critical research questions. The chapter further discussed the literature research used to understand the gaps for this research. The snippets of the research methods as this chapter will be discussed further, I ended with the outline of the research.

1.2 Background of the research

Prior to 1994, South Africa was not democratic. In 1994, transformed into a free and democratic country where there were policies that were in place to govern the country. This translated into how the policies were to govern schools and institutions of higher learning.

During the apartheid era special education was only for the white, advantaged learner and therefore the education of disabled, disadvantaged learners was compromised (DoE, 2001). Moreover, White Paper 6 acknowledges that learning is more than just formal schooling – therefore, learning environments that meet the varying needs of all learners is essential in order to remove barriers to learning. Barriers to learning are defined by (Borland & James, 1999) as all of the things that hinder teaching and learning. Examples include the attitudes and teaching approaches of different lecturers. White Paper 6 (2001) states that all learners regardless of their learning barriers are to be accepted and respected in the education system (DoE, 2001). It identifies that students may have different learning needs which all colleges need to address by changing attitudes, behaviours, teaching methodologies, curricula and the environment. Its further states that some students may require more intensive and specialised forms of support to be able to develop to their, full potential. Special schools operate especially for this need.

Visual impairment is a term that experts use to describe any kind of vision loss, be it partial or total (Cox & Dykes, 2001). Impaired vision can range from poor vision to blindness. Students whose vision cannot be corrected by ordinary glasses, contact lenses, medicine or surgery have visual impairments. Students with visual impairments have difficulty with repetitive responsibilities, such as reading a newspaper, even with glasses or contact lenses. Whatever the case, loss of vision or impaired vision may restrict a child's normal development if that child does not receive appropriate support from the parents, the school and the community from birth.

In my four-year experience teaching in an inclusive classroom with two students with visual impairment, my understanding is that these two students need actual objects to assist them with reading as they cannot use pictures or other forms of non-physical teaching aids. Furthermore, in the context of my institution, this is where the college scribes play an important role to ensure that the students get all the help they need. In addition, these two learners need to be assessed differently compared to sighted learners. It is for this reason that, in this research, I propose to explore the experiences of lecturers. For the lecturers, the researcher wishes to find out their experiences of teaching students who are visually impaired with regard to teaching approaches and support. In addition, the researcher will seek to find out what kinds of support the students receive to help them learn alongside those without visual impairment.

1.3 Focus of the research

The focus of the research will be exploring lecturers' experiences in teaching visually impaired students in TVET College. The research will be conducted at one TVET College in KwaZulu Natal.

1.4 Purpose of the research

Technical Vocational Education and Training (TVET) colleges are organizations of higher learning, where the focus is on career training. Most lecturers are from businesses, which suit the needs of vocational training. Some of the lecturers do not have any training or experiences in teaching, but they can communicate their industry knowledge and experience to students correctly.

Once they are within the college, they grow themselves in the teaching and education field by undertaking a Post Graduate Certificate in Education (PGCE). Their knowledge of teaching in TVET colleges has mainly been on students who are not visually impaired. It was only in 2016, where they start themselves faced with a situation where they had to teach students with a visual impairment Teaching student with visually impaired required an urgent change in their teaching practices of these lecturers to accommodate these students.

1.5 Rationale of the research

The motivation to pursue this research stems from my personal experiences and observations as a TVET college lecturer. I am currently teaching visually impaired students in TVET College. As a fairly qualified teacher at a high school for normal learners, I have faced various challenges in teaching visually impaired students. For example, I have not been exposed to Braille before therefore I had to start learning as I taught my students. Lecturers have to also learn various ways to teach thoughts to visually impaired students in new ways compared to sighted students. For example, a lecturer may have to bring in an actual flower for the students to touch and smell instead of a picture. It appears that in general the educational needs of students with a disability, and particularly those who are visually impaired, are largely overlooked or ignored and they remain unassisted. I also observed visually impaired students carrying textbooks instead of voice recorders – needless to say, that their performance is generally less than what they are capable of achieving under favourable and supportive environments. The treatment which visually impaired students receive from the college scribes is, in the main, unfair because are not trained. The scribes see these students as easily irritable, short-tempered and not easy to work with. (South & Juta, 2011) protect the rights and human dignity of persons with disabilities.

This research aims to explore various barriers faced by and opportunities for my students with disabilities who participated in formal vocational education programs in TVET Colleges. Pretorius (2017) argues many lecturers base their teaching methods on how they themselves have been taught. Since 2014 we enrol these visually impaired students in both the National Certificate Vocational (NCV) programme and National Assembly Training and Education Department (NATED) programme.

Students and their parents with visually impaired could be up-to-date that TVET colleges are now catering to the needs of their children. Lastly, the Department of Higher Education and Training (DHET) as the employer, by understanding the experiences of lecturers could originate means to assist lecturers to best implement the inclusive education policy, especially in the TVET College.

TVET lecturers, senior managements, community and South Africans as a whole will benefit from this research.

1.6 Critical research objectives

Research objectives

- To explore experiences of teaching visually impaired students in a TVET College.
- To understand the approaches used by lecturers in a TVET College.
- To understand why TVET College lecturers understand teaching visually impaired learners in particular ways?

1.7 Critical Research questions

The research intends to answer the following critical research questions:

- What are TVET college lecturers' experiences of teaching visually impaired students?
- How do lecturers understand teaching approaches in TVET College?
- How lecturers teach visually impaired students in the approach that they used?

1.8 Clarification of terms

Below is the clarification of terms that are commonly used in this research.

1.8.1 Further Education and Training (FET) College

A FET College, later changed to Technical and Vocational Education and Training (TVET) College can be described as post-school teaching and learning sector for young and old students where students are taught various vocational skills in training for the world of work. A FET

College proposal a range of skills programmes such as National Certificate Vocational (NCV), Report 191 and various short skills courses and programmes. The term FET will be used during the research as it is the term still normally known.

1.8.2 FET College Lecturer

A FET college lecturer is an individual that is working by a FET college to clarify in one or more of the programmes that are offered by the college on a full or part-time basis. Most lecturers are experts in specific trades and have work-related qualifications ranging from certificates, diplomas and degrees.

1.8.3 Learning Disabilities

The terms ‘learning disabilities’, ‘knowledgeable disabilities’ or ‘impairment’ and ‘learning difficulties’ are used interchangeably in the literature(Engelbrecht, Oswald, Swart, & Eloff, 2003). In this research, these terms will also be used interchangeably to mention to disabilities with learning that are intrinsic in nature. Such disabilities cannot be improved despite a good education, but are accommodated in class.

1.8.4 Mainstream Classroom

A mainstream classroom is a classroom where students with or without disabilities are combined and ‘fitted into’ a normal classroom routine. The integration is focused on changes that need to take place so that the students can fit in (DoE, 2001)

1.9 Context of the research

This research was conducted at the Langazane TVET College at the King Cetshwayo district in the Umhlathuze Municipality, which is located in the North Coast region of the KwaZulu-Natal province. The college is a former College of Education inherited from the Department of Basic Education. It is situated in a semi-rural area, with an enrolment of 1500 students. The college has the student residents which accommodate 1000 students and the rest of the students are renting their residence outside the college. The students who stay outside the college residence use taxis and the buses as the public transport to and from the college. The college has electricity and clean running water.



Picture No.1 – Langazane TVET College (pseudo- name)

The Langazane TVET College (pseudonym) is one of the nine TVET colleges in the KwaZulu-Natal province out of fifty TVET colleges in the country. They were 266 lecturing staff in this TVET College. Langazane TVET College has seven campuses namely Nsindiso campus, Mbuyiselo campus, Mandeni campus, Nkwalini campus, Nkandla campus, Babanango campus, and Mpumelelo campus. Each campus has enrolled 1500 students. There were 60 lecturing staff on this campus. This research was conducted at the Nsindiso Campus (pseudonyms). Nsindiso Campus offers two programmes simultaneously, namely National Certificate Vocational (NCV) and National Assembly Training and Education Department (NATED). The Nsindiso Campus is in a semi-urban area where parents are employed as professionals, while other parents are self-employed. The people there make their living through selling products and being self-employed. Most of the students from this campus come from as far as Manguzi, Ulundi, Nkandla, and Pongola, amongst other areas. Many come from poor families where their families live on state grants. About 97% of these students are learning through the National Students Financial Aid Scheme (NSFAS). This campus has started on an inclusive education programme since 2014 when it first enrolled 25 students with visual impairment.

In 2018, two students were enrolled in Transport and Logistics. The total number of these students is 35 in 2019. The enrolment of these students announced the start of inclusive education for lecturers- they had to adjust their teaching approaches to accommodate these students. This college was nominated because it includes participants relevant for the research,

who are, lecturers of teaching these students. Lecturers from Langazane TVET College are professionals mainly with no teaching qualifications but business qualifications and experience ranging from Diplomas to master's degrees. The lecturers' qualifications are associated with the vocational education and training that this college offers. Their qualifications suggest no experience of inclusive education.

The structure of this college is an old College of Education building built very long ago. Currently, the buildings are not appropriate for students with visual impairment as they were built earlier the introduction of inclusive education. There are stairs with no rails, which prevent students on wheelchairs to access buildings and are not user-friendly for students with visual impairment. There are no ramps. The college is currently having no adequate resources for students with visual impairment.

1.10 Research design, methodology and paradigm

This research is a case study of four TVET College lecturers teaching students with visual impairment. The research employs a qualitative approach to research within an interpretive paradigm to gather in-depth data on the experiences of the TVET college lecturers in teaching visually impaired students. These lecturers were selected as participants to gather the findings of this research using semi-structured interviews and classroom observations. The aim of the research is to explore the experiences of TVET College lecturers in teaching visually impaired students.

1.11 Structure of the dissertation

This research will have five chapters:

Chapter 1- The first chapter positions the reader on the researcher's intentions to conduct research on the experiences of TVET College lecturers in teaching visually impaired students. This chapter begins by providing a real background to the research. It additionally provides the focus and purpose of the research as well as the rationale for aiming to conduct the research. It outlines the research question, for which this research aims to disclose findings with its sub-questions. In summary, it outlines the research process employed in this research, to announce the reader to the research methodology earlier in the research.

Chapter 2- This chapter comprises the literature reviewed on teaching students with visual impairment. It has four sections: firstly, it discusses the preferred terminology to refer to people

with visual impairment. Secondly, inclusive education as a new path in the education system, thirdly teaching students with visually impaired. Lastly, it discusses the theoretical framework that unpins this research which is Bronfenbrenner Theory (BT).

Chapter 3- This chapter debates the methodology used in this research, research approach, paradigm, participant selection, data collection plan, and limitation of the research. The issues of validity and trustworthiness are also discussed.

Chapter 4- An analysis of data collected through semi-structured interviews of **four** TVET College lecturers is provided in this chapter. The findings were analysed and interpreted influenced by Bronfenbrenner as indicated in the Theoretical Framework of the research.

Chapter 5- The main findings and insight of the research are specified in this chapter, and recommendation for future studies are made, and an overall conclusion to this research is provided.

1.10 Conclusion of the chapter

This chapter has sketched the background of the research, the rationale behind selecting the phenomenon, teaching visually impaired students gave a brief summary about the context of the research as well as the layout of the chapters. It has also specified the focus and a critical research question of the research to be: *‘What are the experiences of TVET College lecturers in teaching visually impaired students? Since this TVET College enrolled students with visual impairment.*

The next chapter is the literature review on the right terminology usage, the teaching visually impaired students and the theoretical framework that supports this research.

CHAPTER TWO

LITERATURE ON TEACHING VISUALLY IMPAIRED STUDENTS

2.1 Introduction

Chapter one introduced the aim of the research, which was to explore TVET College lecturers' experiences in teaching visually impaired students. The interest in conducting this research in a TVET College is powered by the interest to gain knowledge of understanding the lecturer's experiences with the numerous challenges found in the college.

This chapter presents a review of various publications, journals and literature that relates to the experiences of lecturers who teach visually impaired students. The prior chapter provided a background to the research; it has also sketched my rationale for exploring lecturers' experiences of teaching visually impaired students. It has also stated, the main research question: what are the Technical Vocational Education and Training (TVET) College lecturer's experiences of teaching students with visual impairment? as well as sub- research questions to which the research aims to respond. It has in summary, provided a methodology on which the research is stuck.

This chapter summaries international, national, and local academic literature reviewed around the phenomenon, teaching visually impaired students. The research employs two literature review methods: an argumentative method and historical method. An argumentative review as described by Berg and Howard (2004) is when a researcher, presents ideas that support or face each other on a specific topic to argue for a specific idea. While, a periodic or historical method touches the occurrence of events over a period of time to cover direction for future encounters (Berg, 2004). The meaning of adopting these two methods for this research is to highpoint backup and rebut ideas to develop an argument yet, also provide a historical background to lay a firm foundation for the performance of arguments.

In South Africa, learning disabilities are one of the types of barriers to learning that is lectured in the Department of Education (2001). The policy admits that there are barriers to learning in the classroom, but they are according to changing degrees and may need specific or customised involvements in order for effective learning to take place. It calls for an education system that provides inclusion largely and removes judgement and disadvantage in the classroom. It is

aimed at providing a reasonable education opportunity for deprived groups such as learners and youth from all backgrounds, including those with disabilities. The policy recognises that all students with or without disabilities can reach their full potential and in future will be able to contribute meaningfully to the South African economy (DoE, 2001).

However, it is noted that nothing much is said by Department of Education (2001) on post-school education and training of students with superior needs such as those with learning disabilities at Technical and Vocational Education and Training (TVET) colleges. It does not indicate how students with disabilities at TVET colleges should be supported, except that the policy only indicates that Higher Education institutions are expected to accommodate students with special needs. It praises higher education institutions such as TVET colleges and universities into having elastic curriculum and assessment policies that accommodate all students regardless of the kind of learning need in post-school education (Matshediso, 2007).

Recently, the Department of Higher Education and Training (2014) delivered the South African White Paper for Post-School Education and Training which sets out the vision of the Department of Higher Education and Training on post-school education. The vision is aimed to be attained by the year 2030. Part of the vision is that of talking disability in higher education institutions. The policy needs all higher education institutions to have plans of addressing various disabilities within their own upbringings. Amongst other things, the policy intended that greater awareness of the needs of students and staff with disabilities should be constructed as well as building capacity to report disability at all levels of higher education institutions.

However, (Nzimande, 2010) at the presentation of the South African White Paper on Post-School Education indicated that there is currently no national disability plan that guides post-school education institutions. Resources provided to students with disabilities at post-school institutions remain fragmented. There remains a recognizable knowledge gap in the area of TVET capacity in lecturing the needs of students with disabilities. In my opinion, this interprets to no clear guidelines on how the TVET sector and in particular TVET college lecturers are expected to accommodate the needs of students with disabilities and in particular those with visual disabilities in mainstream classrooms. There is not enough sign stress the experiences of lecturers, their skills and capacity in teaching students with learning disabilities. A closer look into the experiences of TVET college lecturers in teaching students with learning disabilities in a mainstream classroom is required so as to update future policies on disability

at TVET colleges. I will be reviewing the role played by policy and how it shapes the education of special needs students in these colleges. I will also explore the experiences lecturers' play in these TVET College. Lecturers who teach visually impaired students share experiences that may be different from those who only teach sighted students.

The literature of this research is divided into five sections from 2.2 to 2.6.

Section 2.2: Focuses on the correct terminology used to refer to people with no sight or visual impairment or blindness.

Section 2.3: Brief Notes on History of South African Education System.

Section 2.4: Challenges of lecturers teaching visually impaired students in Technical Vocational Education and Training (TVET) on inclusive education.

Section 2.5: Teaching students with visually impairment, the teaching approaches suitable for these students, the challenges of the teaching approaches, the resources needed for teaching students with visually impairment, the assessment approaches for students with visually impairment, lecturers' experiences and challenges, and the care for lecturers from College Management and the Department of Higher Education and Training (DHET). Lastly, the opportunities lecturers should receive, since they are teaching visually impaired students in TVET College. Section 2.6: Bronfenbrenner Theory was used as a framework to discuss the experiences of lecturers in teaching visually impaired students.

2.2 Terminology clarification

2.2.1 Introduction

Visual impairment is a term that experts use to describe any kind of vision loss, be it partial or total (Cox & Dykes, 2001). Impaired vision can choice from poor vision to blindness. Students whose vision cannot be corrected by ordinary glasses, contact lenses, medicine or infirmity have visual impairments. Learning disabilities relating to visual perception problems may be seeming through difficulty in distinguishing differences in shapes. Students with a visual impairment might rotate letters or numbers (d, b, p, 6, 9), thus misunderstanding the symbols. Students with learning disabilities may bounce words, skip lines or read the same line double.

Students with visual impairments have difficulty with repetitive responsibilities, such as reading a newspaper, even with glasses or contact lenses. Whatever the case, loss of vision or impaired vision may restrict a child's normal development if that child does not receive appropriate support from the parents, the school and the community from birth. The term

learning disability is used to describe the apparently unexplained difficulty a person of at least average intellect has in acquiring basic academic skills. Learning difficulties is not a solitary disorder; rather it mentions to a group of disorders.

Inclusive education has been acknowledged as a “right” where all students are acknowledged and trained together in regular classrooms in view of their basic human rights. In addition, (Diniz & Usmani, 2001) note that what is anticipated is a shift away from past practices that see changes in terms of categories, needs, shortages and theories of adjustment and mainstreaming towards a clear commitment to social justice for all. (Booth & Ainscow, 2002) points out that the effort to make colleges inclusive may involve working in a painful process of challenging their own discriminatory practices and attitudes towards students

In my four-year experience teaching in an inclusive classroom with two students with visual impairment, my understanding is that these two students need actual objects to assist them with reading as they cannot use pictures or other forms of non-physical teaching aids. This is in line with the aim of the research, which is to explore TVET college lecturers’ experiences of teaching visually impaired students.

2.2.2 What is an experience?

Though, researching the literature on the term ‘experience,’ the work of John Dewey (1925) was mainly used to understand ‘experience’. He defined science as something that touches one’s life personally and is a process of gaining new knowledge through the experimental attitude of the mind (Dewey, 1925). Since experience is a process, it suggests that it is not ‘ready-made’ (p. 45) but needs an individual to be involved in learning. It is a product of what one goes through (Dewey, 1925). Dewey further added that experience depends greatly on how an individual makes sense of the knowledge increased, based on his/her history and personality (Dewey, 1934). This implies that a person’s background informs how one understands the current situation based on prior experiences.

In the context of work, the experience is previous work-related knowledge and skills learnt over a period of time applied to the up-to-date job (McDaniel, Schmidt, & Hunter, 1988). Experience in life usually is the only source of knowledge (Albert Einstein, 1956). Experience is a great teacher of all things (Julius Caesar, 40 BC). Experience is not what occurs to you but

what you do with what occurs to you (Aldous Huxley 1932). McCarthy and Wright (2004) viewed experiences as shaped through the discovery of novel knowledge. Dewey (1925) stated that experience is what updates a person's decision about the present situation. Therefore, it could be settled that to experience something, personal involvement or observation where knowledge is learnt informs a person's decision for the future. As such, the lecturers through personal involvement in teaching students with visual impairment would have increased knowledge, which will support them in their future encounter with these students.

2.2.3 Brief Notes on History of South African Education System (visual impairment)

The challenges facing South Africa's first democratic government were impaired by the difficulties in transitioning from apartheid to a democratic education system. South Africa comes from a previous in which apartheid education was used as an instrument to divide society as it constructed certain forms of individuality among students. Under the apartheid education system, colleges were separated according to race, and thus education improved the divisions in society that strengthened the differences of a separated society (Msila, 2007). According to Msila (2007), as cited by du Plessis (2014, p. 1109) "apart from the problem of systemic confusion, a deformed economy provided a scarce resource base for an expanding college-going population".

These challenges have still not been fully eliminated and still delay the effective implementation of quality education for all students in South Africa. According to Milner and Khoza (2008), the significances of the apartheid era's grossly unstable allocation of resources in relation to education and the accepted policy of apartheid to provide sub-standard education to black South Africans are that many South African colleges are ill-equipped to appearance these challenges (Hargreaves, 1995). South Africa officially accepted a democratic system after the 1994 actions with the declaration of the Constitution of the Republic of South Africa in 1996; however, after more than twenty years, the equalities of apartheid have still not been eliminated and are maybe most visible in the country's education system, particularly in township areas (Dirks, 2017).

In searching for the occurrence of learning disabilities in South Africa, only Census 2001 was able to deliver statistics on people with learning disabilities. Statistics South Africa (2005)

classified learning disabilities under knowledgeable disabilities. Intellectual disabilities were clarified as serious disabilities with learning. Based on the 2001 census, people with disabilities, in general, recognized 5% of the total population. Between these, 12 % had an intellectual disability.

At least 3% to 4 % of all people with visual disability were in higher education (Africa, 2005). The exact number of people with learning disabilities in higher education, including TVET colleges was not indicated, however, Statistics South Africa optional that the low percentage of disabled people in general in higher education may have been caused by the fact that people with disabilities were often omitted from educational opportunities. However, this is unpredictable more students with disabilities, including those with visual impairment, are now joining higher education institutions, for example, TVET Colleges. However, despite the many cases of abuse aimed at the teaching profession and unfair public opinion, the enormous majority of South African lecturers are dedicated and are hard at work to educate students under difficult conditions (Taylor, 2008).

2.2.4 Lecturers challenges in teaching visually impaired students in TVET College

New special education lecturers often battle with how to adapt their teaching to meet the special needs of their students (Jones, Youngs, & Frank, 2013). This may result in challenges for new lecturers, as students with visual impairments require special education adjustments, suitable educational materials, specialised equipment, resources and special measures such as additional time (Palmer, Gildea, & Kingsbury, 2005). The research found that lecturers require training on assistive technology that is required for visually impaired students (Kamei-Hannan, Howe, Herrera, & Erin, 2012).

The research by Lynch et al. (2011) found that an important part of learning is Braille where lecturers require detailed knowledge of the braille code and also techniques of developing learning through touch. However, as a new lecturer, I have not had any experience of learning braille prior to teaching the visual impairment students, therefore, I am still gaining experience through my lecturing these students. This is supported by (Gehrke & Mccoy, 2007) who claims that new lecturers learn from experience as they teach their students with special needs.

The literature review is the framework of the research and serves to organize all the literature appropriate to the research (Mirriam, 1998). Students without vision are deprived of certain aspects of learning because they cannot perceive or see the world around them, therefore demanding special teaching methods (Vaughn, Bos, & Schumm, 2011). I suggested that visually impaired students should be given equal opportunity to succeed in the classroom, the lecturer should be able to seat near the front of the classroom close to the whiteboard. While teaching should stand near the visually impaired students. This will allow the students to hear the lecturer better. Indeed, students with disabilities may reach developmental milestones differently compared to students endowed with sight due to their lack of sensory input and restricted interaction with their environment (Bardin & Lewis, 2008). Therefore, (Cox & Dykes, 2001) suggest that lecturers must consider teaching students using their various senses, such as touching different materials even though they cannot see them. A research conducted by (Kesiktaş & Akcamete, 2011) found that educators lacked sufficient knowledge and skills to effectively teach visually impaired students. On their part, Landsberg lecture that visually impaired students are a heterogeneous group ranging from those who are totally blind to those with low vision. I claim that it is energetic that lecturers acknowledge that these students have special needs and they must pay attention to these needs by adapting the learning environment to suit these students. All classroom rules or policies and behavioural expectations should apply to all of the students in the class. The lecturer should avoid giving special treatment to visually impaired students. If their needs are not met, they may need a longer time to finish tasks due to braille reading which requires more time (Vaughn et al., 2011). During assessments, lecturers may need to read questions orally while the student's braille the answers.

Palmer et al. (2005) suggest that teachers should develop an Individual Education Plan (IEP) to outline each learner's specific needs and how these are to be addressed. Some lecturers show a negative attitude towards visually impaired students because they lack the necessary skills and confidence to teach these learners (Fraser & Maguvhe, 2008). Yet, the government policy stipulates that all educational institutions must ensure that learners with disabilities are enabled to access education at all levels (South African Schools Act, 1996; Higher Education Act, 1997; Further Education Training Act, 1998; Adult Basic Education and Training Act, 2000; Continuing Education and Act, 2006). According to Pretorius (2017) state that lack of resources can cause lecturers to lack in their teaching delivery. I agree with this researcher, it is not easy to conduct a lesson without teaching aids, more special to students with visually impaired disability. Some institutes use the talk and chalk method of lecturing which is the old method

of the lecturer standing at the front, teaching from a textbook (Pretorius, 2017). Mberimana (2018) found that even if there is inclusion in special educational needs at all levels, the learners with disabilities are still facing many obstacles. Many students with visual impairments in TVET Colleges come across the challenges in different levels of education owing to a lack of specialists. Lack of or insufficient special instructional materials and equipment like Braille, Perkins cubes for arithmetic used by students with visual impairments prevented access to all special education services (Mberimana, 2018). Attitudes of lecturers play a big role in the education of students with visual impairment in TVET Colleges. Some lecturers have positive attitudes while others have negative attitudes towards the education of students with visual impairments. During the past, students with disabilities were excluded from the education system. More than 80 per cent of students with disabilities were not in school (DoE, 2001). At times, students with disabilities were enrolled in mainstream schools but had their own ‘special classrooms’ separate from non-disabled students (Swart, 2011). Fraser and Muguvhe (2008) determine that universities and education departments do not provide suitable training for lecturers to teach students with special needs. Some lecturers possess negative attitudes towards visually impaired learners due to the fact that they lack the necessary skills and confidence to teach these students (Fraser & Muguvhe, 2008). In order to create a positive learning environment for these students to reach their full potential new lecturers require more information on the experiences of teaching these students.

Teaching students with visually impairment, the teaching approaches suitable for these students, the challenges of the teaching approaches, the resources needed for teaching students with visually impairment, the assessment approaches for students with visually impairment, lecturers’ experiences and challenges, and the care for lecturers from College Management and the Department of Higher Education and Training (DHET).

2.2.5.1 Lecturers’ challenges and attitudes towards including students with visually impaired in their classrooms

Although continuous support, training, resources and infrastructure can assist lecturers in applying inclusive education policy, their readiness and attitude remain the important aspect in the application of inclusive education policy in TVET Colleges. Different studies conducted on lecturers’ attitudes towards including students with visual impairment in mainstream classes have exposed different views. Studies such as those led by Minke, Bear, Deemer, and Griffin (1996), Berryman and Millstein (1989) and Horne and Ricciardo (1988) have exposed that

lecturers in mainstream colleges do not have understanding attitudes towards including students with visual impairment in their classrooms nor are they prepared to receive these students (Barton, 1998). The lack of confidence as well as capable support personnel as contributing factors to such attitudes. This implies that if lecturers were trained in how to deal with students of different learning disabilities and abilities, their confidence would be better, and their attitude changed.

Most new studies, such as those led by (Florian, 2012),(Round, Subban, & Sharma, 2016) confirmed the answers of previous researchers who indicated that the attitudes of the lecturers were negative about including students with visual impairment in their mainstream classes. The findings of the research led by Florian (2012) in Scotland on preparing lecturers to work in inclusive classrooms exposed that the lecturers did not own any understanding attitude towards students with visual impairment. The lecturers are unwilling to include these students, as they believed that it “interferes with the effective education of other students” (Florian, 2012, p. 276). Another research led by Lee and Low (2017) exposed that lecturers in mainstream classes were not in support of the inclusion of students with visual impairment in their classroom. Lecturers felt that they were not trained nor prepared to hold inclusive education. Some of the lecturers enlightened that such attitudes are mainly due to the anxiety lecturers have about the nature of the learning disabilities. Vaughn et al. (1996) argued that it issued such as the size of a class, limited resources, and lack of lecturer preparation, which result in lecturers having such a negative attitude about including students with visual impairment in their classes. These issues are some of the challenges lecturers encounter as they try to implement inclusive education policy, thus causing their confrontation to hold inclusive education. Nevertheless, Donohue and Bornman (2014) advised that lecturers’ attitudes could change if they could be armed with appropriate support and necessary resources to support them in implementing the inclusive education policy.

Despite the negative attitudes lecturers have toward including students with visual impairment, other studies exposed a different view. Studies such as those led by Ward, Center, and Bochner (1994) revealed that teachers had a positive attitude towards including students with visual impairment in their classes. Nonetheless, Avramidis and Norwich (2002) argued that lecturers were only positive about those students with visual impairment who did not need extra instructional or management skills from them.

2.2.5.2 Achievements and challenges of inclusive education

Although inclusive education was established to produce positive results, its achievement depends very meaningfully on lecturers, as they are the implementers of the curriculum. Lecturers are the primary agents in the implementation of the inclusive education policy (Avramidis & Norwich, 2002), which suggests that there should be some form of involvement to assist them in understanding this new education ideology. Thus, Hargreaves (1994) argued that: “It is what lecturers think, what teachers believe and what teachers do (p. 117), which controls the knowledge the lecturers receive.” (Lomofsky & Lazarus, 2001)

Similarly, if lecturers do not believe in themselves or have confidence in what they are doing, they will have no real knowledge to license on the next generation. Lomofsky and Lazarus (2001) advised that lecturers should be armed with the knowledge and skills they need to most significant implement inclusive education policy. (Frankel, Gold, & Ajodhia-Andrews, 2010) outlined “adequate training, adequate support, and resources” as essential tools to support lecturers to implement the inclusive policy (p.4). If these tools are of such highest importance for lecturers to implement the inclusive policy, then the government should generate a budget to provide necessary training and resources that lecturers need (Fakolade, Adeniyi, & Tella, 2017). Between these tools, Lomofsky and Lazarus (2001) viewed support as dominant all. The authors stated that support is a required element to support lecturers to cope with the needs of different students. Support should be incessant as a primary tool for lecturers because they are challenged with students with different learning disabilities each year (Fakolade et al., 2017). For example, a student with a visual impairment this year, the following year, a student with a hearing disability (deaf). Since the needs of these students are not the same, care should be continuous. Polat (2011), on the view of the fruitful implementation of inclusive education policy, suggested suitable infrastructure and essential resources as other necessities. He further added that these elements could change the lecturers’ attitude about including students with visual impairment in their classrooms.

2.2.5.3 Significance of inclusive education to the research

Students with visual impairment in TVET colleges are fulltime students in this public TVET College where the research was directed. These students are feast between the college’s programs: National Certificate Vocational (NCV) and National Assembly Training and Education Department (NATED). One cannot discuss students with learning disabilities

without outlining the inclusive education policy because this policy covers a new path to education- an education system that is available and delivers quality training to all regardless of disability and ability. It is through the inclusive education policy that students with visually impaired are awarded an equal opportunity to obtain quality education as their peers; therefore, discussing inclusive education was energetic. Furthermore, this research might be used to provide alertness to other lecturers who are located in other TVET Colleges who might not yet have students with visual impairment in their classroom but might in the future have such students and therefore, need training in advance on how to teach inclusive classes, i.e., classes that have students with visually impairment.

2.2.5.4 Teaching visually impaired students in TVET College

This section discusses what the reviewed literature suggests as the best teaching approach suitable to teach students with visual visually impaired students. It includes some challenges that lecturers may encounter while employing those approaches. It further indicates the assessment approach employed by lecturers to assess these students. It also provides the kind of care necessary for lecturers to receive from their management as well as the Department of Higher Education and Training. It outlines the lecturers' experiences in teaching students with visual impairment and opportunities these lecturers should receive because they teach students with visual impairment. Most of the literature reviewed in this section is within a college context, due to the lack of that, which is within the TVET sector. For that reason, terminology such as lecturers, colleges, and many more are used. The literature, was though, adapted to a TVET sector to serve a similar determination of how students with visual impairments are taught.

2.2.5.5 Teaching approaches suitable for students with visual impairment

A classroom is a place where teaching and learning take place, where a lecturer communicates knowledge or gives instruction about the task in the classroom. However, teaching approaches are varieties of teaching techniques or methods used by lecturers to improve students' learning (Etkind & Shafirir, 2013). Berkvens, Van Den Akker, and Brugman (2014) articulated teaching approaches as techniques used by lecturers to structure education to be an exciting adventure for students by transporting real-life situations into the classroom. Therefore, it can be concluded that teaching approaches are creative methods that are used by lecturers in the classroom to assist students in understanding the content being taught by transporting real-life

situations into the classroom. When explaining teaching, Downing and Chen (2003) outlined vision as an energetic intelligence in teaching and learning. They articulated that most lecturers make use of visual aids in their teaching, such as pictures, photographs, chalkboards, textbooks, and more. Generally, lecturers join teaching techniques such as reading from a textbook, writing on the board or even using visual aids such as charts and diagrams. However, these approaches do not accommodate students with visual impairment as they are unable to read from the book or the board or take notes during the lesson (de Schipper, Lieberman, & Moody, 2017). Teaching students with visual impairment who will not be able to use their vision suggests that lecturers' resort to other teaching approaches to accommodate students and to assist them in coping with the curriculum. Thus, Fraser and Maguvhe (2008) affirmed that teaching students with visual impairment require and deserve specific approaches that "address their unique learning mediation needs during the learning process" (p. 3).

Cox and Dykes (2001) advised that before teaching and learning takes place for students with visual impairment, they should first be familiar with their classroom environment and people to "subordinate names and faces through related classroom experiences, to help build relationships among all students in a class." (p. 68). Students should first be leaning to be able to move around the classroom like their peers, with the assistance of their lecturer. Therefore, Orientation and Mobility training (O & M) is necessary to attain this goal (Cox & Dykes, 2001). Koenig (1996) explained that Orientation and Mobility are crucial for people with visual impairment because it encourages safety, efficiency, and independency for individual mobility. Cmar (2015), almost two periods later, explained that Orientation and Mobility mostly prepare students with visual impairment for life beyond their high school life. Orientation and Mobility training support non-visual people to locate themselves and to know their surroundings (Park, Turnbull, & Turnbull III, 2002). The importance of Orientation and Mobility can never be over-emphasized for non-visual individuals as it grants them independence and confidence to move alone without any help. If students are to be trained to move around the class, it leaves a burden on the lecturers to train them. Therefore, this training should twitch with them in order to impart it to their students. Downing and Chen (2003) clarified that an experiment should be complete on lecturers where they are blindfolded to examine "the adaptation using only a sense of touch" (p. 59) to mobilise around the classroom. In deed if lecturers could experience being blindfolded that would experience what their visually impaired students go through. One must outline that a once off experiment might not have any impact on the lecturers let alone to train non-visual students. Once students have been leaning into their classroom, teaching and

learning could then take place. While reviewing literature two teaching approaches were recommended as best suited for students with visually impairment. The first one is a multi-sensory approach or tactile learning approach and the second one is an auditory approach.

2.2.5.5.1 Multi-sensory approach, Kinaesthetic Learning, Tactile Learning or Sensory Approach

Learning for students without vision trusts on senses such as touch, taste, smell, and hearing other than vision. While reviewing the literature on learning through senses, the sense of touch becomes the most suitable teaching approach for students with visual impairment. The learning that students with visually impaired use are called differently by different scholars. This learning takes place over other senses other than vision. Cox and Dykes (2001) stated to it as *kinaesthetic learning*, while Downing and Chen (2003) specified it as *tactile learning*, and lastly, Fraser and Maguvhe (2008) proposed it to be *a multi-sensory approach*. These authors accord that learning through touch is the most appropriate teaching approach for students with visually impaired. This learning advocate for meaning which is interconnected through a sense of touch, feeling, or body movement. It delivers students with knowledge about the object through their sense of touch. For example, by poignant the boundaries of the thread of a map, a student can read the map (Fraser & Maguvhe, 2008). Downing and Chen (2003) explained that non-visual students should be allowed to touch an object, as that way, they can “see” what their classmates see. Feeling an object is likely to support the student to create a picture in his/her mind of what an object looks like.

Nevertheless, Smith (1998) advised that lecturers should be watchful of making students touch the object if they are not willing to do so. Marson, Harrington, and Walls (2013), in their research on teaching preliminary statistics to blind students, recommended the use of “hand see” approach to communicating statistical formulas to these students. By the “hand see” approach, Marson et al. (2013) mean learning about the world and things in it through touch. They explained that the instructor constructs a 3-dimensional standard distributor (a graph to read statistical data for people with visual impaired) for students to degree statistical data formulas. The student with visual impairment feels the distributor as it changes its slope, moving from the mean in either direction. Through feeling the dimension, the likelihood is that the student will be able to understand what the object is and understand its statistical formulas. Nevertheless, Downing and Chen (2003) warned that not all objects felt resemble the real object. Thus, they indicated that a small plastic dog could not be associated to a real dog.

Through a multi-sensory approach is very suggested as the best for students with visual impairment, it requires teachers to be creative and to provide one- on- one attention (Demchak & Downing, 2002). A research conducted by Obradović, Bjekić, and Zlatić (2015) on teaching students with visual impaired discovered that using a multi-sensory approach is time-consuming because each student is given an object to feel like part of learning. Ahmad (2015) argued that sometimes the size of the class might make it difficult for the lecturer to provide individual attention as required. Class discipline can also be a challenge as the lecturer tries to give individual attention to the student with the learning disabilities others might disobey, and a class could be chaotic (Kelly & Phillips, 2016). Campbell, Gilmore, and Cuskelly (2003), in their research exposed that the needs of students with visual impairments are best met in separate classrooms. Donohue and Bornman (2014) agreed that visually impaired students are safer in special schools due to the intolerant attitude of their classmates, suggesting that though lecturers might be willing to accommodate students with visually impaired in their class, the classmates might be disruptive.

2.2.5.5.2 Auditory Learning Approach

Another teaching approach highly recommended by many scholars such as Barraga and Erin (2001); Dick and Kubiak (1997); Lieberman, Haegele, Columna, and Conroy (2014); Pritchard (2013) is an auditory learning approach. Auditory learning approach supporters for the use of words to formulate a picture that interprets the words (Barraga & Erin, 2001). Therefore, it could be decided that spoken words formulate images with necessary meaning for a person with a visual impaired Khoza (2015b) expressed that when lecturers create an environment where students are assisted to construct their own unique meaning of what is being taught, their personal reason for teaching is satisfied. Meaning is always established differently and in different ways for different people (Schiro, 2012). Meaning is never received consistently but differently which implies that a message received formulates a different picture in the mind of a student with visual impaired which is equally the case for all of us as we conceptualise information differently.

Dick and Kubiak (1997) outlined that to use the auditory learning approach effectively the first step is for the lecturers to consider the nature of the student's visual limitations through an informal, private conversation with the student and parents. Knowing the student, as the lecturer, will assist you in knowing how you can assist the student in his/her learning. Dick and Kubiak (1997) further added that lecturers with students with visual impaired should take extra

care to verbalize the meaning and the content to accommodate these students. Careful clarification of terminology, especially of graphs, is vital for these students. Dick and Kubiak (1997) advised that lecturers should “refrain from using vague directional cues, such as this, that, here, or there” (p. 345) because they hinder learning for learners with visual “disability” who cannot see the directions. For example, lecturers will refer the students to some visual art on the board and say, “As you see this graph”. Such delivery of information to students with visual impaired automatically excludes these students, as they cannot see. Thus, Downing and Chen (2003) explained that language should be used appropriately to define things to draw an image of what is explained. They suggest that while giving information, one should be exact, with an average pace in speed of words to allow students to generate an image in their mind. When reading, Thurlow, Johnstone, Timmons, and Altman (2009) proposed that lecturers should read aloud since doing so assists students in receiving information from the textbook and taking the lesson on their recording devices. This puts a strain on the lecturers to pronounce words clearly, and slowly so that they could be audible for the students when listening to them later. The reading aloud approach is useful during classes but it is not right for examination purposes (Thurlow et al., 2009) because it could cause a distraction to others.

Despite the recommendation of the two approaches as the best for students with visual impaired, they are time-consuming for lecturers. Yet, this is an exaggeration for visual students because the content is repeated to allow students with visual impaired to create their image. Repeating information may result in loss of attention for visual students (Dick & Kubiak, 1997) because they have already grasped it. Mason and Krashen (1997) confirmed that these approaches provide lecturers with extra work which involves adjusting the lessons, homework, and assessments to accommodate non-visual students. The changes in lesson plans, homework and assessments to accommodate learners with visual impaired could lead to the extra workload for lecturers, which could lead to a negative attitude towards students with visual impaired disabilities.

2.4.3.3 Resources for teaching students with visual impairment

For teaching and learning to be active, there should be necessary resources in place. Remillard (2013), described resources as tools that improve and support lecturers in their preparation of the lesson and real implementation of the lesson. According to Khoza (2015) resources could be divided into three types, namely hardware (HW), software (SW) as well as ideological ware

(IW). He further adds that the term 'ware' proposes consciousness, thus implying that both the lecturer and the student should be aware that resources utilised are to hold effective teaching and learning in the classroom. Wood and Ashfield (2008) stated that using the latest technological resources in teaching supports lecturers in bringing creative lessons that foster students' development. Akker et al. (2009) agreed with Wood and Ashfield (2008) that the teaching materials used in the class are vital tools for learning. As explained above regarding resources it should be distinguished that students with visual impairment trust on devices such as a computer with JAWS for their real learning. A JAWS is a software device installed on a computer shaped to allow people with visual impairment to read the text on the screen of the computer either by text to speech or refreshable Braille display (Mao, So, & Woo, 1998).

Khadka et al. (2012) explained that vision plays a vital part as more than 80% of learning happens through vision. This is true, because mainly the lecturer will use a whiteboard, and a textbook to teach students and students will use their notebooks to take notes. As such, these resources do not support nor accommodate students with visual impairment which suggests that there should be other resources that accommodates them. Collette and Chiappetta (1984); Kumagai (1995); Siekierska et al. (2003); Trief and Feeney (2002); Mulloy, Gevarter, Hopkins, Sutherland, and Ramdoss (2014); Thomas, Barker, Rubin, and Dahlmann-Noor (2015) all agreed that students with visual impairment require the following resources: computers with speech (JAWS), interfaced speech synthesisers, closed-circuit television (CCTV), recorded materials, reading machines, speaking machines, hand-held magnifiers, Braille text, talking calculators, sound sonification, auditory equivalents of visualisation, instruments with auditory (and not visual) readings, touch and voice-based interfaces, touch and large print as standard equipment for the teaching of the visually impaired. Marson et al. (2013) on necessary resources for teaching statistics to visual students recommended the use of textbooks on audio cassette, research guides on audio cassette, and "talking" calculators. These resources are luxurious and most students with visual impairment cannot afford them, yet they are necessary for their learning. Amongst these resources are hardware and software necessary for students with visual impairment. The ideology ware is the teaching approach used by lecturers in their teaching practice to teach students with visually impairment. Lecturers are resourceful from which knowledge is gained to assist students.

It is vital to note that without the necessary devices to support students with visual impairment their learning becomes a challenge and more so for their lecturers. Avramidis and Kalyva (2007) struggled that teaching students through a variety of media is moderately new and a challenge for lecturers in expanding their knowledge on how to use the devices. Abner and Lahm (2002) in their research noted that a gap between lecturers' educational technology and their technology knowledge transports about frustration to them in operating the devices. The lecturers' lack of knowledge of operating these devices could bring about frustration and has the potential of developing negative attitude about including students with visually impairment.

2.4.3.4 Lecturers' experiences of teaching impaired students

In curriculum development, lecturers are at the micro-level, which implies that they receive a curriculum as dropped to them from macro-level, for implementation. Darling-Hammond (2000) referred to this approach as a top-bottom approach, where the curriculum is dropped from above. Huizinga, Handelzalts, Nieveen, and Voogt (2014) explained that lecturers have little or no contribution to the formation of the curriculum yet, the application of the curriculum is upon their shoulders. Day (2004) indicates that since lecturers play such an energetic role in the implementation of the curriculum, they should not be viewed as ordinary distributors of content knowledge, because their role expands beyond the classroom. Berkvens et al. (2014) affirmed that such a role regards lecturers as the keystone in the implementation of curriculum in practice. For this reason, if their experiences could be recognised, an improved curriculum could be established. Lecturers possess a greater insight of the challenges of the curriculum, its opportunities, its strengths as well as weaknesses.

Fraser and Maguvhe (2008) explained that many lecturers do not own applicable competencies and skills to deal with non-visual students because most of them have experienced general education and not specialised in inclusive education. As a result, most Lecturers experience difficulties in adjusting to inclusive education to accommodate students who are visually impaired. (Fraser & Maguvhe, 2008) signifying that their confidence to implement inclusive education is compromised. Wall (2002) provided findings of a survey research of 416 lecturers in the United States on teaching students with visual impairment. Her research exposed that most lecturers preferred to use general technology in their lessons, not because it is more appropriate for the needs of their learners, but because they feel more at ease with general technologies (such as word processors, computers, CD-ROMs, or DVDs) than with assistive

technology devices which establishes that lecturers are experiencing challenges in teaching students with visual impairment using their suitable devices. Hwang and Evans (2011) in their research on attitude towards visually impaired students in Korea revealed that though lecturers might have a positive attitude towards inclusive education, they are reluctant to have students with visual impairment in their classrooms. There might be contributing factors, which could make lecturers reluctant to have learners with visual impairment in the classes, such as training on assistive devices, workshops on the implementation of inclusive education, relevant qualification and many more.

Konur (2006) proclaimed that for lecturers to accommodate students with visual impairment two major changes are necessary, namely: presentation change and timing change. Presentation change is how lecturers structure curriculum distribution that best accommodates non-visual students. Secondly, the timing change concerns the change in time from the preparation of the lesson to the final examination. The lecturer spends extra time in preparing lessons that will accommodate students with visual impairment (Donohue & Bornman, 2015). The lecturer looks for approaches that will accommodate these students and at times develops learning material for them. During an assessment, the lecturer should print assessment for these students in a bigger font or arrange a scribe and prepare an isolated venue where an assessment will be conducted. All these must be prepared by the lecturer, and are time-consuming for them. Hence, lecturers might seem as being reluctant to accommodate students but having an extra load could result in such an attitude (Tiwari, Das, & Sharma, 2015).

2.4.3.5 Assessment of visually impaired students

Educational assessment or educational evaluation is the systematic process of documenting and using empirical data on the knowledge, skills, attitudes, and beliefs to refine programs and improve student learning for example to check the students understanding or certification.

The discourse on assessment differs significantly in different fields such as the medical, education and sports fields and many more. In the field of education, assessment is associated with the challenging or examining the content knowledge grasped by the students (M. o. Education, 2007). There are kinds of assessment approaches such as peer, diagnostic, formative, summative, self and more. Lecturers use an assessment to determine the level of content and understanding of students. The assessment provides lecturers with feedback on their teaching, the content grasped as well as areas of improvements (Earl & Giles, 2011).

Amongst, the kind of assessments mentioned above lecturers mainly use two forms, formative assessment and summative assessment. This is not to say; they do not use others but these two are frequently used.

Formative assessment was defined by writers as early as 1960. Scriven (1967) stated that a formative assessment is led during the programme to gather information about the programme and to make the necessary judgement of the overall programme. Bloom's (1969) view states that formative assessment determines what the student has achieved at different steps of the learning process. It provides feedback and allows adjustments to take place where there are gaps in the learning process. Five decades later, Dixson and Worrell (2016) maintained the same meaning, as they explained that formative assessment is led during the development or improvement of a programme to fast track the learning process. Therefore, it could be concluded that formative assessment runs concurrently with teaching and learning, to control if content knowledge has been grasped on a small amount of work in a programme for example on one or two chapters. Hamilton et al. (2009) affirmed that formative assessment provides feedback to students and teachers on a regular basis during the programme. Its purpose is to motivate the teaching and learning process to fill the gap between current learning and the objectives of the programme. The formative assessment could include questions requested during the lesson, after the lesson, a class test, an assignment and many more.

Summative assessment, on the other hand, is conducted after the conclusion of the programme has done. Mertler (2016) on the same notion defined summative assessment as mainly used to assess the students' acquisition of knowledge and skills at the end of the instructional period, unit or course. It is usually after the teaching and learning had occurred, to determine progress from one level to the next (Anderson, 2001). Hamilton et al. (2009) highlighted that summative assessment provides evidence of what students have or have not skilful in a specific grade, programme, or curriculum. Hence, it is regarded as playing a significant role in the student's progress.

Preparing for and conducting an assessment normally simply requires a question paper, answer script, a venue, and a supervisor to be available. The learners simply respond by writing their responses down. Plimmer, Crossan, Brewster, and Blagojevic (2008) argued that most visual people learn how to write from their childhood, and take such an ability for approval, which is not for the student with visual impairment. Therefore, one could conclude that non-visual

students need to be evaluated differently from using pen and paper because they cannot see nor read a question paper. The student with visually impairment inability to use a usual method of assessment lays a burden on the lecturer's workload. Following a critical review of the literature around the assessment approaches suitable for students with visual impairment five assessment approaches emerged, which were: human reader, audio recording, Braille reader, screen reader, and large print formatting for partially sighted students.

The first assessment approach is a human reader or scribe. A human reader (a scribe), is a person who supports a student with visual impairment during an assessment to read instructions and transcribe the responses that the candidate provides (Thurlow et al., 2009). The scribe performs a vital role in the students' academic progress. Therefore, the scribes should read instructions clearly at an average step and with audible volume (Hersh & Johnson, 2010). The utterance of words should be correct, for the student with a visual impairment to create a clear picture in his/her mind of what is being asked. Human beings are subject to making human mistakes such as not pronouncing words correctly and writing incorrect spelling, which might lead to clash and misconceptions of information (Bishop, 2004).

Therefore, if there are conflict and misconceptions of the question, results could be a poor performance not because knowledge is not there but because the question was misinterpreted, and emotions might be high. Nevertheless, using a human reader could be beneficial to the student because the candidate is able to request the scribe to rephrase a question for further clarity (Presley & D'Andrea, 2009). Despite, such help from the human reader, there could be some barriers which could delay this activity, such as the scribe's accent, personality, reading skills and availability when needed. For example, when the student requires the scribe to repeat the question, the scribe might read with a negative attitude and aggression which might cause some frustrations to the student.

The second assessment approach is the audiotape approach. Hanson, Lee, and Forer (2002) viewed an audio record, as a replacement for a human reader, where a lecturer (self-voicing) records questions on the tape recorder, a student listens to the recording and uses either a recorder to respond to the questions or types the answers on the computer with JAWS. JAWS is a software device connected on a computer created to allow people with visual impairment to read the text on the screen of the computer either by text to speech or refreshable Braille display (Mao et al., 1998).

The voice on the recorder must be audible, stable with very limited echo. The inaudibility of the recorded voice could create an incorrect picture in the student's mind, which could result in the provision of incorrect response. The audio approach requires a silent environment free from any physical barriers (Goldberg, Hoory, Mizrachi, & Kons, 2014). Its shortfall might be an absence of resources such as a tape recorder or a computer with the JAWS programme. Audio recordings are also time-consuming for teachers because extra time should be created to record the same question which was print prepared for the other learners (Goldberg et al., 2014).

The third one is an assessment approach is the braille reader approach. Braille is a system of raised dots that can be read with the fingers or digits by students who are blind (American Foundation for the blind). A braille reader was created to afford an opportunity to visually impaired students' people to access information through touch (American Foundation for the blind). These students cannot read printed texts or information on a screen. Therefore, an attempt to assist them was to create a typing test software with dots that they can read (Southern, Clawson, Frey, Abowd, & Romero, 2012). Boulton (1993) explained that braille permits visually impaired students "direct access to the print word" which increases their opportunity to more accurate information such as spelling of words (p. 9). Sadato et al. (1998) affirmed that braille reader changes simple tactile information into meaningful patterns that have the vocabulary and semantic properties. By tactile information I mean information that is prearranged and can be understood by using the sense of touch (Spacey, 2017). Students with visually impaired will have more access to information through printed braille text than merely listening to a text.

Using a braille reader approach to assess non-visual learners means that the lecturer should use a Perkins braille machine to braille the question paper and print it on the stamped paper. A Perkins machine is the machine used to type dotted texts to be read by students who are blind, and stamped paper is the paper that is used to print the dotted text. The student then reads the question paper from braille and responds to the questions by either using a Perkins braille machine or a computer with JAWS (Lazarus, Thurlow, Lail, Eisenbraun, & Kato, 2006). The use of braille seems to take a lead in providing independence to students because it allows them to express themselves better than using either a human reader or an audio reader. For a person to be able to read braille, one must be qualified and should own a braille Perkins machine to use continuously, but these machines are expensive (French, 2004). Hence, Zhao explained

that the level of braille literacy on students with visual impairment is very low compared to screen out the technology. Because of high prices, visually impaired students from poor background cannot afford it neither can they attend colleges where they can be qualified to read braille. This means only the elites could have access to a braille reader, hence the literacy level is so low. A braille approach for teachers could be a challenge if they are not trained on how to use Perkins braille machines or to read braille at all if their students are not braille literate.

The fourth one is the assessment approach is a screen reader approach. Boulton (1993) referred to this approach as a voice output system. Information on the computer screen is interpreted into audible words, which permit a non-visual student to read the information at a speed of 200 words per minute. Lazar, Allen, Kleinman, and Malarkey (2007) asserted that a screen reader approach is a common approach for visually impaired students. On the same notion, Zhao, Plaisant, Schneiderman, and Lazar (2006) attested that the level of literacy of screen out technology is much improved than that of braille literacy. Therefore, most visually impairment who cannot afford a braille machine opt for computer assistive technology. Computer assistive technology is any form of product or item provided through the computer to support a person with a visual impairment (Thomas et al., 2015). Gerber (2003) avowed that computer technology has a huge impact on the lives of the people with visual impairment because it enables them to access information and allows them to read for themselves to improve their knowledge and be independent. For a screen reader to be possible, a computer must be equipped with software such as JAWS or Windows-eyes and more, which reads the information that is on the screen in an electronic format (Lazar et al., 2007). When the lecturer opts to use this approach, a question paper in an electronic format should be loaded onto the computer with JAWS or Windows-eyes or other software, for the learners with visual impairment to access it. The student may respond on the computer or use any other approach contented to him or her to respond. Using this approach might be less time consuming because in most cases question papers are developed in electronic format (typed onto word document) and then made into print format (hard copy) for sighted students. This suggests that the same question paper, which was developed as an electronic format, could be loaded on the computer with the screen reader.

The success of the screen reader approach depends on computer literacy of both the lecturer and the student because it will be of no use for the lecturer to prepare for a screen reading approach if the student is computer illiterate. Moreover, the availability of resources such as a

computer, a reader programme, and electricity should be in place. Boulton (1993) indicated that the major weakness of a screen reader is that it does not provide information on the layout of the text (structures or diagrams or tables) which suggests that though the content of the text is provided, its structural arrival is not provided. The layout might not be the only aspect the screen readers do not read because, (Karshmer & Gillian, 2005) stated that for mathematic formulas a mathematic mark-up language programme should also be connected, and there could be many more. A mathematic mark-up language programme is the programme installed onto the computer of visually impaired students to read mathematical formulas for them. Should the screen reader approach be used to assess students with visually impairment Gerber (2003) advised on-going computer training should be in place to assist both the teacher and the student to keep up with newest modern technology.

The last one is the assessment approach is the big print formatting. It has been highlighted that visual impairment is divided into two which is total blindness and partially sighted. The four assessment approaches debated above are more suitable for a totally blind student. However, the big print formatting is more suitable for partially sighted learners. Boulton (1993) avowed that partially sighted people “cannot see the normal print size of the standard computer screen” which means alternative methods of displaying information should be used (p. 12). If one cannot see on the normal print size (might mean size 12) of the computer screen, the conclusion is that the same applies to the printed text. The best way to support the person to access information is to enlarge the text to a greater font. A partially sighted student using a computer to access information should use a computer with a ‘zoom text magnifier software’ (Alves, Monteiro, Rabello, Gasparetto, & Carvalho, 2009). Waterfield and West (2008) highlighted that a zoom text magnifies software, as it is used to enlarge the screen for a student who requires a text in a greater font. If a partially sighted learner uses a computer with a zoom text magnifying software, this proposes even the printed hard copies should be of big print font. This means that the lecturer should print the question paper for a partially sighted student in large font for the students to read it. Alternatively, the question paper should be on the computer with a zoom text magnifying software from where the students can access it. The student could either use the same computer to respond or write the responses in the answer book. It could be expected for the student to use large hand writing when responding because that is visible to him or her.

Lazarus, Thurlow, Lail, Eisenbraun, and Kato (2006) outlined that the assessment approaches, as debated above are not always available to students when they are needed. For example, a scribe, might not be obtainable to support the student with an assignment. Braille readers are expensive and require training of both the lecturer and student. Regardless of the assessment approach, the lecturer might opt to use to judge the learner with a visual impairment extra preparation is required. For example, the lecturer will, perhaps, have to book a human reader, take time to record the question paper, at times a separate venue. This might cause some frustration to the lecturers.

Marson et al. (2013) supported for fairness in the assessment of both visual and non-visual students. They state that if visual students are permitted to bring notes and books in the exam room, the same should apply for students with visual impairment. They should be allowable to use audio texts or voice recorders or other accessible material to use as their notes in the examination room.

2.4.3.6 Support for lecturers teaching visually impaired students

Support, as referred to earlier, is a fundamental element in the application of any policy including inclusive education. Therefore, lecturers who have students with visually impaired should get continued support to assist them to cope with varied classes. Thus, Muthukrishna and Schoeman (2000) explained that to adjust to a curriculum which is inclusive and appropriate to all students' needs, the Department of Education should develop district-based care teams to provide systematic support to lecturers. There should be training workshops intended for lecturers where they could share their experiences and receive support to cope with diverse students. Donohue and Bornman (2014) confirmed that it is the accountability of the Department of Education to ensure that lecturers are trained and are prepared to cope with diverse students, on a continuous basis. Such training programmes should incorporate specialised personnel who possess classroom experience to provide lecturers with hands-on experiences and real-world skills appropriate to them. A research led by Maher (2009) exposed no evidence of training programmes provided by the Department of Education to lecturers in preparing them for inclusive education, which leaves the Department of Education liable and answerable for lecturers to fail in executing and implementing the policy (Maher, 2009).

Mukhopadhyay, Molosiwa, and Moswela (2009) expressed that lecturers in both special and mainstream colleges are not provided with acceptable training which prepares them to cope with all students' needs. Lecturers do not receive any training which supports them to change their teaching approaches to accommodate different student's needs (Maag & Katsiyannis, 2000). Jansen (2001) pointed to lacking funds, to capacitate lecturers to deal with diverse students in an inclusive classroom. Lecturers are expected to accomplish the task of tailoring the curriculum to suit each student's particular needs and the pace of learning is not thoroughly detailed. Stofile (2008) outlined that the Department of Education imagined that most lecturers be reoriented to new approaches of teaching via comprehensive training programmes that are provided. Training programmes that teach lecturers on how to accommodate and teach students with visual impairment are generally a week or two long, but lecturers report that although these brief training programmes are supportive, they are insufficient (Stofile, 2008). The Department of Education should also raise to fund for colleges so that infrastructure could be changed to meet the needs of the students.

2.4.3.7 The impact of visual disabilities on students' academic performance

Most families do not realise that their children have learning difficulties until they reach school-going age and start to fail school-related tasks. It is then that the family is challenged to find suitable special education services for the kid. Such a discovery may have a number of different effects on the concerned family. The family experiences stress and conflict while the particular child feels bad about himself/herself. Ehrlich et al. (2004). Very often parents are put in the position of making educational decisions based on very slight information and this results in parent-parent and parent-children conflicts.

Students without a learning difficulty may be nervous for attention and to obtain it to promote their skills; at the same time, parents may want to protect the child with a disability and forbid overt competition. Observing the difficulties that the child with a learning disability has - be it in terms of academic skills or in social relations with others – can be a very painful experience for parents.

Many students with learning incapacities fail a number of times at school and cannot even finish school. Low confidence, frustration, despair and poor relationships are also common in these children (Hartgill, 2008). These outcomes are usually manifest if the kid with a learning incapacity is largely unassisted. Learners with learning disabilities are tempted to experience many vices such as dishonest, stealing and experimenting with drugs. These behaviours are especially predominant when students regard themselves as failures. The possible significances of difficulty in academic work include sensitive stress. Adolescents with learning disabilities are often careful at risk of juvenile delinquency (Kaufman, Koren, Remer, Rosenfeld, & Rudich, 2005). In addition to significances of difficulty in academic work, Wheldall (2002) confirms that some lecturers still rely on sentence, as a tool of positive reinforcement. Barkley (2005) argues that penalty can lead to resentment and aggression in students and they can find ways to strike back or retaliate.

Rosenthal et al. (2001) state that young adults and late adolescents with learning incapacities may have a poor sense of self as a result of the many pressures that arise from decisions on education, career, and family. The student ends up not believing himself, particularly in the area of personal competence. The students, amongst themselves, have their own biases which lead to typecasting and discrimination in the classroom. This is emphasised by Guerin and Male (2006) when stating that students with learning disabilities often have lower social status than peers, are less recognized by their peers and are less frequently nominated in games.

Individuals with learning disabilities are often passive students (Torgersen, Kringlen, & Cramer, 2001). This characterisation reflects behaviour rather than the attitude usually credited to the word passive. It proposes that students with learning disabilities often do not take the initiative in the learning process. This passive role may contribute toward shortfalls in organisational skills; since organisation requires the individual to recognise the need to take action, to develop and carry out a plan. In addition to difficulties already mentioned, reading is the most difficult skill area for most students with learning disabilities (Torgesen *et al.*, 2001). A student with a reading disability often knowledge difficulty in other subjects as well. Again, the emphasis on oral reading in the early college years may make the student with a reading disability unwilling to read.

2.4.3.8 Difference between visual impairment and blindness

Visual impairment is a broad term referring to a range of people with eyesight problems, from low vision to sightlessness (Konur, 2006). This suggests that any person with an eyesight problem has a visual impairment. Spiers (1992) clarified that for a person to be measured visually impaired his or her insight vision should be smaller than 20/70. If a person's visual insight is this low, it means the vision cannot be modified with standard glasses or contact lenses but a person can see something even if it is just light (Resnikoff et al., 2004). Though, when a person cannot see anything, even light, the condition is thus stated to as blindness (Resnikoff et al., 2004). Blindness on its individual is categorised into in completely blind and full blindness. When a person is incompletely blind, it means a person can see something, but when one is completely blind then a person cannot see anything at all (Konur, 2006). The World Health Organisation (WHO) describes blindness as an insight of less than 3/60 or visual field which is fewer than 10 (Mégret, 2008). This insight accommodates both incomplete and full blindness. Spiers (1992) explained that for full blindness an insight vision should be fewer than 20/200 which implies that person is incapable to see at 20 feet of what a usual person can see at 200 feet (Spiers, 1992). In summary, this means people with visual difficulties are visually impaired, but insight and field categorise them based on their level of vision (incompletely blind to full blindness). This will help the researcher to understand the TVET College lecturers' experiences in teaching these students and approaches being used by the lecturers.

2.4.3.9 Communication with visually impaired people and creation of chosen terminology

It has been noted from the previous section that people with visual impairment have different favourites regarding their illness. Therefore, this section will strive to control the preferred preference to talk to these people. Greeting a person is the first step to the start of any discussion between people; it could be in the form of words or a simple hello with just a hand. (Nicotera, 1993) suggested that the best form of communication for a person with visual impaired should rather be spoken words than a visual statement. This is because the uses of spoken words make sense to a person with a visual impairment as different to visual communication. By spoken words, I mean words that could be got rather than visual communication, which is through what a person sees. Nicotera (1993) continued to state that people with visual impairment

depend largely on four senses as their fifth sense (sight) is dysfunctional. Therefore, it could be decided that for people with visually impaired communication is through only these four senses: touch, smell, taste and hearing and not through the sense of sight.

Communication barriers between people with visual impairment and seeing people are many.

2.5 Theoretical framework- Ecological systems theory

In order to understand the experiences, TVET College lecturers' experiences of the inclusion of the learning disabled in a normal classroom, the ecological systems theory are used. The ecological systems theory originates from the works of (Bronfenbrenner, 1979). The theoretical framework selected for this research of lecturers' experiences in teaching students with visually impaired in the classroom is Bronfenbrenner's ecological theory of child development. The ecological theory is based on the interdependence and relationship between different organisms and their physical environment; these relationships are seen as a whole (Bronfenbrenner, 1979). Widely used in developmental psychology, the ecological systems theory focuses on inter-relationships between systems such as colleges, lecturers, students, parents, the education department and the larger society. These systems are looked at how together they contribute to the development of the learner.

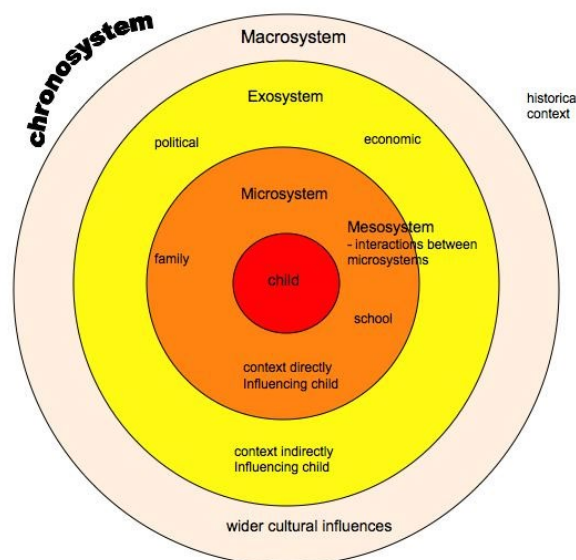


Figure 1 (Ecological Systems Theory)

The application of the ecological systems theory is important and relevant in this research as lecturers and their duties in supporting the visual impairment cannot exist in isolation but are rooted within a larger structure that is interrelated with other social institutions and domains.

Bronfenbrenner (1979) suggests equal importance to both the environment of development and the developing person. He says that there is an interplay between the person and their surrounding environment.

The theory contends that there is mutuality of relationships and that human beings and systems do not exist in isolation, but exist through interactions, connection and relationships with one another. When applied in the context of this research, for TVET College lecturers to be able to embrace the visual impairment in a mainstream classroom, the theory advises that all stakeholders at the college need to each play a part. The applicable stakeholders at a TVET College in supporting the learning disabled include the College council, management, lecturers, the students, parents, the curriculum department, the student support department, the student administration and exams department, the information technology department and human resource department. All of these important parts need to work articulately and in harmony to support the said learners.

Watts, Cockcroft, and Duncan (2009) echo the importance of parental support, supervision and encouragement in addition to teaching in class to support students. This view is very important as the involvement of parents at a TVET College is commonly overlooked. The involvement of parents is usually at the beginning of the year when students are enrolled. Parents meetings are not a norm because they are not scheduled on the academic calendar and called. Parents are usually called only if the student has done something wrong and an intervention is required. In the case of students with visual impairment at a TVET College, parents need to be involved throughout the student's life at college. Lecturers teaching the students can benefit from the input of parents and vice versa.

Bronfenbrenner (1979) argues that the ecological systems theory consists of five interrelated parts, namely the microsystem, mesosystem, exosystem, macrosystem and the chronosystem. All these parts are nested and interrelated, each part impacting on the other (Bronfenbrenner, 1994). These parts cannot be seen as complete or as a whole without one another as the existence of the whole depends on all other parts. In the context of this research, it is important to understand the experiences of the lecturers in including the learning disabled within the college system which has a variety of layers that depend on one another. The college has different units helping the needs of students such as student administration, curriculum, student support services and human resources department.

Donald, Lazarus & Lolwana (2002) make reference to the ecological systems theory in the education environment. Below are the elements of the ecological environment as applied in the education sector:

The aim of utilising the ecological systems theory in the working environment lies in the development of jointly created understanding. The term jointly created means that one person's understanding shapes another person's understanding. Sympathies are not developed separately within a person. Instead, a person develops sympathies by using experiences and communications with other people. Therefore, lecturers' experiences of teaching visually impaired students would differ from person to person. I employed this theory in the belief that it would be appropriate in the exploration of lecturers' ecosystems that would influence their understanding of teaching visually impaired students. Though the present research did not look at the development of children, at how lecturers' alignment with their situation influenced their understanding of teaching visually impaired students.

2.5.1 The microsystem

The microsystem is the layer that represents the immediate surrounding that affects the individual that is developing. This is the context where there are bi-relationships and face-to-face connections influencing one another back and forth (Watts, Cockcroft & Duncan, 2009; Donald et al., 2002; Landsberg et al., 2010). In the context of this research, the microsystem level includes the connections between the student with a learning difficulty, lecturers, peers in a classroom, college and the family. This level is the most immediate environment where immediate processes take place. The connections and interactions within all the various people exert some influence on the student. The microsystem "should support the child's feeling of belonging, love and support and serve as a protective factor" (Landsberg et al., 2010, p. 14).

2.5.2. The mesosystem

The mesosystem is made up of different microsystems. The mesosystem accommodates linkages and connections between one another. This is the level where they interact (Donald, Lazarus, & Lolwana, 2002). In relation to the research, the mesosystem could be the relationship between the TVET College lecturer and the student and the relationship between lecturers and other support staff. It can also be the way that the student with a learning difficulty cooperates with his peers.

2.5.3. The exosystem

The exosystem is the social context that is beyond the person's immediate environment, but that touches him or her in one way or the other. The person is affected or influenced by people that he has proximal relationships with (Donald et al., 2002). In relation to this research, a student with a learning difficulty may be impacted by the lecturer's lack of training in the area of learning disability, parents' educational and employment status, college curriculum, college resources, activities, change of lecturers, assessment procedures and time allocated for assignments.

2.5.4. The macrosystem

Watts, Cockcroft and Duncan (2009) define the macrosystem as the 'overarching institutional patterns of the culture or the subculture such as the economic, social, educational, legal and political systems, of which macro, meso and ecosystems are the concrete appearances. The laws, values, traditions and customs of a particular society are to be found at this level (p.506). In the context of this research, the policies that govern the college or lack of respect of including students with learning disabilities at a TVET College form part of the macrosystem. Dynamics outside the college context that affects the whole system levels form part of the macrosystem.

2.5.5. The chronosystem

Donald et al. (2002) specify that developmental time at this level is an important factor. Interactions in all the systems are also prejudiced by the person's development as well as the developmental time frames. In the context of this research, the lecturers and the college may be in a phase where they are also developing. Currently, the Department of Higher Education is promoting access to TVET Colleges in order to fight skills shortage. Most students want to learn at TVET Colleges. Some may have learning disabilities, but whether TVET Colleges are ready at this developing time remains a question. The lecturer teaching a student with a learning difficulty is thus influenced by this. The students with learning disabilities at a TVET College at this point in time are affected by this.

The ecological system's theory best describes how the different parts of the TVET College system operate optimally to support students. However, in relation to this research, the ecological systems theory tends to overlook the context of systems. (Mishler, Parry, Sutherland, & Bushrod, 1979) suggests looking at meaning in relation to context. Mishler (1979) argues that traditional research largely ignores the importance of context. In this regard, I contend that the ecological systems theory assumes that all parts of the system exist and are functionally working in synergy with one another. In relation to this research on the experiences of TVET College lecturers on including students with visual impairment in the mainstream classrooms, the theory may not recognize that some other parts supposedly to support both the lecturer and the student faced with learning disability, maybe non-existent or dysfunctional. Examples of these could be the absence of parents or parents who are uninvolved in the learning of their child, parents who exist, but are not well-educated and are not inclined to knowing what learning disabilities are, lack of resources and or training of the existing staff on learning disabilities. In the context of the TVET College sector, there is currently no disability framework or policy governing how students with learning disabilities in higher education, including TVET Colleges, are to be included and reinforced while in the mainstream classrooms. Although with some gaps, the ecological systems theory seems to be able to demonstrate how different parts of the college systems can support students with learning disabilities provided all parts work well with each other and function in a context supporting one another.

2.5.6 Conclusion

The chapter has reviewed relevant literature on the experiences of lecturers on teaching the visually impaired students both at international and national levels. It looked at the dynamics of including the learning disabled in educational locations, including approaches and challenges faced by those facilitating teaching and learning. The ecological systems theory better explains how lecturers at a TVET College cannot solely assist students with learning disabilities, but also need to rely on other stakeholders involved in supporting the disabilities. The next chapter will look at the methodology that was used to gather data on the experiences of TVET College lecturers on including students with visual impairment in the mainstream classroom.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

Chapter two was an exploration of the old and recent literature surrounding the experiences of Technical Vocational Education and Training lecturers teaching visually impaired students. In this chapter, I will be debating the methods of research that will assist me to understand the experiences of lecturers teaching visually impaired students in TVET College. I will be directing on the research design and the methods used to understand the research questions. I will begin by debating the research paradigm, and then describes why I selected this paradigm. That will be followed by the research approach used the method. I will then debate my choice of research methodology followed by the sampling method I have chosen. The data generation tools will then be debated followed by how I will analyse the data. I will then debate the trustworthiness and ethical issues surrounding the findings of this research which will then inform the limitations to this research.

3.2 Research methodology

The methodology is the specific procedures or techniques used to identify, select process and analyse information about a topic. Research methods are techniques utilised by researchers to explore participants in order to generate data required by the researcher (Hammond and Wellington, 2013). This campus has six lecturers who are part of the inclusive teaching programme, however, the researcher will only get four of these lecturers to participate in this research.

The methodology that I am going to use is qualitative research method, which is in a form of an interview, narrative, open-ended question and I will also observe Qualitative research that does not use numbers but using words when asking and answering the question. According to Merriam (2009), qualitative research permits the researcher to understand how participants make logic of their world and experiences they may have. This research will be qualitative in nature, as (Bogdan, and De Vault (2015) suggest that qualitative research is naturally realistic as it mainly focusing on peoples' feeling, experiences and meanings. In this research qualitative research sought to understand and interpret TVET lecturers' experiences of teaching visually impaired students. Every person has his or her own story and some research projects

are designed to collect and analyse the stories of participants. The research is about lecturers' experiences in teaching and learning especially visually impaired students, they will be giving me their experiences and the approaches used by the lecturers to teach visually impaired students and their points of view will be much appreciated to the method to be used will be a case research method. Which to telling a personal story or experiences. In the TVET College where I am teaching, we always ask questions to discuss our student's behaviour and challenges. In my research, I will be discussing the data that I got from my participants.

This section will outline a system of ethics and procedures applied to search the experiences of TVET College lecturers in teaching visually impaired students. These ethics and procedures are research approach, paradigm, data gathering procedure, sampling as applied in this research to explore the experiences of TVET College lecturers in teaching students with visual impairment and teaching approaches.

3.3 Research approach

Buthelezi (2014) argue that qualitative research usually works with a small group of participants. The individuals who will be included in a group of participants should provide in-depth knowledge and insight into the phenomenon being studied. In this research, I will use purposive sampling where participants will be selected because they are currently TVET lecturers who are teaching visually impaired students. This is a small-scale research therefore only four TVET lecturers will be asked to discuss their experiences as a new lecturer in TVET College teaching visually impaired students.

Miriam (1998) state that purposive sampling is based on the assumption that the researcher desires to understand a phenomenon and must, therefore, purposefully select participants who are rich in information regarding the phenomenon. Therefore participants, included should be knowledgeable, willing to participate and readily available for the research. In this research will be covered with visually impaired students and lecturers of the TVET College, this research will use convenience sampling which is non-representative and is constructed to serve a very specific need. The participants will be purposively selected. The despondence will be selected based on their identification within the group of 2 lecturers of the 6 from NC (V) which include males and females and 2 lecturers of the 6 from Report 191 (NATED) will be contacted for the research. Salkind (2012) clarifies that using a qualitative approach supports in achieving a researcher's goal of gaining an in-depth understanding of an individuals' behaviour and the

drives for their behaviour. Using a qualitative approach as referred to by Salkind (2012) has helped me in achieving my goal of gaining greater understanding into lecturers' experiences of teaching visually impaired students to complete this research. Then I am located within the social field, this approach developed appropriate and appropriate in achieving my aim of exploring lecturers' experiences of teaching visually impaired students.

3.4 Case Research

This research uses a qualitative research approach. A case research licenses researchers to create and present an in-depth interpretation of a specific situation, unit or event (Rule & John, 2011).

The uses case research method because it is the best method that will give lecturers to tell me more about their experiences or what they are feeling during teaching and learning and it is an in-depth research of a certain case, which is going to be the lecturers that will be telling and answering my questions and sharing their experiences. A case research in this research plan was used to understand the experiences of TVET college lecturers in teaching students with visual impairment within a single institution TVET college in KwaZulu-Natal (KZN). Their experiences become a case that was studied over a period of a year. Yin (2009) refers to a case research as research within a specific context to gather ironic descriptions. The TVET lecturers who teach these students will the particular cases used to explore their experiences in teaching these students. A single case research design will be used focusing on the experiences of TVET lecturers teaching visually impaired students (Y. Yin, Zhang, Peng, & Li, 2009). I am going to find out each and every participant of mine about the experiences. They will also be telling what approaches they used to teach visually impaired students. The primary aim of this research was to explore the experiences of TVET lecturers on teaching students with visual impairment and by means of a case research, this aim was achieved.

A case research has allowed me to build close relationships with the lecturers which have empowered them to open up to me easily about their experiences which they valued as personal. Through sharing their experiences, the lecturers were allowed and given a stage to voice their feelings and experiences. A case research permitted me to gather detailed and evocative data during interactions with the participants during data generation. I could comprehend the lecturers' experiences holistically because where there was a need for clearness, I would request the participants to elaborate. Despite all the things discussed in the case research methodology, it remained appropriate to this research because it had the potential to provide

in-depth and perceptive data about the lecturers and their experiences on teaching visually impaired students in a TVET College.

3.5 Research Paradigm

After the methodology of the research has been established, the researcher must then select the research paradigm for the research. The lens to view the world is stated as a paradigm. Different scholars describe a research paradigm in different ways.

A research paradigm refers to how the researcher views the world and how those views are perpetuated in research and it (research paradigm) also shapes the research (Jonker & Pennink, 2010; Mertens, 2015). Terre Blanche, Durrheim, and Painter (2006) states that a paradigm is an all - surrounding system of interrelated practice and thinking that defines the nature of enquiry along three dimensions such as ontology, epistemology and methodology.

The three dimensions of paradigms and methodology are shown in the figure below:

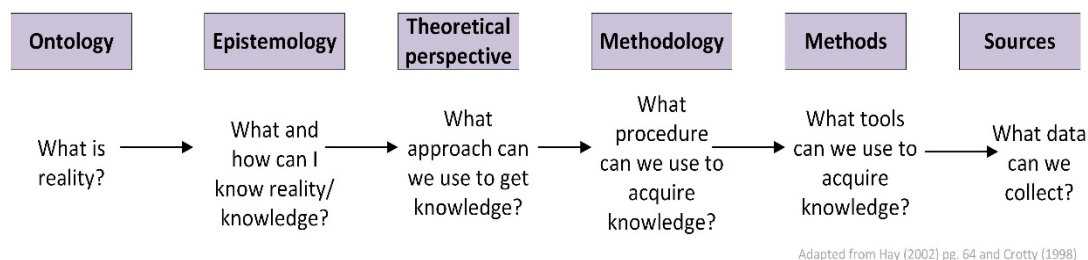


Figure 2: Research paradigm (worldview)

Terre Blanche (2006) identifies three types of paradigms such a positivist, interpretive and constructionist.

This research hired an interpretive view as the lenses to view the world. Bertram and Christiansen (2013) an interpretivist paradigm is defined as a paradigm in which a researcher does not aim to forecast what people will do, but rather to define how people make sense of their worlds, and how they make sense of their actions.

Interpretivist according to (Du Plooy-Cilliers, Davis, & Bezuidenhout, 2014) paradigm aim is to gain in-depth understanding, it often requires the researcher to spend many hours in direct

contact with those being interviewed, in order to be able to appreciate how they experience daily life and to get an understanding of what is meaningful and relevant to them. Interpretivist believe that truth is depended on people's interpretation of facts, they are not interested in generalising information like another paradigm, this research used Interpretivist paradigm to explore lecturer's experiences in teaching and learning situation. This suggests that as a researcher, I established meaning by interacting with lecturers to explore their experiences of teaching students with visual impairment. I used an interpretive paradigm because I did not object to guess how lecturers have experienced teaching students with visual impairment but pretty to understand how they communicate these students through their shared experiences. In this research, lecturers' experiences were observed as equally important and lawful because as an interpretivist, I believe that fact is multiple. Their opinions were treated with the same self-respect because they carried the crucial data for this research.

3.6 Methods of Data generation

This research hired a semi-structured interview. An interview, in general, is a "verbal conversation between two people with the objective of collecting appropriate information for the purpose of research" Longhurst (2003, p. 5).

Blanche (2006) states that data generation contains generating data that captures the meaning of what the researcher is observing. Qualitative methods will be used to generate data such as interviews, classroom observations and document analysis. Interviews allow the researcher and participants to discuss their interpretations of the world in which they live in an open and natural conversation (S. Cohen, 2011). Lichtman and Posner (2006) define the semi-structured interview as using a pre-planned set of questions while still allowing the researcher the opportunity to probe participants for further information. In this research research, I will be conducted semi-structured interviews using an interview schedule which allows me to explore the topic in-depth while giving lecturers the opportunity to express their experiences in their own words(Wheeler et al., 2010). The data generation will be involved in in-depth face-to-face interviews to gain an understanding of the experiences of the students with visual impaired and lecturers in a mainstream classroom. For this semi-structured interview, guidelines will be prepared. In-depth interviews will be held only with those lecturers who will agree to participate in the research. Each in-depth interview will last 30 minutes. English will be used as the medium of communication between the researcher and the participants. The usage of a semi- structured interview in this research permitted me to gather in-depth data on lecturers'

experiences of teaching learners with visually impairment. During the interviews, I could enquiry follow-up questions for clearness, where necessary to gather more data for the research.

3.6.1 Focus group interview

According to Kumer and Vrana (1996) assessed that in a focus group interview you explore the perception experiences and understandings of a group of people who have some experience in common with regard to a condition or event. Focus group discussion (semi-structured) is a debate that is helped by the researcher and the participants are the respondents (Cohen et al., 2011). Ritchie (2014) agree with Padgett (2016) that participants in the focus group share similar feelings, similar background yet is usually unaware of each other. According to Cohen et al. (2011) a focus group discussion is created around a set of predetermined questions, in which in this research, the discussion will be rooted in the specified prearranged questions. This means that using focus group discussion may enable me to obtain true ideas relating to the issues affecting individuals as well as understanding numerous perspectives in their possession. I will then conduct focus group discussions with the participants at a venue chosen by the reseracher. Interviews will be conducted at the College boardroom since it is not used by students and there are no disturbances. It will be booked for the duration of interviews so that interviews will not be disturbed.

3.6.2 Classroom Observations

After interviewing and asking participants questions, I then wanted to go into the classroom and explore if what I had collected was what was actually happening through observations. This method is reinforced by Cohen *et al.* (2011) who refers to observations as a way for a researcher to generate data as it is happening in context rather than from a second-hand account.

Observation is the type of research method whereby the researcher (observer) is elaborate in the research on day-to-day participation, either openly acting as a researcher or in covered role (Christiansen, Bertram,2010). Fundamentally, the drive of observation is to bring a broader perception of the participants' real-world rather than researchers' presumptions (S. Merriam). I will choose to utilise this method in order to recognise the difference between what participants will say during reflective activity and one-on-one semi-structured interview (Mligo, 2016; Stacks, 2016). I will commence by informal college visits to get familiar with

the setting, people and college activities, then make informed decisions on the best times and sessions for observations (Yin, 2015). Informal visits were followed by formal visits where the observation of the phenomenon happened. Observations were guided by predetermined questions originated from this research . It is asserted by Christiansen et al. (2010), Cohen et al. (2011, 2013) as well as Yanow and Schwartz-Shea (2013) that observations provide an adequate judgement of how participants interconnect with their daily teaching practice. This suggests that I will obtain suitable information and understanding as well as direct confirmation about a particular what, how and why lecturers use and apply particular approaches in teaching visually impaired students in their respective classrooms.

According to Bertram and Christiansen (2014) classroom observations is when a researcher goes into the research site such as the TVET College classroom and observes what is happening. The research participants were observed as they are teaching, I must get them at the right time during their period and I was made an appointment as I am to respecting them.

3.6.3 Document analysis

John W. Creswell and Poth (2018) documents consist of public and private records that qualitative researchers obtain about a site or participants in research, they can include newspapers, minutes of the meetings, personal journals, and letters. The researcher will seek permission from the college and lecturers using the letter of approval to conduct the research from ethics. The documents analysis will be conducted in a room with minimal disturbances. According to the Department of Basic Education (2003), a lesson plan is a detailed structure for teaching, learning and assessment activities. The DoBE (2003) states that a lesson plan should include the objectives, assessment that will be used, resources needed, links to prior knowledge, and teaching methods that teachers will use. The researcher will look at the implementation of education policies during a classroom observation.

3.7 Selection of participants and sampling procedure

The selection of participants in this research was cautiously done to ensure that participants selected provided vital data for the research in trying to respond to the research question. Thus, McMillan and Schumacher (2010) explain that qualitative researchers use people, reports, and groups as their key source of data gathering. John W Creswell (2009) adds that participants selected should contribute rich data which will help the researcher to understand the phenomenon or topic and to respond to the research question. This emphasises that cautious

selection of participants remains important as they are key sources of data. This research between many sampling methods such as random, snowball, stratified just to name a few employed purposive and convenience sampling techniques.

Purposive sampling according to Bertram and Christiansen (2013) means that a researcher makes "specific choices about which people to include in the sample" (p. 43). In this research, I firmly made a special about the participants to include in the research. I selected four lecturers who were teaching students with visual impairment to explore their experiences. Howitt and Cramer (2007) clarified that if the size of the participants is too big some participants become not doing something and never get a chance to participate in the research. But if it is too small limited viewpoints are inspired and therefore, they propose that an ideal number to include in a focus group is between four and eight. Therefore, choosing four lecturers for the research was to make the research controllable and to allow varied viewpoints. Kothari (2004) explained that a purposive sampling technique could also be referred to as careful or non-probability sampling. He continues to state that this technique includes the selection of participants from the exact unit of the universe to represent it. Cohen et al. (2013) refer to the fact that using purposive sampling offers access to knowledgeable individuals within complexity knowledge on a specific subject. This purposive sample gave me admission to lecturers who had vast experiences of teaching visually impaired students.

The successes of using purposive sampling in selecting participants who were relevant and suitable for the research, there were some trials. Some lecturers were unwilling to participate in the research, due to anxiety of being judged and victimised by management and other colleagues. Others were not happy in sharing their experiences because they observed it as opening up some wounds on their unpleasant experiences of teaching visually impaired students. However, after negotiating with them that this research will assist them in articulation their experiences while also dealing with their feelings, they were happy to participate. The participants selected were lecturers, working persons with major tasks such as family issues, workload, and studies just to name a limited. Their personal commitments because of their responsibilities became a test and resulted in scheduled interviews being rescheduled. This formed some delays in the compilation of this research project. The second selection technique was a convenience sampling technique.

A convenience sampling according to Bertram and Christiansen (2013) is where a researcher uses a sample that is "easy of reach" (p. 43). Kothari (2004) concurs that the researcher selects participants who are "ease of access" for the research (p. 93). Marshall (1996) adding to the above ideas stating that a convenience sampling technique involves the selection of participants who are most reachable. He explains by stating that using this technique is cheap in terms of time, money and effort. The lecturers sampled through a purposive sampling were easy to reach because the college is in my local area and also, I am teaching in this college. The travelling costs to TVET College were not costing any money. At times I had to wait for participants when they were dedicated to other things but I couldn't travel home but I stay at work until they finished. Using convenience sampling had some challenges as some participants due to indifference in the research withdrew from it. The participants indicated below are the participants from whom the data was generated.

Participants of this research

No	Pseudonym	Gender	Years of teaching experience teaching students with visual impairment
1.	Mr Summer	Male	2
2.	Mr Autumn	Female	3
3.	Mr Winter	Male	6
4.	Ms Spring	Female	2

3.8 Data generation plan

The table below is the data generation plan that will be used in generation data for this research.

Table 1 Data generation plan

	Questions
--	------------------

Research questions	<ul style="list-style-type: none"> • What are TVET college lecturers' experiences of teaching visually impaired students? • How do lecturers understand teaching approaches in TVET College? • How lecturers teach visually impaired students in the approach that they used?
What is the research strategy?	<ul style="list-style-type: none"> • Semi-structured interviews will be conducted to gather the required data. • Focus group interview will be used to confirm data generated through semi-structured interviews. • Classroom observation to observe my participants as they are teaching, I must get them at the right time during their period and I will make an appointment as I am respecting them.
	The data is gathered to answer the research questions It is also to explore the teaching approaches used by TVET College lecturers in teaching students with visual impairment.
Who will be the sources of data?	TVET College lecturers who teach students with visual impairment.
How many data sources will be assessed?	Four TVET College lecturers will be interviewed from one campus.
How often will data be generated?	Each participant was visited and interviewed twice, during a semi-structured interview in a focus group
Justify this plan for data generation (Why is this the best way of generating data for these critical questions?)	The interviews will provide the most direct account on the lecturers' experiences of teaching students with visual impairment. Since I am using a semi-structured interview it will allow me to probe more questions and allow lecturers to share their experiences openly which is fundamental for this research. The focus group will help me to verify data generated during the semi-structured interview because since I am dealing with individuals whose feelings and emotions

	<p>changes frequently based on surroundings at that time. The selection of 4 participants in this research is also manageable and also allow for a focus group interview.</p>
--	---

3.9 Ethical consideration

Ethics in research are very important, particularly with research involving humans and animals” (Christiansen *et. al.* 2010, p. 50) and there are certain principles that the researcher has to follow when dealing with ethical issues. Therefore, for this research, I will ensure that the research does not in any way harm the participants or expose them to any kind of danger. I will respect the autonomy of all students participating in the research. I will ask them to voluntarily consent into taking part in the research. An approval letter will be received from the Department of Higher Education and Training. The researcher must not harm participants either physically or emotional their social being is important. I will also obtain permission to conduct the research, in writing, from the Circuit Managers of affected circuits, the Nkangala District Director and from the Provincial Department of Education.

I have written a letter to the above-mentioned parties, explaining the nature of the research with the following principles of ethics: how confidentiality, anonymity and consent will be dealt with during the research. I emailed the letters and also submitted hard copies to their respective offices. For the participants, I informed them in writing about the nature of the research. I requested them to give written consent on the consent form that I would provide. The consent will include a clause which informs them that the research will not harm them in any way. Confidentiality of participants will be ensured in writing and their identity, if they wish, will be protected. I asked them to sign after they have fully read, asked clarity seeking questions where needed and fully understood the contents of the consent letter. According to Christiansen *et al.* (2010), the research should be beneficial to the participant or the researcher and society at large. On this note, I anticipated that the research will be helpful to the students, subject advisors, learners and the education system as a whole.

Ethical issues are a problem or situation that requires a person or organisation to choose between alternatives that must be evaluated as right or wrong. Ethical issues are the researcher

ensures the participants that whatever they have discussed will stay between them. According to Linda et.al as a researcher, we are morally bound to conduct our research in a manner that minimizes potential harm to those involved in the research. According to Kohler and Kreuter (2005), we should be as concerned with producing an ethical research design as we are intellectually coherent and compelling one. As a qualitative researcher, you needed to remain attentive throughout your research to the researcher's participant's relationship, which is determined by roles, status and cultural norms. Linda et.al for the most part issues of ethics focus on establishing safeguard that will protect the right of participants and include informed consent, protecting participants from harm and ensuring confidentiality. Ensuring confidentiality is a way of respecting your participants.

According to Padayachee and Laher (2014) respect for autonomy so the moral obligation to respect the autonomy of participants. The researcher should respect the knowledge, insight, experience and expertise of participants. The researcher should avoid any unfair, prejudiced or discriminatory practice for example in participant selection or in the content of the researcher's research.

I consulted and communicated with all participants by firstly explaining fully what the researches entail and what is expected of them and thereafter obtaining informed consent forms from each one that he or she is willing to participate in the research. The researcher must not harm participants either physically or emotionally; their social being is important. In terms of autonomy, I have applied to the University of KwaZulu Natal for ethical clearance. I have applied for permission from the college to conduct the research in TVET College. I made sure that participants are given consent forms to respect. They were given an opportunity to withdraw if they feel to do so. The researcher must not push where unnecessary that might lead to a misunderstanding between the researcher and the participant. The participants were informed that raw data generated from the research was safely preserved in the university supervisor's office and will be destroyed after a few years. The report of the research will be such that participants cannot be related to the data. The participants were given back the answers to the research to ensure that data represents their voice.

3.10 Data presentation and analysis

Data analysis is a common process that is implemented when data is generated (U. Flick, 2013). Qualitative data analysis tries to determine how participants construct meanings of a specific phenomenon by ensuring that participants' views, experiences, feelings, understanding and knowledge is analysed (Taylor 2015; Wahyuni, 2012). Christiansen (2010) data analysis is pragmatic in two different ways: guided analysis (data is sorted into divisions and patterns perceived); prior analysis (look at the theory first, then categories develop for sorting data). In this research I will generate data by using deep activity, one-on-one semi-structured interview, observation and focus group discussion and interpret and analyse data using guided analysis, also known as thematic analysis (Virginia Braun, Victoria Clarke, Nikki Hayfield, & Gareth Terry, 2019) (Aronson, 1995; Valmoradi, Jones, Turunen, & Snelgrove, 2016) where analysis is guided by themes that will be modified through interaction with data. I will ensure that I begin with classifying, analysing, organising, telling and reporting themes (. Braun, . Clarke, Hayfield, & . Terry, 2019; Noswell, Norns, White, & Moules, 2017) with the obtained from the deep activity completed by the participants, and then the data from the recordings semi-structured interview and focus group discussion and end up by interpreting data to explore lecturers' perspectives on teaching visually impaired students (Miles, Huberman, & Saldana, 2013; Vithal & Jonathan, 2010). Cohen et al. (2011) point out that data record is a weakness in data analysis because it is time-consuming and expensive to rent ascribe to transcribe the data. In this research, I will do transcriptions from the recording device and I will use my spare time transcribing with the help of hiring someone.

The use of designs and classifications to present data was to ensure that only data applicable to the research was presented, to make meaning of the lecturer's experiences of teaching students with visual impairment. The lecturer's responses were analysed using Bronfenbrenner Theory as the framework that underpinned this research. The data was presented under four broad themes associated with Bronfenbrenner Theory, with sub-themes, which emerged from data.

3.11 Trustworthiness

Trustworthiness is defined by Maree (2009) as the originality of the findings and how the participants believe that the findings are worthy to be trusted, and the results (Cope, 2014; Denzin & Lincoln, 2011) rely on the availability of the in-depth, appropriate and concentrated data.

In qualitative research, the researcher tests the research for the validity (the research measured what it desired to measure) and reliability (the consistency of a measure towards the research) and this is referred to as trustworthiness (Punch & Oancea, 2014).

Trustworthiness is the most important in qualitative research. Assessing trustworthiness is the acid test of your data analysis, finding and conclusion. The data collected will be confidential as it should be. And the researcher will make sure that the trustworthiness is very strict between the researcher which is me and my participants which will be the lecturers. The researcher will work with participants no other people and conversation will be insured strictly and confident. Qualitative researchers use trustworthiness to achieve four propositions: credibility, dependability, confirmability and transferability.

Cohen et al. (2011) refer to credibility as a guarantee that the findings presented are the true reflections of participants' real-life experiences. Credibility is all about ensuring that there is the accuracy of produced data on the depiction of findings in order to bring in-depth discernment to the phenomenon (Kaya Yilmaz, 2013).

To ensure the credibility of this research, I will use reflective activity, one-on-one semi-structured interview, observation and focus group discussion to obtain true reflections of the phenomenon.

The methods and sources of data collection, i.e. our separate notes during the interview sessions and the tape recorder will also be used to ensure credibility there may be some challenges if the participants do not feel comfortable when they are recorded. If this is the case, I will use the notes that I will take during the interview.

Dependability is described by Cohen et al. (2011) as the consistency of the research findings and is about providing correct and direct information in the research.

Dependability of data is the extent to which same findings could be repeated if the same research instruments were simulated with similar respondents under similar conditions (Creswell, 2003, p. 220). For dependability, I will provide original evidence of data generated from the reflective activities and use direct quotations. The transcriptions of the recorded responses will also be quoted. Unless utilised immediately, there is no guarantee that the same instruments may yield the same results, especially if they are used by another researcher because after reflection exercises their practices may have changed.

Confirmability refers to the researcher's potential to show that the generated data bestows on participants' responses and it is not the researcher's ideas (Wellington, 2015; K. Yilmaz, 2013). I will ensure conformability by laying aside my preconceptions about the issue under research and by seeking more clarity from the participants themselves through reflective activities and interviews. It may not be possible to confirm as I am also, apart from being a subject advisor, an educator. I will, therefore, ensure that I request another person to assist.

Christiansen et al. (2010) define transferability as the findings that can be employed in another setting or group. Qualitative research attains transferability if the findings provide similar meanings to other individuals who were not engaged in the research (Cohen et al., 2011; Cope, 2014). For the purpose of this research, transferability will be enhanced by organizing the findings in such a way that people who are going to read this research will be able to relate them with their own experiences, and as such, they might benefit and also reflect on their own practices for transformation purposes.

3.12 Limitations to the research

The planned time frame of the research could have been a limitation in terms of the participants keeping to the given times, as well as changing times that were planned by both the researcher and the participants. The anticipated limitations to this research might be the absenteeism and withdrawal of participants during the research as a result of disinterest in the research. Lecturers were very careful of their time and they dislike being disturbed during their lunchtimes in the college. They were moving up and down attending their subject meetings. Some are overcommitted because they take both morning and afternoon classes thus making them not to have enough Flexi and leisure time. Some of the limitations I have experienced with using a semi-structured interview was that since questions were in an arranged order, the respondents' ideas were already being moulded by the questions before they actually answered those (Chilisa & Preece, 2005). Using a semi-structured interview also required that I own interview skills. Since I was not that expert in interviewing, I found it to be challenging. To overcome this challenge I requested them to meet in the college boardroom so that interviews were not be disturbed.

3.13 Conclusion

This chapter has explored in detail the research design and methodology that was used in this research. I demonstrated how I used my research design and methodology to answer my research questions. I explained why I chose my sampling method and gave a description of both the research site and the participants in the research. Thereafter I discussed the different data generation tools that I employed for my findings. This was followed by how I used the inductive process to analyse my findings and build up themes. I also discussed what ethical procedures I followed and finally the limitations to my research. The next chapter will be a presentation of the findings that developed once the data was analysed.

CHAPTER FOUR

RESEARCH OUTCOMES AND DISCUSSION OF FINDINGS

4.1 Introduction

The previous chapter observed at what methods I utilised to generate my data. This chapter will debate the findings. The research was aimed at the exploration of TVET lecturers' experiences in teaching visually impaired students. The research design used the case research to explore the experiences of lecturers in TVET College. The interviews were used to gather an in-depth understanding of the experiences of these lecturers. The findings from the interviews were coded according to four themes: The first theme is the Technical Vocational Education and Training (TVET) college lecturers' feelings about teaching students with visual impairment. The second theme is on TVET College lecturers' reflections of teaching students with visual impairment. The third theme is the TVET College lecturers' thinking about teaching students with visual impairment. The fourth theme is the TVET college lecturers' actual teaching of students with visual impairment. Four experienced TVET lecturers were the participants. Pseudonyms are used in this story to protect their individualities.

The chapter is then followed by the discussion of the observations. These findings will be debated according to the field notes I have written down for each lecturer I observed. The observations were then concluded with a discussion surrounding my observations of all four lecturers. The chapter finally discussed the document analysis, these were the lecturer files for example subject file and assessment file as there is no isolated curriculum that guides the teaching of visually impaired students or any other challenged students in this site. This chapter observed how this data from the lecturers' files were used to triangulate the classroom observations and interviews for trustworthiness.

4.2 Interviews

Blanche (2006) interviews are a qualitative data generation tool that allows the researcher to gain an in-depth understanding of the lecturers' experiences using an interview schedule. Interviews allow the participants to provide detailed personal information, whilst also giving the interviewer control to ask specific questions to gain specific information they need (John W Creswell, 2012). They are debated in this chapter as one of the data generation tools used to

generate data. For the purpose of reality, the responses of the participants are presented exact and may contain language errors. The findings will be presented according to four themes.

4.3 Training and qualifications for teaching visually impaired students

The lecturers in the research were not all professionally qualified lecturers that possessed the correct general teaching qualification. However, the findings hoped to explore whether the lecturers had any training relating to visually impaired students prior to or while teaching at the college. The findings also hoped to explore if the training was beneficial to the lecturers' classroom practise while teaching visually impaired students. The findings revealed that the majority of the participants have not had any training in special needs before they had become a lecturer in this TVET College. Previous research by Ladbrook (2009) demonstrated that when teachers had poor training in special needs, they had less confidence to teach these students. Research by Lawson, Norwich and Nash, (2013) found that teachers who had previous practical experiences and training on special needs understood diverse students better and planned and taught better lessons. Untrue names (Summer, Winter, Spring and Autumn) were used to represent participants and to conform to the principle of confidentiality. The participants are introduced before the analysis is offered.

Mr Summer

Summer is a male, aged 38. He is from the North-Coast of KwaZulu-Natal. He has more than 12 years of teaching experience, however only 2 years teaching the experience of students with visual impairment. His teaching experience of these students was in an inclusive classroom. He is a teacher by profession (Diploma in Education, ACE) and has just graduated with Honours in Inclusive, which he pursued after the project of a student with visual impairment, which started in 2016. His future plan is to do a master's degree in Inclusive Education as he is passionate about people with visual impairment.

Mr Winter

Winer is a male, aged 35. He is from far North of KwaZulu-Natal with more than 17 years of teaching experience but only 3 years of experience in teaching a student with visual impairment in an inclusive classroom. He only has two students with a visual impairment in a class of sighted students. He is a teacher by profession with a Diploma in Education. She has an Honours degree in Commerce from the University of South Africa (UNISA).

Miss Spring

Spring is a female, aged 44 years. She is also from KwaZulu-Natal with only 8 years of teaching experience of which 6 years was of teaching a student with a visual impairment in an inclusive classroom. She has more than 20 years of industry experience with a resident industry. He is not a teacher by profession but holds a Diploma in Transport and logistics from the University of Zululand.

Mr Autumn

Autumn is male aged 31 years. He is from an urban area on the South Coast of KwaZulu-Natal. He has less than 6 years of teaching experience. He has no other teaching experience apart from teaching students with visual impairment. He only taught these students alone in their isolated classroom. He is not a teacher by profession but holds a degree in Human Relations from the University of KwaZulu-Natal.

4.4 Presentation of the data

This research focused on four TVET College lecturers who are teaching visually impaired students from one college in KwaZulu Natal. I used three methods for data generation, namely: semi-structured interviews, focus group discussion and classroom observation. Each of these three methods played a role in speaking the research questions. The data analysis is therefore offered in three sections. The first section, which relates to the use of individual semi-structured interviews, aims at responding to the first research question: *“What are TVET College lecturers’ experiences in teaching visually impaired students?”* The second section, which relates to the teaching approaches, aims at responding to the second research question: *“How lecturers understand teaching approaches in TVET College?”* The last section which pertains

to the focus group discussion aims at replying to the third research question: “*How lecturers teach visually impaired students in the approaches that they used?*”

4.4.1 Thematic data analysis

A thematic data analysis method was used to analyse the data of this research. A thematic data analysis method was nominated because it is associated with qualitative research methods where identification, organisation and reporting of data are through themes found within a data set (Braun & Clarke 2016). Three main themes appeared from the analyses of the data, namely: lecturers’ experiences in teaching visually impaired students, different approaches to teaching visually impaired students and TVET College management. Subthemes developed from these main themes that provided more detail on the themes. The following table explains the subthemes.

Table 2: The themes and subthemes that emerged from the data

Theme 1: Lecturers experiences in teaching visually impaired students
Subtheme 1: Lecturers training in teaching visually impaired students Subtheme 2: Challenges of teaching visually impaired students Subtheme 3: Advice for students who want to further their studies in this college. Discussion of the findings relating to theme 1
Theme 2: Different approaches to teaching visually impaired students
Subtheme 1: Teaching approaches/assessments Subtheme 2: Accommodating visually impaired students in the lesson Discussion of the findings relating to theme 2
Theme 3: TVET College management

Subtheme 1: College policies

Subtheme 2: TVET College or Higher Education and Training Education support.

Discussion of the findings relating to theme 3

It is reiterated that the research sample comprised four TVET College lecturers' participants who, for confidentiality purposes, are mentioned to by pseudonyms as Mr Summer, Mr Winter, etc. The following table is a reminder of the target group and its features.

Participants of this research

No	Pseudonym	Age	Gender	No. of years teaching students with visual impairment
1.	Mr Summer	38	Male	2
2.	Mr Autumn	35	Female	3
3.	Mr Winter	44	Male	6
4.	Ms Spring	31	Female	2

The exact comments of the participants (interviews reflections/focus group discussion) are offered in italics.

4.5 Presentation of the Data

4.5.1 Theme 1: Lecturers experiences in teaching visually impaired students

This theme restricted from the individual semi-structured interviews in reply to the research objective: "What are TVET College lecturers' experiences in teaching visually impaired students?" Three subthemes emerged from this theme, namely lecturers training in teaching visually impaired students, challenges in teaching such students, pieces of advice given to students who want to further their studies in this college.

4.5.1.1 Subtheme 1: Lecturers training in teaching visually impaired students

Before I involved in a deeper separating of lecturers' understanding of the lecturers training, I first enquired into their teaching the visually impaired students. This allowed TVET College lecturers concepts to be unpacked in order to encourage and entice engagement for capturing the spirit of their understanding of the teaching visually impaired students. The theme is aligned with the first research objective which was to explore experiences of teaching visually impaired students in a TVET College.

The lecturers training subtheme emerged when the introductory question was postured to the TVET College participants: "Do you teach visually impaired students if so, you receive any training?"

Mr Summer stated:

"Yes, I do teach students with visual impairment, and I would not lie I was not trained to teach students with visual impairment". "There is no such training I have received as yet; I am hoping that in future there would be such training but for now I haven't received any".

This participant appeared as he understands the training as a concept but he did not receive any training in teaching visually impaired students. The research found that lecturers require training on assistive technology that is required for visually impaired students (Kamei-Hannan et al., 2012).

Participant Ms Spring's response to this question was as follows:

Do you teach visually impaired students on this campus? and are you trained to teach the students with such impairment?

"Yes, I do, and I never really got any formal training but I was only shown how to use the devices they use in the classroom. "The key point on integrating the students is that the training should be provided for the lecturers to be able to accommodate them".

Research participant Ms Spring understood training on the same terms as defined by Cowen (1994), who sees it as "a potentially fruitful positioning concept that directs attention to a family of genotypic combined phenomena of interest". It includes behavioural signs, having effective social relationships, understanding age- and ability-appropriate tasks and emotional

markers having the intelligence of belonging and purpose, control over one's destiny, and satisfaction with one's reality and oneself. She understood how to use the voice devices.

Mr Winter stated:

"I would first indicate that even though I did not get thoroughly training but I can indicate that an internal arrangement that was made".

I have two students in this current academic year which have a visual impairment, they come with the recording devices that they use during my teaching, having said that, when I'm presenting my lesson, they record the entire lesson". When asked if it (recording devices) help him, Mr Winter said: "it does help a lot because sometimes you find that there are things, they cannot see they will be able to go back to that content later on from their devices". "The college still has the long way to go when it comes to providing the inclusive education especially for students with visual impairment and any other disabilities to access education in TVET Colleges also the college still need to develop policies and be able to implement them for such students to access education in TVET Colleges and I feel like the College so far it has not been able to provide all the needs like in terms of infrastructure for such students and as much as the College has tried to provide the internal training I still think it is not enough, I believe the College can still do more in order to develop the lecturers who teach such students in order for them to know exactly as to how to deal and deliver lessons to the students, students sometimes miss writing their assessments because of the unavailability of scribes".

This report indicates that the behaviour of students does not only affect the expert work-life of lecturers but that it also impacts them on a personal level.

Mr Autumn stated:

"I did not receive any training but in 2015 I found myself seating with visually impaired students yet I was not aware as to how to do it, even by qualification I am not the teacher I was absorbed by the college because I was a scarce skilled of my public management and I am not a teacher by qualification so for me it becomes very difficult to teach these people".

“I try to take them in my class with the assistance of other students who use to hook them in class and then seat them wherever they are seated and they listen to what I am saying in the classes I am lecturing”.

“What I do is a guesswork as I am not sure if I am doing is correct but usually I send them to the office for disable students within the campus so I am not very much sure if what do they say to them but most of the time they come up motivated and some do not come as motivated and then I keep sending them because I am scared I might do something wrong that I might regret tomorrow”.

“I would not say really that was a training, but one day a college did invite a consultant who sat with lecturers and it was about 45 minutes telling us exactly what are these people requirement and what do they want and to me it was like a training, it was like she was preaching in church because really what you grab is what you grab and what you could not grab is what you couldn't grab because write now I don't know where to make a follow up about that, I would say that I didn't receive any proper training I am still eager for training to be confident about my work”.

This participant presented the stress and frustration of the self in relation to one's capacity to deal with one's problems by seeking support. This understanding is associated with what Taggart (2008) believes is the support that lecturers require when he states that lecturers need assistance with their own feelings of sadness, distress and pain. The four participants confirmed that there has been no training prior to them teaching students with visual impairment.

4.5.1.2 Subtheme 2: Challenges in teaching visually impaired students

Research participant Mr Summer responded as follows:

“If students have a challenge they come with that challenge or barrier which is visual impairment and in trying to assist them in teaching and learning we use assisting devices as one of the mechanisms, like for example I make some extra hours/ extra time for them because of you can remember some of them are slow when it comes to learning, so I try by all means to make extra time for them and try to teach them after I am done teaching the normal students by having evening classes to try and push them so that their pace would be on point”.

“Obviously since I am an African I use the principle of UBUNTU and KARMA and those theories speak more about caring, loving, sharing and working together to achieve a common goal so those are the approach I use when it comes to teaching and learning process in a classroom and remember these students are having barriers so also I should try by all means master their attitude and try to be easy on them but the main approach that I am using is of UBUNTU and KARMA as they focusing on humanity and promoting respect for one another”.

“I believe that one is a core and it goes back to the training because if ever you are dealing with such students one must master some of the things like some are so sensitive and have different attitudes and backgrounds so in teaching them one should try by all means to mind your language and I can refer that as daily challenges I face”.

Research participant Mr Autumn agreed with the above comment, as he stated:

“Students are living within the campus, challenge number one is that the students they are always late and that relates to the infrastructure, the students as they residing within the college and they are using the same bathrooms with the other students, the visual impaired are always late because the ones who can see they would be there early and then do everything on time and again the infrastructure of the college itself the way it is built if you look at the classes and I have to ensure that the visually impaired students are on classes on time and I have to arrange with other students that they pick them up so they can reach classes otherwise they can never reach classes and that delays me most especially with my classes and if they are late I have to accommodate them, the College was built in 1983 and as result the college is not conducive for these students”.

In autumn’s case, moods of worry probably stemmed from not being exposed into a classroom atmosphere with only students with visual impairment because he is used to teaching sighted students. Furthermore, finding himself being surrounded by only these students, where others have eyes opened yet they cannot see could arise some nervousness in a person.

Research participant Miss Spring stated:

Miss Spring, “when giving my lesson I find it challenging that I now have to use other ways of delivering my lessons since there is another group of individuals with visual

impairment reason being I have to mind my language that offends them and later on they come back and say they felt offended". This supported by Mr Autumn Mr Autumn, "terminology goes a long way I feel like there should be counselling because you find that you say things not knowing that they are offended".

Apart from feelings of hesitation, lecturers also experienced feelings of carefulness. The lecturer should avoid giving special treatment to visually impaired students. If their needs are not met, they may need a longer time to finish tasks due to braille reading which requires more time (Vaughn et al., 2011). Carefulness, in this case, refers to being alert about the choice of words and watchful of your actions in a situation. The lecturers had to avoid certain words while communicating with students with visual impairment as well as pay attention to their actions while teaching these students.

Research participant Mr Winter stated:

"Visual impaired students I would say, I don't know exactly but I would say there is a perception that they need to get an extra effort when teaching them because there is always this perception that they must be treated differently or in a careful manner and that kind of challenging but I manage".

"I would mention a lot, I would say the assistance that I have received from the college in particular is that of internal arrangement or bringing people from outside to come and just to take us through the challenges that we may face or how to overcome them when teaching students with visual impairment and also that of trying to put infrastructure into place for students with visual impairment, college is also doing it best in trying to install infrastructure that can assist the students with visual impairment".

This lecturer reflected on his experience of teaching students with visual impairment when he started and after some time teaching these students. Thus, Fraser and Maguvhe (2008) affirmed that teaching students with visual impairment require and deserve specific approaches that "address their unique learning mediation needs during the learning process" (p. 3).

His first encounter of teaching students with visual impairment, the lecturer discovered that teaching was difficult and draining.

4.5.1.3 Pieces of Advice to students who want to further their studies in this college.

One of the four participants should be able to answer this question of advising students to come and research in the college. What advice would you give the student with visual impairment who wants to further their studies in this TVET College?

Research participant Mr Winter stated:

“I would advise them to come because that is when we realize the need of having them and some of the development can be discovered when they are in the College, would alert them to expect that there might be loopholes and that the College is in the process of fixing the campus in terms of infrastructure”.

4.5.2 Theme 2: Different approaches to visually impaired students

Whereas the basics of teaching visually impaired students emerged as the first theme, the different approaches in terms of teaching visually impaired students emerged as the second theme. This theme was aligned with the second objective of the research which was to understand approaches used by lecturers in a TVET College. Two further subthemes emerged from this theme, namely teaching assessment and accommodating visually impaired students in a lesson. These themes will be debated in some deepness below.

4.5.2.1 Subtheme 2: Teaching assessment /approaches

Research participant Miss Spring stated:

During your teaching, do you use different approaches for visually impaired students?

“Of course, I would do because the way I teach the normal students can never be the same as the way I demonstrate when teaching the visually impaired students”

Kindly specify the different approaches you use to cater for students with visual impairment?

“I always make sure that I make more of practical examples when dealing with them, I do not just generalise something, I go into details and try to explain so that they understand even if they cannot see what I am talking about”

How are your assessments approach adapted to fit the visually impaired students?

“The way I access, the assessments are the same they are standardized across all students, the only thing is that when we are assessing, they are being separated from other learners where they would be alone where they would write their assessments with the help of scribes”.

Research participant Mr Winter stated:

“I always try to use approaches that are convenient to everyone as I don’t teach them only, I use sound or audio approaches sometimes when I’m delivering my lesson, I would play some audio so that they can have a picture of what is happening”.

“ I always assess them through scribes, they prepare themselves like everyone and when assessment time comes, they will have a scribe, for instance, we hand them the question paper with all the questions same like others but in their case there would be someone assisting them when answering questions, the scribe would read for the student and student will then answer the question to the scribe and the scribe will put it down”.

Research participant Mr Autumn stated:

“I do try to use different approaches for now but at first I was not even aware that I had to use different approaches and I was just wondering in the classroom, I do use them but I do feel I am not properly trained to use them so yes I am not that much confident”.

“At the beginning I used chalk and board and talking and then later realized that it was not working for them and I felt that I was offending them because of the language I was using like ‘you see’ or ‘you know’ and to them they felt offended when I say ‘you see’ but now I have tried to use audio so that at least they can listen to whatever I am saying”.

“With assessments I think, it is not proper for them, for now we are using the scribes most of the time the students come with complains that scribes do not write what they supposed to write but they write whatever they are thinking that is good for them to write and again with the scribes it comes up with the problem when they have to write assignments because the scribes are only available in writing assessments and when students are given assignments they struggle to write”.

“Issue of scribes promotes independence amongst students because the scribes do a lot of job for the students, I personally feel like the scribe should be eliminated somewhere and on the other side these scribes give false information about the students because they sometimes do so much work for students, but to cut matters short they are employed by the college and they are paid from the college budget”.

Mr Autumn reflections about the teaching approach exposed that he experienced challenges and difficulties as he was not trained to teach students with visual impairment. He said challenges associated with teaching approaches would be removed if he was trained to teach students with visual impairment. Teaching approaches for Autumn was a great challenge that he even declared he has not understood any teaching approach as he uses anything that comes his way. Generally, lecturers join teaching techniques such as reading from a textbook, writing on the board or even using visual aids such as charts and diagrams. However, these approaches do not accommodate students with visual impairment as they are unable to read from the book or from the board or take notes during the lesson (de Schipper et al., 2017). He spoke about different challenges because he was not a teacher by his profession.

4.5.2.2 Subtheme 2: Accommodating visually impaired students in the lesson

The inadequate information that the participants had on the accommodating visually impaired students during teaching and learning and I wanted to know more about how did they include them in the lesson.

Research participant Mr Summer stated:

“To be fair it quite a difficult activity or task, for me as a lecturer who has not been trained to teach students with visual impairment but how am I accommodating these students, obviously have to use other approach for examples like social learning approach which speaks about interaction or whereby I involve both visually impaired student and the normal student and in accommodating these students I try and use another mechanism like having some recorders for them during teaching and learning process and also having some extra resources that will help them and as much as we do not have sufficient resources but we do have some which assist them for example, JAWS, fine reads, recorders and those are tools or devices we use in accommodating the students with visual impairment, we have adopted the notion of inclusive education so as a result, I would have to move with a pace not like the normal pace as some of them have barriers and I try by all means to record all my lessons for them to use”.

Mr Summer learnt that dealing with students with visual impairment was easy and that they did not rise being comforted and sympathised with because of their impairment. Therefore, from Mr Summer's case, it could be learnt that a lecturer teaching student with visual impairment should not feel disappointment for the students because of their impairment but rather treat them as they would treat any student. Cox and Dykes (2001) advised that before teaching and learning takes place for students with visual impairment, they should first be familiar with their classroom environment and people to "subordinate names and faces through related classroom experiences, to help build relationships among all students in a class.

Research participant Miss Spring stated:

" I always try to accommodate them even though I do not treat them special, by the way, I speak or the way I make examples, I make sure I do not use the words like (can you see) so that make sure they are accommodated and when there is something that I need to explain which needs to be drawn on the board, I always try to give them a clear picture of what is really happening and if it a three-column drawing, I would say this drawing have three columns with five rows and then try to explain to make a clear picture on them

Miss Spring's expression about this student, having eyes and hands in his mind suggested that she was shocked that a student deprived of vision would without working out by writing down the workings with his mind to produce essential responses.

Research participant Mr Winter said:

"I always try, even though it is not something that happens every time but I always try to accommodate them during my lesson in each and everything and in every lesson I use a material that is convenient and caters for visual impairment".

Mr Winter trusts that if students could have resources to support them in their learning, they could research simply. Therefore, if students are learning simply with the help of resources the lecturers' workload will be lightened. One could then settle that the obtainability of resources for students with visual impairment supports them in their learning while concurrently dropping the workload from lecturers in trying to clarify more for the student to understand.

4.5.3 Theme 3: TVET College management

The previous two themes emerged from the data that addressed the objectives of determining the teaching visually impaired students and their experiences in teaching such students. Two subthemes were acknowledged under the college management theme, namely: college policies and TVET College or Higher Education and Training Education support. This theme pertains to the last objective of this research, which was to understand why TVET College lecturers understand visually impaired students in a particular way.

4.5.3.1 Subtheme 1: TVET College policies

When challenged with the question: *I would like to ask you as a lecturer about students with visual impairment are affected by any policies of the college?* Only two responses reflected a considerable understanding of school policies and the role that they play in delivering education to students. During the focus group discussion, only two the research participants equally agreed that the policies in place were just the draft but no implementation takes place: Miss Spring and Mr Winter were not familiar with the College disabled students' policies. They were silent during the interview's sessions.

Research participant Mr Summer said:

“There are policies that affect the students' such disabilities negatively, like the environment/ infrastructure is not conducive and the white paper 6 is so good on paper but when it comes to implementing it, it becomes the challenge. The college still need to do more regarding the infrastructure, some students feel that they are being excluded in some of the college activities like sport and some of the notices are put in notice board forgetting that they cannot see and read them and no one is taking the responsibility to alert them or share with them that information”.

“In the policy-making process the students and students should be involved when the policy is being drafted, the social learning approach as speaks more about the interaction with how lecturers interact with students and also it encourages students to work together to reach the common goal”.

Research participant Mr Autumn said:

“I would say there isn't at the same time I would say there is, reason being there is a draft and it was approved but it is not available so that is why I am not sure as to how

I can answer, and that same draft has it challenges as the students were not involved when it was drafted”. “I feel like if we can raise our voice for the policies to be properly implemented it can make so much difference and the last time there was an organised awareness regarding such students and you find that the attendance is not so many”.

The contributing lecturers were in the contract that the policies of their college catered for only sighted students. When the question was posed whether lecturers should have access to such policies, their moods were varied. A clear result was that they all thought that the policies in place were insufficient and need to be taken seriously and implemented. They noticed that such services might be essential and that a policy that allowed this should exist, yet they had no information about such a policy. Donohue and Bornman (2014) advised that lecturers’ attitude could change if they could be armed with appropriate support and necessary resources to support them in implementing the inclusive education policy.

What they clearly did believe was that existing policies protected only sighted students and safeguarded the image of lecturers and excluded the visually impaired students which are very unfair to students.

4.5.3.2 Subtheme 2: TVET College or Higher Education and Training support

Separately from being deserted by college management lecturers also stated that they did not receive the support of any kind from the college management and from the Department of Higher Education and Training since they were teaching visually impaired students. The participants' apparent lack of support as the major donating factor to most of their challenges. Another research led by Lee and Low (2017) exposed that lecturers in mainstream classes were not in support of the inclusion of students with visual impairment in their classroom.

Miss Spring, Mr Summer, Mr Winter and Autumn totally confirmed that they have not received any support from management as lecturers teaching students with visually impaired students.

Research participant Miss Spring said:

What DHET support have you received as a lecturer teaching visual impaired?

“Truly speaking there is nothing, I’m just doing it on my own and with my understanding”

Research participant Mr Winter said:

“I would mention a lot, I would say the assistance that I have received from the college in particular is that of internal arrangement or bringing people from outside to come and just to take us through the challenges that we may face or how to overcome them when teaching students with visual impairment and also that of trying to put infrastructure into place for students with visual impairment, college is also doing it best in trying to install infrastructure that can assist the students with visual impairment”.

Research participant Mr Summer said:

“There is no support or aid from DHET currently and it so unfortunately that we have white paper 6 on this inclusive education which speaks more about the needs and demands of the disabled people and if I can say these policies are so good but when it comes to implementing them there is still more to be done”.

Research participant Mr Autumn said:

“There is no much support I have received from the college, what I am trying is guesswork I only see students passing and think I am doing right work”.

“Students are living within the campus, challenge number one is that the students they are always late and that relates to the infrastructure, the students as they residing within the college and they are using the same bathrooms with the other students, the visual impaired are always late because the ones who can see they would be there early and then do everything on time and again the infrastructure of the college itself the way it is built if you look at the classes and I have to ensure that the visually impaired students are on classes on time and I have to arrange with other students that they pick them up so they can reach classes otherwise they can never reach classes and that delays me most especially with my classes and if they are late I have to accommodate them, the College was built in 1983 and as result the college is not conducive for these students”.

The participants’ replies exposed that there are four necessities, they appeared as vital in teaching students with visual impairment. The participants drew training chances, teaching resources, the provision from management, and emotional support as necessities. However, training opportunities outdated all because two of the four participants indicated it furthermore; they even provided how training will support them. Remillard (2013), described resources as tools that improve and support lecturers in their preparation of the lesson and real

implementation of the lesson. Mr Winter stated that it would empower them with knowledge of *'what to do'* whilst Summer stated that it will support them to *'teach even much better.'* Therefore, it could be decided from the participants' experience that lecturers think of training as the main necessity in teaching students with visually impaired students. Miss Spring, Winter and Summer singled out TVET College management as the one to deliver all necessities to teach students with visual impairment. Autumn further observed resources as vital because where they fail to explain they can use resources to explain those features, which could make learning easy for students. Miss Spring stated that psychological provision is also important because as lecturers gather stress from teaching students with visual impairment, there should be a psychological treatment to assist them to manage all that stress. (Polat, 2011) on the view of the fruitful implementation of inclusive education policy suggested suitable infrastructure and essential resources as other necessities. He further added that these elements could change the lecturers' attitude about including students with visual impairment in their classrooms.

Mr Autumn stated that the classrooms are not conducive learning since the structure was too old.

4.6 Merging the Findings with the Theoretical Framework

In order to understand the experiences, TVET College lecturers' experiences of the inclusion of the learning disabled in a mainstream classroom, the ecological systems theory are used. The ecological systems theory originates from the works of (Bronfenbrenner, 1979). The theoretical framework selected for this research of lecturers' experiences in teaching students with visually impaired in the classroom is Bronfenbrenner's ecological theory of child development. The ecological theory is based on the interdependence and relationship between different organisms and their physical environment; these relationships are seen as a whole (Bronfenbrenner, 1979). Widely used in developmental psychology, the ecological systems theory focuses on inter-relationships between systems such as colleges, lecturers, students, parents, the education department and the larger society. These systems are looked at how together they contribute to the development of the learner. The application of the ecological systems theory is important and relevant in this research as lecturers and their duties in supporting the visual impairment cannot exist in isolation but are rooted within a larger structure that is interrelated with other social institutions and domains. Bronfenbrenner (1979) suggests equal importance to both the environment of development and the developing person. He says that there is an interplay between the person and their surrounding environment.

The theory contends that there is mutuality of relationships and that human beings and systems do not exist in isolation, but exist through interactions, connection and relationships with one another. When applied in the context of this research, for TVET College lecturers to be able to embrace the visual impairment in a mainstream classroom, the theory advises that all stakeholders at the college need to each play a part. The applicable stakeholders at a TVET College in supporting the learning disabled include the College council, management, lecturers, the students, parents, the curriculum department, the student support department, the student administration and exams department, the information technology department and human resource department. All of these important parts need to work articulately and in harmony to support the said learners.

Watts et al. (2009) echo the importance of parental support, supervision and encouragement in addition to teaching in class to support students. This view is very important as the involvement of parents at a TVET College is commonly overlooked. The involvement of parents is usually at the beginning of the year when students are enrolled. Parents meetings are not a norm because they are not scheduled on the academic calendar and called. Parents are usually called only if the student has done something wrong and an intervention is required. In the case of students with visual impairment at a TVET College, parents need to be involved throughout the student's life at college. Lecturers teaching the students can benefit from the input of parents and vice versa.

According to Bronfenbrenner (1979), the ecological systems theory consists of five interrelated parts, namely the microsystem, mesosystem, exosystem, macrosystem and the chronosystem. All these parts are nested and interrelated, each part impacting on the other (Bronfenbrenner, 1994). These parts cannot be seen as complete or as a whole without one another as the existence of the whole depends on all other parts. In the context of this research, it is important to understand the experiences of the lecturers in including the learning disabled within the college system which has a variety of layers that depend on one another. The college has different units helping the needs of students such as student administration, curriculum, student support services and human resources department.

Donald, Lazarus & Lolwana (2002) make reference to the ecological systems theory in the education environment. Below are the elements of the ecological environment as applied in the education sector:

The aim of utilising the ecological systems theory in working environment lies in the development of jointly created understanding. The term jointly created means that one person's understanding shapes another person's understanding. Sympathies are not developed separately within a person. Instead, a person develops sympathies by using experiences and communications with other people. Therefore, lecturers' experiences of teaching visually impaired students would differ from person to person. I employed this theory in the belief that it would be appropriate in the exploration of lecturers' ecosystems that would influence their understanding of teaching visually impaired students. Though the present research did not look at the development of children, at how lecturers' alignment with their situation influenced their understanding of teaching visually impaired students.

The microsystem

The microsystem is the layer that represents the immediate surrounding that affects the individual that is developing. This is the context where there are bi-relationships and face-to-face connections influencing one another back and forth (Watts, Cockcroft & Duncan, 2009; Donald et al., 2002; Landsberg et al., 2010). In the context of this research, the microsystem level includes the connections between the student with a learning difficulty, lecturers, peers in a classroom, college and the family. This level is the most immediate environment where immediate processes take place. The connections and interactions within all the various people exert some influence on the student. The microsystem "should support the child's feeling of belonging, love and support and serve as a protective factor" (Landsberg et al., 2010, p. 14).

The mesosystem

The mesosystem is made up of different microsystems. The mesosystem accommodates linkages and connections between one another. This is the level where they interact (Donald et al., 2002). In relation to the research, the mesosystem could be the relationship between the TVET College lecturer and the student and the relationship between lecturers and other support staff. It can also be the way that the student with a learning difficulty cooperates with his peers.

The exosystem

The exosystem is the social context that is beyond the person's immediate environment, but that touches him or her in one way or the other. The person is affected or influenced by people that he has proximal relationships with (Donald et al., 2002). In relation to this research, a student with a learning difficulty may be impacted by the lecturer's lack of training in the area of learning disability, parents' educational and employment status, college curriculum, college resources, activities, change of lecturers, assessment procedures and time allocated for assignments.

The macrosystem

Watts, Cockcroft and Duncan (2009) define the macrosystem as the 'overarching institutional patterns of the culture or the subculture such as the economic, social, educational, legal and political systems, of which macro, meso and ecosystems are the concrete appearances.

The laws, values, traditions and customs of a particular society are to be found at this level. In the context of this research, the policies that govern the college or lack of respect of including students with learning disabilities at a TVET College form part of the macrosystem. Dynamics outside the college context that affects the whole system levels form part of the macrosystem. As I was stated in Chapter Two, all five but only four ecosystems were used in this research. The themes and subthemes that occurred will be considered under these four ecosystems as the environments in which the TVET lecturers lived and worked.

The data will be discussed as arranged below:

Table 3 Ecosystems and their relation to the themes and subthemes that occurred from the data

Ecosystem	Theme	Subtheme
Microsystem	Lecturers experiences in teaching visually impaired students	Lecturers training in teaching visually impaired students Challenges in teaching visually impaired students

		The advice of lecturers to students who want to further their studies in the college.
Mesosystem	Different approaches to visually impaired students	Teaching approaches Accommodating visually impaired students in the lesson
Exosystem	TVET College management	College policies TVET College or Higher Education and Training Education support
Macrosystem	Lecturers experiences in teaching visually impaired students	Teaching materials in the classroom

When observed in terms of the ecological systems typical, each theme with their subthemes was categorised as presented in the following figure in relation to the theoretical framework typical that framed this research.

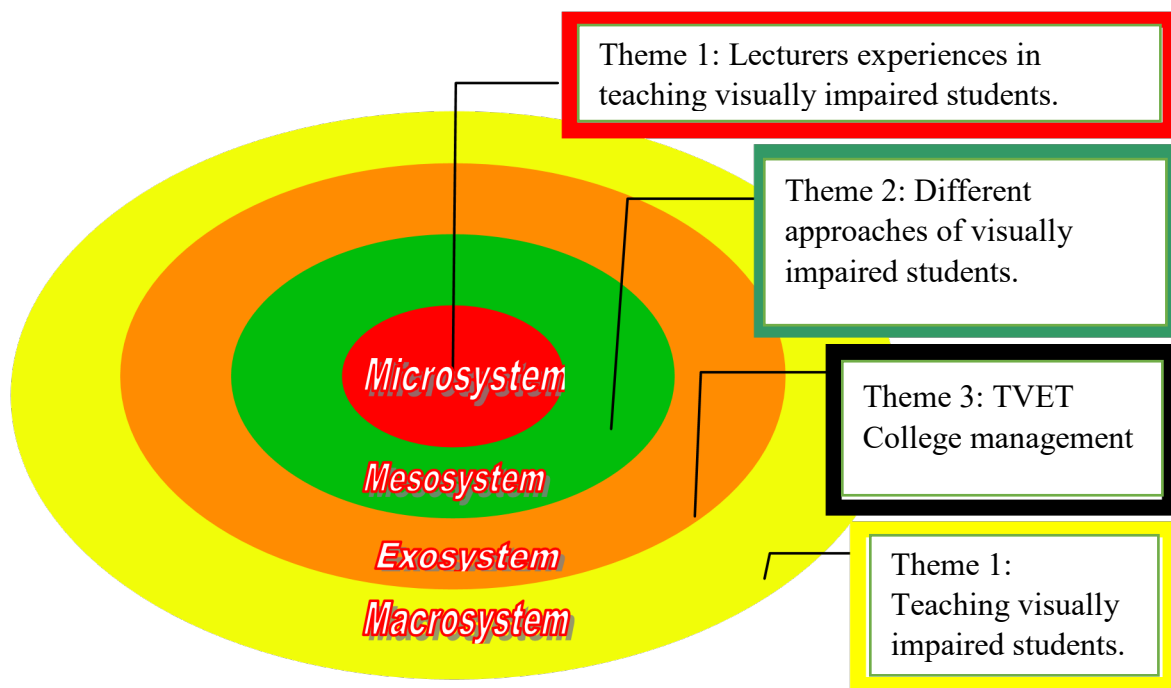


Figure 3 (Ecological Systems Theory) Adopted by Bronfenbrenner.

4.6.1 Microsystem

Theme 1: Lecturers experiences in teaching visually impaired students

The microsystem refers to the most direct and directly impactful issues that influence the lecturer, such as family, religious organizations, neighbourhoods, and peers. The theme ‘Lecturers experiences in teaching visually impaired students’ cascades perfectly into the microsystem because lecturers’ experiences and understanding are influenced by their direct families, the municipal and their peers. Therefore subtheme 1 – lecturers training in teaching visually impaired students – was deeply influenced by the backgrounds in which the lecturers entertained or socialized. This community location (semi-rural area) was infused with the values, norms and ideas of municipal people and the way they survived their lives. Therefore, the participants understood the importance of training which results in better teaching the visually impaired students.

The second subtheme – challenges in teaching visually impaired students – exposed a clear sign of how their teaching experiences had been built around the opinions and influences of their peers, which in this situation were other TVET lecturers who are teaching visually impaired students in this college. This subtheme exposed that the TVET lecturers understood the challenges in teaching these students since these students have special needs and lecturers

require more training to cater to these challenges. This belief was based on the fact that they had never been exposed to or knowledgeable of teaching visually impaired students.

The third subtheme that emerged was the pieces of advice of lecturers to students who want to further their studies in the college. This subtheme was influenced by their teaching experiences and understanding of the visual impairment students' needs and there were little benefits for those students. The reason this subtheme cascades under this ecosystem is that the participants' experiences were based on the influences used on them by their families and peers; influences that may have been drinking through cultural and traditional standards. The experiences they had of their fellow TVET lecturers' strains and loads that resulted in a need for training, as well as their own challenges in teaching visually impaired students.

Because the experiences of teaching visually impaired students were explored through the ecosystems that influenced these experiences, this ecosystem provided a perfect analogy for the way that the immediate family inclined the understandings of the TVET College lecturers. Their experiences, which they had not essentially been told to do or comprehend, were carved from observations and survived experiences. He defined experience as something that touches one's life personally and is a process of gaining new knowledge through the experimental attitude of the mind (Dewey, 1925).

4.6.2 Mesosystem

Theme 2: Different approaches to teaching visually impaired students

Dewey and Boydston (1925) stated that experience is what updates a person's decision about the present situation. Therefore, it could be settled that to experience something, personal involvement or observation where knowledge is learnt informs a person's decision for the future. As such, the lecturers through personal involvement in teaching students with visual impairment would have increased knowledge, which will support them in their future encounter with these students.

Thus, to undertaking into teaching visually impaired students, it is important to research this ecosystem in order to align TVET lecturers' experiences with the effects of their surroundings and the connections that revolve around them. This ecosystem emphasizes mainly on the interrelations between the microsystems, connections between the family and lecturers, and relationships between lecturers' peers and the family. When TVET lecturers interrelate, there

is a certain response to the connections as well as shared experiences that affect their understanding.

The first subtheme that falls under this mesosystem is teaching approaches. These trials grow from the connections that TVET lecturers have in the working environment and in public contexts. Lecturers who certainly experienced difficulty in teaching such students did not seek any assistance. Thus, their experiences and interaction, as suggested by this ecosystem, impacted their understanding of teaching visually impaired students.

The second subtheme was accommodating visually impaired students in the lesson. The participants agreed that failing to accommodate students in their lesson is because of the lack of training provided by the college. The lecturers tried to accommodate students but they are struggling to involve properly due to the lack of information and support from the department of higher education and training and from the college.

Mr Autumn did not even try to accommodate them because he was very frustrated in teaching these students Mr Autumn:

“Terminology goes a long way I feel like there should be counselling because you find that you say things not knowing that they are offended”. Mr Winter said: “I always try, even though it is not something that happens every time but I always try to accommodate them during my lesson in each and everything and in every lesson I use a material that is convenient and caters for visual impairment”.

Berkvens et al. (2014) articulated teaching approaches as techniques used by lecturers to structure education to be an exciting adventure for students by transporting real-life situations into the classroom.

4.6.3 Exosystem

Theme 3: TVET College management

This system states to links between a social background in which the lecturer does not have an active role and the direct context. Examples could be policies and social media that influence the experiences of a lecturer in terms of teaching visually impaired students. The first subtheme that emerged from the ecosystem was TVET College policies which are outside a TVET

College lecturer's control. TVET College policies relating to students' conduct was not much important, and visually impairment students need to be considered. The lecturers believed that the policies protected and safeguarded the image of a visually impaired student in the college and not only the sighted students. The priority of policies was therefore not seen as including the needs of visually impaired students. Mr said: "*I would say there isn't at the same time I would say there is, reason being there is a draft and it was approved but it is not available so that is why I am not sure as to how I can answer, and that same draft has it challenges as the students were not involved when it was drafted*". (Polat, 2011) on the view of the fruitful implementation of inclusive education policy suggested suitable infrastructure and essential resources as other necessities. He further added that these elements could change the lecturers' attitude about including students with visual impairment in their classrooms.

The second subtheme was TVET College or Higher Education and Training Education support. These included the unintended development of sharing different teaching materials provided by the college as lecturers. The increasing of visually impaired students in the college caused a huge problem since the college did give enough support to both lecturers and students. I would say that the college plays the little role because as I understand we have textbooks and the college once did an arrangement of converting those books into the softcopy for them, even though they cannot peruse through the book but at least they have it on their personal laptops. Another research led by Lee and Low (2017) exposed that lecturers in mainstream classes were not in support of the inclusion of students with visual impairment in their classroom. Lecturers felt that they were not trained nor prepared to hold inclusive education.

4.6.4 The Macrosystem

Theme 1: Lecturers experiences in teaching visually impaired students

This theme originally contained four subthemes. The first subtheme was related to cultural/municipal/traditional values that form experiences, and thus it is stuck under the macrosystem because the ecosystem defines the culture in which lecturers live. Cultural contexts that contain a cultural group share a common individuality, heritage, and values. The macrosystem changes over time, because each consecutive generation may change the macrosystem (Bronfenbrenner, 1992).

A subtheme that emerged was that experiences for lecturers were a teaching material. This material was a shared experience among the TVET College lecturers as they had been opening this experience according to their cultural surroundings and beliefs. Lack of sufficient teaching materials caused a huge disaster when the lecturers are conducting their lessons. Computer assistive technology is any form of product or item provided through the computer to support a person with a visual impairment (Thomas et al., 2015).

4.7 Classroom observation

Cohen (2011) refer to observations as a data generation instrument that agrees with researchers an opportunity to observe participants in their natural background. Semi-structured observations were used whereby there was an observation through it did not limit what was being observed (Cohen 2011). The researchers gather first-hand data which means that the researcher folds information that they understand themselves rather than the participant telling them what is happening Bertram and Christiansen (2014) this data generation instrument is debated further in chapter three. The following are ground notes that I have been given to lecturers who are teaching visually impaired students to compile from my observation during my visits to the lecturer's classrooms Pseudonyms have protected their identity. The observation may cover language differences as they were observed. I will then end with my conversation on the observations. I observed four lecturers in my research during a lesson in their classroom. During my observation to classroom I used semi-structured schedules to lead me on following features: Inclusions of visually impaired students during the lessons / classroom involvement, learning atmosphere/ the classroom environment, the teaching approached working when teaching a students, the teaching aids used during the lessons for visually impaired students ,assessments strategies that were used , types of learning activities , and the support that was offered to the lecturers during their lessons.

Lesson observation 1

Mr Summer



Picture no 2- Mr Summer's classroom

Learning atmosphere: The NCV level 3 classroom was in the square in size. There were big windows in the entrance and filing cabinets for the students' files. There was also a lecturer locker for teaching aids but are not in good condition. There was no stock room for reading books or any learning types of equipment. The classroom walls were not decorated only a few posters and notice board at the back of the class, and whiteboard in front of the classroom. An indication must be made that none of the posters was appealing to visually impaired students in the classroom. The classroom also had been painted with cream-white in colour on the walls. There was a little on one side which had a dark colour to keep interruptions and morning sun out. There were 25 students in the classroom. All the sighted and visually impaired students were seated in their rows facing the whiteboard. The tow visually impaired students were seated in the first row in the classroom but they couldn't see each other and each had their own learning device. These students were easily distracted and desired their own space to teach. The two visually impaired students, only two boys, Lucky and Sihle were seated in the first row in the classroom. Their desks were similar to sighted students. The lecturer's table was towards the front right hand of the classroom. The classroom had some cupboard near the lecturer's table.

Classroom observation: I arrived at the classroom at 7:00 am. This was just after the morning briefing and students were not yet started their lessons. The blind students, however, appeared to have no guidance as the lecturer intern took their books out their bags. I silently went to sit at the lecturer's table. The students were keeping quiet and ready for their lecturer to instruct

them. Some students watched me as they questioned why I sat their lecture's table. The lecturer appeared busy getting his stuff ready speaking to the intern and did nothing to the students. The students were started making noise and speaking to each other because his lecturer delayed starting his lesson.

Mr Summer: Shh Shh! bafowethu nenzani manje (what are you doing now).

Mr Summer: please stop making noise, be quiet and sit up straight, Good morning level 3(students greeted the lecturer). The intern assisted the visually impaired students to grasp information while is teaching and sitting in fronts of the class.

Mr Summer: I hope everyone had a beautiful weekend. Let's hear some weekend news this morning. (Students put up a hand and screamed!) The visually impaired students did not answer or reply with their hand up. Lucky appeared to not pay attention and shivered his head a lot during the lessons and was encouraged by the intern to stop.

Mr Summer: please be quiet students! Let put our hands up, no shouting out (students expressed their news stories as they put their hands up. I observed that the visually impaired students were not very excited to put their hands up for a try. They regularly had their heads down as they attended)

Mr Summer: Lucky, can you tell me what you did on the weekend? (Lucky was so quiet that time).

Mr Summer: Did you go to town or did you play with your bicycle? (Lucky place his head down and spoke softly. The lecturer frequents what he had said to the classroom).

Mr Summer: Sihle are you with us? Let's hear your weekend newsboy. (Sihle was fronting the other way and not the lecturer. He responded that he went to the family gathering).

Mr Summer: Let's look at what day it is today? (The students all screamed out answers. Lecture r prompted them about putting their hand up. The students had a stick-on chart where there were days of the week. The lecture named on one of the sighted students in the classroom to put the accurate day on to the whiteboard. He selected Tuesday and the class clapped. The visually impaired students could not realize or see what day of the week he had put on).

Mr Summer: He drew the different shapes on the whiteboard. What shape is this one? (Students shouted out. The lecturer named on a sighted boy and he answered square. The lecturer praised

him and put up a square on the whiteboard. The visually impaired students could not see the picture of a square).

Mr Summer: Lucky can you tell me what to wear when we are running on the road. (Student is afraid and patsy says he wears a running shoe. The lecturer praises him and then asks another sighted student what he would like to drink when it cold outside. The visually impaired students depend on their fellow classmates and their lecturer for assistance and their recording devices.

My time was up so I left the classroom after I greeted the lecturer.

Lesson observation 2

Mr Autumn



Picture no 3- Mr Autumn's classroom

Learning atmosphere: The classroom was a square in shape with big windows on one side. The room has a stock room for books or any teaching materials. The classroom walls were painted with colourfully colour and have few posters and overhead projector. This is N4 classroom for financial management. Nothing a visually impaired student could use since there were no braille wordings. The two visually impaired students, Siphon, Nomusa were seated in the front rows behind them. All students had their names on the desks but one had no bailer name. The lecturer had his table near the visually impaired students. The lecturer table was at the back of the classroom. The classroom seemed to be well resourced with good teaching materials. Mr Autumn was an active lecturer.

Classroom observation: I arrived at the classroom at 10:30. The lecturer greeted me as a visitor and I sat down on a lecturer table at the back of the classroom. The students were busy

completing up their work in their exercise books from the prior lesson. The lecturer then requested the students to close their books. The lecturer began collecting book since there was no lecturer aide in this classroom. The lecturer then named groups of students quietly sat in their respective groups. One was assisted by her lecturer to find a group.

Mr Autumn: Thank you for forming the nice groups. Mbuso thank you for coming so silently this time. I will have to give the members of your group a star today. Okay (let's do accounting equation today $\text{Assets} = \text{owners' equity} + \text{liabilities}$ (students then start mentioning the accounts))

Mr Autumn: Students today we will be learning about the effect assets, income and expenses on the accounting equation. (The lecturer wrote a formula on the whiteboard in big bold letters. The lecturer said the equation is written horizontally.

Mr Autumn: Who wants to show us an example of assets on the board? (This time one of build students answers table. Mr Autumn write table on the board with a whiteboard marker. He requested the students to break down assets, income and expenses according to the equation for him. Some students are unwilling to answer so Mr Autumn prompts then by calling out their names. An afraid sighted boy says there is capital Mr Autumn explain the differences between accounts that affect owners' equity in terms of the accounting equation. He gave clear examples e.g. $A=O+L$

$\text{Bank} = \text{Capital} + \text{credits}$

The students can now understand that other accounts affect owners' equity by increasing or decreasing owners' equity. At this time the visually impaired students cannot understand anything and so he is just listening to the lecturer and students voice to known).

Mr Autumn: let's get someone to gives us another example of assets? (I observed the students prompting one blind student to stop quivering her head and nicely tells him to pick up his cup. The students pick up his hand and softly saying vehicle.)

Mr Autumn: Very good boy we will have to give you a star today (The lecturer then writes the assets on the whiteboard and he asks how what accounts affect owners' equity as an element of the accounting equation. The students hesitate. He says drawing by decreasing owners' equity.

Mr Autumn: Boy thinks about the business and tries to break down everything you need first in order to keep your business running. What is the first thing you need in order to run your business (The students answer assets and the lecturer says there are two types of assets fixed example equipment, current example bank (cash)?

Mr Autumn How many assets that you can mention in this classroom give them (The students hesitate)

Mr Autumn: Who would like to help the boy out? (A girl puts her hand up and answers filling a cabinet. The visually impaired students, however, cannot see this filling cabinet)

After doing some more example. The lecturer then requested the students to go back to the seats and take out their accounting textbooks and requested them to turn to a specific paper. All students have a textbook in front of them except the visually impaired students. The lecturer stands in front of the class while is teaching. The lecturer explains the worksheet in the book telling students they have to mention 5 examples in the element of accounting and explain the meaning of the account and state the reason under each element or effect of account on the accounting equation. While students busy with the worksheet one student is assisted by the lecturer who orally tells him what is written on the worksheet. He uses his peer to answer. The lecturer then calls a small group of students to his table to further evaluate their understanding of the accounting equation. The visually impaired students did not get called to do work in a group. My time was then finished so I let the lecturer know and left the classroom.

Lesson observation 3

Mr Winter



Picture no 4 - Mr Winter's classroom

Learning atmosphere: The N6 classroom was a square in size with small windows on both sides of the classroom. The walls were brown and white colour and had a poster at the back and also at the notice board. There were dark curtains of the left side of the classroom as there was an emergency assemble point outside the window. In this class, there were 19 students. The students were all seated in rows. The visually impaired students, a Thuthukani and girl Siphokazi were seated in the front rows close to the door. The sighted students kept their bags on their desk where they seated. The blind students carried their record devices all the time when they attend their lessons. The visually impaired student's desks were larger to accommodate all books and bailers. The lecturer sat at the back of the classroom near the notice board. The lecturer did not have the time to seat, he walked around to help all students.

Classroom Observation: I arrived a 10:30 am in the classroom. The students had just arrived back from the break and were late because of dishes of their food during break time in the kitchen. The lecturer arrives and unlocks the door to let students in. Students quietly went in their desks and settled in their seat. I noticed that the blind students had also settled in their seat.

Mr Winter: I hope you had a wonderful break time student. Now we are going to be writing a business plan for a picture. (He puts up a picture on the whiteboard displaying an office with the man seating on his office desk. He does not describe the picture verbally.

Mr Winter: Who can tell me a business idea here? (A sighted student raises up his hand and says a man has a shortage of capital to start his business. The lecturer praises him.)

Mr Winter: Who wants to tell me one sentence on what they see in the picture? (One of the students rose up against his hand. He is a sighted student as the visually impaired cannot see the picture on the whiteboard to tell the lecturer what it is about yet. They orally explain what they see in the picture)

Mr Winter: Now I want Thuthukani to tell me what happened before the man got to the office? Thuthukani tells the lecturer he thinks the man started to ask the financial support to financial instructions. The lecturer praises the students)

Mr Winter: Good! That sound interesting to students. Who knows what will be the ending of this? (A sighted student raises up his hand and says he thinks it led the man to be an entrepreneur. The visually impaired students snicker at the student's comments. Siphokazi appeared to be listening and laughing however she does not contribute by answering during the lessons)

Mr Winter: (Smiling) Okay settled down students. Today each of you will use your mind and write a paper business plan. Do not forget the title, the information contains, and purpose of the business plan. You must give or present an interesting business plan so it will be easily be accepted by the bank managers while asking for a loan,

The lecturer's hands out the writing papers to the sighted students. The lecturer helps students who are using the computer to type as he has no use of his lecturer his hands. The lecturer sits beside or next to students and discusses the picture over and over with the students. He then requested the students to write a business plan. I observe as he requested Siphokazi questions about her business plan and he prompts her thinking by helping with language as it seems, she is not her first language.

While the students busy writing, the lecturer then listens to some group reading. I observe how sighted students use phonetics.

Students who need help with words for business terminology are putting or raising up their hands. The lecturer helps students with their words. The sighted students have small pocket dictionaries but visually impaired students do not have these pocket dictionaries and depend on the lecturer for help. I observe the visually impaired students raising up their hands and waiting when they needed help with words.

Mr Winter: Students when you are done, read your business plan to make your business terminology correct.

Mr Winter: How it is going Thuthukani and Siphokazi? Would you like to present the work that you have brailled so far? (Yes! And reads his braille writing piece very well. Siphokazi is afraid but she has written a very good business plan the lecturer praises the students work and make few corrections where they needed.)

Lesson observation 4

Miss. Spring



Picture 5 - Miss Spring's classroom

Learning atmosphere: The classroom was rectangular in size with a big window on one side. The classroom has a stock room for teaching materials. The classroom walls were colourfully painted with few posters pertaining to NCV level 2 such as charts. The classroom also has an aircon at the back of the classroom. The visually impaired students could not see anything in the classroom. The classroom was on the first floor which disadvantaged the visually impaired students. I observed that the blind students were accompanied by their fellow class marks. The two blind students Nonhle and Mpume were seated at the back of the classroom close to the notice board. The sighted students were then seated in the row in front of them. There were 35 students in the classroom was overcrowded since these are new students in the college (first-year students). The lecturer's table was at the back of the classroom next to a cupboard. There was some crack son the wall. The two visually impaired students were using their device during the lesson. The classroom seemed to be with no materials such as reading books, corner libraries. The classroom was not suitable for the blind students, the structures were old and need a renovation.

Classroom Observation: I arrived at the classroom at 12:00. The lecturer greeted me and I sat at the back of the classroom. The students were busy finishing up their work in the books from the prior lesson. After the students finished their work, then the lecturer grouped the students or divide the students into 4 groups.

Miss Spring: Thank you for your corporation. April thank you for the listening boy.

Miss Spring: Students today we will be learning about the different types or forms of ownership. (The lecturer then wrote a minimum number and maximum number on the whiteboard only 1, 2-20, 1-50,7 with no maximum, 1-10. The lecturer said the numbers out orally so the visually impaired students hear).

Miss Spring: Raised up your hand if you know the answer how many forms of ownership that you know refer to the written number above? (A sighted student graciously raised her hand and said there are 5)

Miss Spring: Good girl (She then displays the form of ownership to students.1. Sole trader formed by 1 person, 2 partnership formed by 2-20 partners, 3 private co-formed by 1-50 members, 4 public co-formed by 7 with no maximum members and close corporation formed by 1-10 members.

Miss Spring: So, it is very important to know the members formed by each form of ownership. It depends on the individual what type of forms of ownership do you want to establish. At this stage, the visually impaired students cannot see anything and they just listening to the lecturer and students voice to understand. Siphohow many members formed the close corporation as a form of ownership? Please pick your head up boy so we can hear from you. (The students hesitate)

Miss Spring: Who would like to assist Siphohout? (A boy raises his hand u and answers 1-10 members. These numbers were written on the whiteboard and the visually impaired students cannot see anything. After doing exercise with examples, the lecturer requested the students to go back to the seat and take out their Entrepreneurship textbooks and asks students to turn on a specific page. A student has an entrepreneurship textbook in front of them except the visually impaired students. The lecturer stands in front of the class while explaining or teaching them. The lecturer explains the worksheets in the book telling students they have mention forms of ownership and state how many members in each. I observe that her lesson did not accommodate the bling students fully. My time was finished so I let the lecturer know and left the classroom.

4.8 Arguments of classroom observation

Exploring the learning atmosphere, it seems from my observations that the learning space or classroom had been planned properly for the TVET college students. Some classroom was not good in size and not suitable for the TVET college students but others were good in size only one new block in this TVET College. The lecturer had made good use different teaching approaches such as dividing students into groups in Mr. Autumn classroom the walls were attractive with colourfully but posters were few and not suitable for the TVET college students. The classroom had appeared properly for the sighted TVET college students, upon close observation I noticed that some appeared absence appeal for blind students. For instance, Mr Autumn collected books from students by himself there was not provided to with student's lecturers' aide in his classroom Mr Summer also had a locker for teaching materials but there was no stock room for reading books for visually impaired students. Through my visits to these classrooms, I also noticed that the posters could not be utilized by the blind students in the classroom.

The lecturer also used the chart and shapes that the students could not see and touch. The classroom had no writing corners to involve visually impaired students. I also noticed that Mr Summer was very busy getting his staff read speaking to his intern seems if he was not prepared and students started making noise.

With respects to the seating of students, Mr Autumn and Mr Summer displayed more knowledge or skills in this area. The lecturer seated on their students much closer to the door so they would not have to cross the whole classroom floor making crossing easier by themselves. This also permitted greater independence of the students instead continuously helping students around Mr Winter's students also seated in the front rows which means they were assisted easily allowed greater independence. Miss Spring's classroom the students were seated in the back of the class and away from the rest of their sighted students. They would have movements around the class tough and from any observation, they were helped by the lecturer herself and lacked to work independent. Research displays that proper seating arrangements are important for blind students Davis and Hopwood (2002). A mortise (2012) demanded that classroom were learners would move freely and access resources were more conducive for learning. However, the separation could be due to appropriate factors like the voice recorder device which one of the lecturers mentioned during the focus group interviews. However, separation away from their classmates could at a disadvantage to the student's social skills as the lecturer mention this was a problem for these students. The students asked for an

assistant to move around the classroom and simple things like taking exercise book out their school bags. Mr Winter students showed greater dependence as he had a stand of all their belongings close to their desks therefore, they could take things they wanted easily without assistance. The pressure of students during the lesson displayed how the lecturer managed his students and adapted the lessons for them. The lecturers all displayed that they involved the blind students in lessons by engaging them questioning and answer methods. The lecturers did seem to have difficulties with redirecting students they felt had been disappointing them as Miss Spring stated during her interview. The blind students during my observation incline to get easily unfocussed by noise and always incline to shake their heads. The students also place their heads down and spoke which displays that they were not able to express to the other facial expression making it difficult for sighted students to involve them. However, it seems that lecturers are trying to get students out of these behaviours and quickly redirected their kindness when they observed these behaviours. Honestly, all lectures involved students to involve students properly and also made use of involving students rather than nourishing them the information. This was got when Mr Autumn requested a fellow student to help the visually impaired students instead of just correcting himself.

The lecturer therefore mostly used question and answer methods as teaching approaches for visually impaired students. Honestly, all lecturers also used group discussion during their teaching and learning though they did not involve the blind students into a group discussion with sighted students. Mr Autumn did not involve his blind students at all during his group teaching in his accounting lessons Mr Summer and Mr Winter permitted the blind students to work in a group but he did not combine these students with other sighted classmates thereby encouraging their need to be separated. This may specify that the lecturers are not fully conscious of the term of inclusion and are still isolating sighted and blind students in the learning environment. Lecturers need further training on curriculum and assessment to deserve students sufficiently in their classroom suggested by (Ngcobo & Muthukrishna, 2011).

From my observation, only two lecturers involve in assessing the blind students in their classroom. Mr Summer and winter both assessed their students sympathetic during the lesson. Mr Winter assessed the students reading during the lesson by observing to their reading ability. The use of verbal assessment was mentioned by learners in the interviews. The lecturer also had difficulties with the kinds of resources that they used during teaching and learning Mr

Summer drew shapes on the whiteboard instead of bringing something tangible in the class and this could not include the blind students. One lecturer did mention in the interviews that some subject teaching like drawings was the most difficult to adapt for the visually impaired students. You ended up saying” uyabona” the lecturer used a worksheet that the visually impaired students could not do. Mr Summer had made teaching aid for his students however this was not suitable for blind students. So, resources and teaching materials obtainable for teaching blind students was a big problem. Davis and Hopwood (2002) state that tactile and kinaesthetic resources are important in the classroom. It is suggested that lecturer should have resources that appeal to all students (Weeks and Erradu, 2013).

Another observation I made was in regard to the class discipline of students. The most experienced lecturer appeared to have better managed the discipline in their classrooms. This is evident in Bronfenbrenner Theory (1969) which state that the student’s behaviour should be known by the lecturer, during my visits to the classroom I noticed that more experienced lecture had no difficulties, calm students, down for teaching time. Mr Summer and winter had n difficulties with turn-taking during teaching time. I did attend the first lesson and the students did not yet settle down and he was busy talking to his intern. Truly speaking some of the students are rude even in TVET colleges, they need discipline. The sitting arrangements are shows that the lecturers did not train to teach the visually impaired students although they try to fit them to their teaching and learning.

4.9 Document analysis

Creswell (2012) document analysis includes collecting private and public records from participants in the research. When analysing documents, it is important to discover how they were shaped and also how they are used in context (T. Flick, 2006) this data generation instrument discussed further in chapter three. For the purpose of this research, lecturer files were used for document analysis triangulate the information. Supplied in the other foundation of data generation. The purpose for this is that lecturer specified they used curriculum TVET College NCV and Nated yet it did not have detailed information on teaching blind students. In the interviews the lecturer stated they just used their own knowledge and experiences of working with blind students to gather lessons. The lecturer’s files included personal detail, daily plans, a student’s profiles, records marks, assessments work plan and work schedule for all levels.

The date (2002) states that a lesson plan is a full plan of what to teach which includes things like objective, previous knowledge, assessment of students. I found that the lecturers in the research all have work schedules and daily lesson plans in their files. The lecturers all have thematic lesson planning as each day had a different theme at the top of the page with the date for that day.

For example, Mr Autumn had Accounting Equation formulae in the week that I went to observe his lesson and this was evident when he did his presentation. The lecturers' lesson plans were however very short. The lesson should indicate learning outcomes and specific outcomes for that lesson. The lecturer had a table that highlights the different guidelines for example subject guidelines, assessment guideline and class guideline. I found it very stimulating to see that the lecturer had a reflection section in their subject files which they drew briefly what needed changing in their last lesson. They wrote fleetingly each day what student's found challenges and what they wanted to change. In the real lesson plans, there was no stated however of adaptations for blind students. The lecturer reflection part is where lecturers had stated what works and did not for their students. The lecturer specifies during interviews that there was no separate curriculum for their blind students so they did not have different lesson plans for their students. I think a cause why their lesson plans were so short was that their students were very various in the classroom. Mr Winter and Miss Spring had a part on student's profile in their classroom since these two lecturers were teaching NCV students. This part involved a detailed description of different types of disabilities. The IQMS (Integrated Quality Management System) was not done properly and lecturer they just took the score for themselves. They did not even form the DSG, SDT, I was very surprised. However, during the interviews, the lecturer stated that they never received any formal training from the TVET College with regard to blind students. Some indicate that the infrastructure was not suitable for visually impaired students. Mr Autumn did express his frustration over resources required for the blind students and he mentioned that he is not a teacher by his profession. Avramidis and Kalyva (2007) claim that if lecturers had more training on special needs then they would be able to use proper skills to implement the inclusion of their students appropriately. Therefore, it is energetic that lecturers get ongoing training that they need to improve their skills.

4.10 Conclusion

This chapter absorbed on giving and debating the data. Firstly, the data were obtainable under three themes and eight subthemes. A summary of the debate followed each theme with orientations to applicable literature and also this chapter presented the findings from the interviews, observations and document analysis. Firstly, the interviews were debated rendered that appeared from the findings which provided an in-depth understanding of lecturers' experience in teaching visually impaired students. The classroom observation was then presented and all four observation was then debated. The findings were then connected to the ecological systems typical theory, which illuminated the way in which the lecturers' experiences in teaching visually impaired students restricted from their social connections and experiences in the environments in which they lecturer lived. Lastly, a discussion of the documents I analysed such as lecturer's files followed. The last chapter will present the research conclusion and recommendations.

CHAPTER FIVE

RESEARCH SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The prior chapter explored the analysis of the data that was exposed during the data generation for the research. This chapter focuses on the main conclusions that have been strained from the findings in this research. The aim of this research was to explore experiences of TVET College lecturers in teaching visually impaired students in one TVET College in KwaZulu Natal. This chapter will achieve this research report by offering the main conclusions based on how the research findings replied to the research objectives that guided the research. It will be confirmed that the overarching purpose of the research was attained in that the research gained the experiences of TVET College lecturers in teaching visually impaired students. It will provide recommendations based on these findings when exploring TVET College lecturers' experiences of teaching visually impaired students in one TVET College in KwaZulu Natal.

5.2 Summary of the Research

This research explored TVET College lecturers' experiences of teaching visually impaired students in one TVET College in KwaZulu Natal. Previous literature was reviewed to gain insight into the topic and Bronfenbrenner (1979) theoretical framework reinforced the research. The researcher chose to focus on a single case research at TVET College located in North Coast Region area because of funding. The sample included four TVET College lecturers who were interviewed on their teaching experiences as a TVET College lecturers. The lecturers were also observed in their classrooms teaching visually impaired students. Lastly, documents such as lecturers' files which involved lecturer lesson plans, subject files and assessment files were used to triangulate the data findings from the observations, and interviews. The research concluded that the lecturers required more support and training as lecturers teaching visually impaired students. The lecturers demanded they were not trained to teach these visually impaired students. The lecturers stated they would have benefited from more applied teaching experiences in teaching visually impaired students during their qualifications to broaden their knowledge of how to teach diverse students. One lecturer has no teaching qualifications. The research exposed that the lecturers faced numerous challenges as TVET College lecturers such

as lack of information on how to adapt their teaching for visually impaired students as the curriculum did not support lecturers sufficiently. There was no support from the college management. The lecturers exposed that they initially faced challenges as TVET College lecturers within the teaching and learning environment stated in Bronfenbrenner's (1979) theory.

5.3 Recommendations

5.3.1 Recommendation one: Curriculum Support for visually impaired students

The lecturers in the research all exposed that they used the mainstream curriculum which was used in TVET Colleges. However, the findings exposed that the curriculum did not provide suitable support to lecturers and students on how to adapt work for visually impaired students. The curriculum was used for all students in the classroom despite the different needs of students. This is a like finding by Gehrke and McCoy (2007) who found that when there is no curriculum for visually impaired students' lecturers are expected to adapt the curriculum using their own inspiration with little guidance obtainable. The college did use Individual Education Plans (IEP) though this was more for students who were academically weak and not for all pupils. I consequently recommend that an expanded core curriculum is strained up in partnership with the Department of Higher Education and Training so as to include skills such as mobility training, social skills and braille skills as recommended by (McDonough, Sticken, & Haack, 2006).

This curriculum can be utilised in other colleges who are opening their doors to visually impaired students presently and in the future as intended by the philosophy of inclusive education and not only visually impaired students. This curriculum can also be used in university training of teaching students wanted to be educated on diverse students as their needs which go beyond the core academic curriculum. This will also ensure that mainstream colleges have lecturers who are conscious of what provision to provide visually impaired students as they may not have the support the college management.

5.3.2 Recommendation two: Advancement of university training

The research exposed that all of the lecturers had not received the form of inclusion education training. Though, they demanded that it was very basic in terms of information of visually

impaired teaching and more theoretical. The courses did not sufficiently prepare them for the reality of teaching visually impaired students. One of the lecturers also had no inclusive education training and he has no teaching qualification. The lecturers claimed that they would have helped from more practical teaching experiences in their grade as they were not visible previously to these environments previous to teaching. These findings are like to prior research by Coates (2012) who found that teaching qualifications did not deliver helpful practical experiences in inclusive education teaching. The findings also exposed that lecturers did not have any information about braille which is energetic to teaching blind students and then they essential support from a team who was experienced in this area. Therefore, my recommendation is that universities firstly proposal students the opportunities to do practical teaching visually impaired students. These students will then be visible to teaching diverse students. Universities should also proposal basic braille courses for students and lecturers as this permits them to be skilled in teaching visually impaired students (Herzberg & Stough, 2007).

5.3.3 Recommendation Three: Ongoing training and workshops and resources

The findings presented that the lecturers did not receive any training on teaching visually impaired students while teaching college. One of the four lecturers in the research stated that they would benefit from induction training as they were not trained in teaching visually impaired students. Some of the lecturers exposed that they learnt through experience though they would like more courses on teaching these students. The results exposed that the college sometimes expected these lecturers to be well accomplished in teaching as they had a teaching qualification. Though, the lecturers claimed that qualification does not continuously prepare you for the truth of the classroom especially teaching visually impaired students. My recommendation would be that college's proposal more support to TVET lecturers and the college management should support them and provide training. Colleges should constantly provide opportunities were lecturers can appraise their skills and knowledge of teaching (Chong, Forlin, & Au, 2007). The classroom atmosphere is always changing and students have different needs, therefore, lecturers need to be continually prepared to overcome novel challenges. A basic challenge in this research is the lecturers training who first in teaching visually impaired students in TVET College. Afterwards, lecturers can appraise their teaching skills and advance their knowledge. The college can hold internal training with staff who are already teaching visually impaired students and this can play a huge role in teaching and

learning and for the students' benefits. Training and workshops are key to improve teaching and learning strategies. The college can also deliver other training to all lecturers and educate on how to cater for students with visual impairment. In-service training and workshops could be showed regularly to equip lecturers with passable techniques for teaching students with visual impairment. Learning and teaching would be better-quality if the Ministry of Department of Higher Education and Training reduced the high lecturer-student ratio by employment more lecturers and increasing the resources so that lecturers can be able to support students by focussing on students' individual changes and problems. Parents need workshops on how to support their children with visual impairment. College management should revise the inclusive education so that it should include students with visual impairment. The Government should supply colleges with appropriate teaching and learning resources for students with visual impairment. The Government should proposal supports to lecturers to research inclusive education.

5.4 Conclusion

This chapter provided a rapid of the findings and recommendations were made. The research explored TVET College lecturers' experiences in teaching visually impaired students in the TVET College, a case research of one TVET College located in the North Coast Region area. The findings exposed that though more training and support was vital by TVET College lecturers as they raised in experience, they were able to adapt their teaching to provide an excellent education. The lecturers through teamwork with more experienced teachers and support from college management and lecturer aides were able to extend their knowledge to meet their students' needs. The students viewed teaching visually impaired students in a positive light and found it satisfying to teach these varied group of students. I, therefore, recommend that all colleges should make every effort to provide a supportive environment for TVET College lecturers and ensure they have ongoing training in order to appraise their knowledge in order to have more positive experiences in teaching visually impaired students.

References

- Aaij, R., Beteta, C. A., Adeva, B., Adinolfi, M., Adrover, C., Affolder, A., ... & Alexander, M. (2010). Use of assistive technology in inclusive education, 209-216.
- Abner, G., & Lahm, E. (2002). Implementation of assistive technology with students who are visually impaired: Teachers' readiness. *Journal of Visual Impairment & Blindness (JVIB)*, 96(02).
- Act, T. C. (2001). Teaching Council Act. In. Ireland: Number.
- Africa, S. S. (2005). *Census 2001: Achieving a Better Life for All: Progress Between Census' 96 and Census 2001*: Statistics South Africa.
- Ahmad, F. K. (2015). Use of assistive technology in inclusive education: Making room for diverse learning needs. *Transcience*, 6(2), 62-77.
- Akker, J. v. d., Boer, W. d., Folmer, E., Kuiper, W., Letschert, J., Nieveen, N., & Thijs, A. (2009). *Curriculum in development*. Enschede: Axis Media-ontwerpers.
- Alves, C. C. d. F., Monteiro, G. B. M., Rabello, S., Gasparetto, M. E. R. F., & Carvalho, K. M. d. (2009). Assistive technology applied to education of students with visual impairment. *Revista Panamericana de Salud Pública*, 26(2), 148-152.
- Anderson, L. W. (2001). Krathwohl (Eds.).(2001). A Taxonomy for learning, teaching, and assessing: A revision of bloom's taxonomy of educational objectives. *New York (dazu: (http://coe.sdsu.edu/eet/Articles/bloomrev/index.htm))*.
- Anderson, L. W. (2003). Assist Learners With Learning Disabilities In Public Primary Schools In Trans-Nzoia County, Kenya. *European Journal of Special Education Research*.
- Aronson, J. (1995). A Pragmatic View of Thematic Analysis. *The Qualitative Report*, 2(1), 1-3.
- Avramidis, E., & Kalyva, E. (2007). The influence of teaching experience and professional development on Greek teachers' attitudes towards inclusion. *European Journal of Special Needs Education*, 22(4), 367-389.
- Avramidis, E., & Norwich, B. (2002). Teachers' attitudes towards integration/inclusion: a review of the literature. *European journal of special needs education*, 17(2), 129-147.
- Baatjes, I., & Mathe, K. (2004). Adult basic education and social change in South Africa (1994–2003). *Changing class: Education and social change in post-apartheid South Africa*, 393-420.
- Bardin, J. A., & Lewis, S. (2008). A Survey of the Academic Engagement of Students with Visual Impairments in General Education Classes. *Journal of Visual Impairment & Blindness*, 102(8), 472-483.
- Barraga, N., & Erin, J. N. (2001). *Visual impairments and learning: Pro-Ed*.
- Barton, R. A. (1998). Visual specialization and brain evolution in primates. *Proceedings of the Royal Society of London. Series B: Biological Sciences*, 265(1409), 1933-1937.
- Basabe-Desmonts, L., Beld, J., Zimmerman, R. S., Hernando, J., Mela, P., García Parajó, M. F., & Crego-Calama, M. (2004). A simple approach to sensor discovery and fabrication on self-assembled monolayers on glass. *Journal of the American Chemical Society*, 126(23), 7293-7299.
- Berg, B. L. (2004). *Methods For The Social, Sciences*.
- Berkvens, J., Van Den Akker, J., & Brugman, M. (2014). Addressing The Quality Challenge: Reflections On The Post-2015 Unesco Education Agenda. In: Enschede, Netherlands National Commission For Unesco.

- Berryman, A., & Millstein, J. (1989). Are ecological systems chaotic—and if not, why not? *Trends in Ecology & Evolution*, 4(1), 26-28.
- Bertram, C., & Christiansen, I. (2014). Understanding research. *An introduction to reading research*. Pretoria: Van Schaik Publishers.
- Bertram, C., & Christiansen, I. (2014). *Understanding research: An introduction to reading research*: Van Schaik Publishers.
- Bingman, M. B., Ebert, O., & Bell, B. (2000). *Outcomes of participation in Adult Basic Education: The importance of learners' perspectives*. National Center for the Study of Adult Learning and Literacy, Harvard Graduate School of Education.
- Bishop, V. E. (2004). *Teaching Visually Impaired Children: Virginia E. Bishop; with a Foreword by Natalie C. Barraga; Drawings by Charles Denzler and Virginia Bishop; Computer Graphics and Charts by Liz Broussard*: Charles C Thomas Publisher.
- Blanche, M. T., Blanche, M. J. T., Durrheim, K., & Painter, D. (Eds.). (2006). *Research in practice: Applied methods for the social sciences*. Juta and Company Ltd.
- Bletsas, A., Shin, H., & Win, M. Z. (2007). Cooperative communications with outage-optimal opportunistic relaying. *IEEE Transactions on Wireless Communications*, 6(9), 3450-3460.
- Booth, T., & Ainscow, M. (2002). *Index for Inclusion: Developing learning and participation in schools*: ERIC.
- Borland, J., & James, S. (1999). The learning experience of students with disabilities in higher education. A Case research of a UK university. *Disability & Society*, 14(1), 85-101.
- Botha, R. J. (2012). The role of the school principal in the South African school governing body: A case study of various members' perceptions. *Journal of Social sciences*, 30(3), 263-271.
- Boulton, L. M. (1993). Computer hardware and software to assist the visually impaired and blind. *Clinical & Experimental Ophthalmology*, 21(1), 7-14.
- Braun, V., Clarke, V., & Weate, P. (2016). Using thematic analysis in sport and exercise research. In *Routledge handbook of qualitative research in sport and exercise* (pp. 213-227). Routledge.
- Braun, V., Clarke, V., Hayfield, N., & Terry, G. (2019). Thematic analysis. *Handbook of Research Methods in Health Social Sciences*, 843-860.
- Bronfenbrenner, M. (1969). *Is the business cycle obsolete*. New York: Wiley-Interscience.
- Bronfenbrenner, U. (1979). *The ecology of human development*: Harvard university press.
- Bronfenbrenner, U. (1992). *Ecological systems theory*: Jessica Kingsley Publishers.
- Buthelezi, M. M. (2014). *Exploring challenges experienced by physically challenged students at a Further Education and Training College in KwaZulu-Natal Province*.
- Campbell, J., Gilmore, L., & Cuskelly, M. (2003). Changing student teachers' attitudes towards disability and inclusion. *Journal of Intellectual and Developmental Disability*, 28(4), 369-379.
- Chilisa, B., & Preece, J. (2005). *Research methods for adult educators in Africa*: Pearson South Africa.
- Chong, S., Forlin, C., & Au, M. (2007). Attitudes and concerns about inclusive education on attitude change of pre-secondary teachers in Hong Kong. *Asia-Pacific Journal of Teacher Education*, 35(2), 161-179.

- Christiansen, H. H., Etzelmüller, B., Isaksen, K., Juliussen, H., Farbrot, H., Humlum, O., . . . Hjort, J. (2010). The thermal state of permafrost in the Nordic area during the International Polar Year 2007–2009. *Permafrost and Periglacial Processes*, 21(2), 156-181.
- Christiansen, I., Bertram, C., & Land, S. (2010). *Understanding Research*. Scottville University of KwaZulu-Natal: School of Education and Development.
- Cmar, J. L. (2015). Orientation and Mobility Skills and Outcome Expectations as Predictors of Employment for Young Adults with Visual Impairments. *Journal of Visual Impairment & Blindness*, 109(2), 95-106.
- Cohen, Manion, L., & Morrison, K. (2011). *Research Methods in Education*. USA & Canada: Routledge.
- Cohen, L., Manion, L., & Morrison, K. (2013). *Research methods in education*. Oxford, UK: Routledge.
- Cohen, S. (2011). *Folk devils and moral panics*: Routledge.
- Collette, A. T., & Chiappetta, E. L. (1984). *Science Instruction in the Middle and Secondary Schools*: ERIC.
- Cope, D. G. (2014). Methods and Meanings: Credibility and Trustworthiness of Qualitative Research. *Journal of Oncology Nursing Forum*, 41(1), 89-91.
- Cowen, E. L. (1994). The enhancement of psychological wellness: Challenges and opportunities. *American journal of community psychology*, 22(2), 149-179.
- Cox, P. R., & Dykes, M. K. (2001). Effective classroom adaptations for students with visual impairments. *Teaching Exceptional Children*, 33(6), 68-74.
- Creswell, J. W. (2009). Qualitative procedures. *Research design: Qualitative, quantitative, and mixed methods approach* 173-202.
- Creswell, J. W. (2012). Educational research: planning. *Conducting, and Evaluating*.
- Creswell, J. W. (2014). *Research Design*. Cape Town: SAGE.
- Creswell, J. W., & Poth, C. N. (2018). *Qualitative enquiry & research design: choosing among five approaches* (Fourth edition. ed.). Thousand Oaks, California: SAGE.
- Cuff, J. A., Clamp, M. E., Siddiqui, A. S., Finlay, M., & Barton, G. J. (1998). JPred: a consensus secondary structure prediction server. *Bioinformatics (Oxford, England)*, 14(10), 892-893.
- Darling-Hammond, L. (2000). Teacher quality and student achievement. *Education policy analysis archives*, 8, 1.
- Davis, P., & Hopwood, V. (2002). Including children with a visual impairment in the mainstream primary school classroom. *Journal of Research in Special Educational Needs*, 2(3), no-no.
- Day, C. (2004). Change agendas: the roles of teacher educators. *Teaching Education*, 15(2), 145-158.
- de Schipper, T., Lieberman, L. J., & Moody, B. (2017). “Kids like me, we go lightly on the head”: Experiences of children with a visual impairment on the physical self-concept. *British Journal of Visual Impairment*, 35(1), 55-68.
- Demchak, M., & Downing, J. (2002). The preschool student. *Including students with severe and multiple disabilities in typical classrooms*, 71-92.
- Denscombe, M. (2008). Communities of practice: A research paradigm for the mixed methods approach. *Journal of mixed methods research*, 2(3), 270-283.
- Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage Handbook of Qualitative research*. London: Sage.
- Dewey, J. (1925). Experience and Nature, The Later Works of John Dewey, 1925–1953. In: Volume.

- Dewey, J. (1934). *Art as Experience*. New York: Minton.
- Dewey, J., & Boydston, J. A. (1925). Experience and nature. The later works. *Collected Works*.
- Dick, T., & Kubiak, E. (1997). Issues and aids for teaching mathematics to the blind. *The Mathematics Teacher*, 90(5), 344-349.
- Diniz, F. A., & Usmani, K. (2001). Changing the Discourse on "Race" and Special Educational Needs. *MCT*, 20(1), 25.
- Dirks, N. (2017). The challenges of South Africa's education system. Retrieved online on, 29.
- Dixson, D. D., & Worrell, F. C. (2016). Formative and summative assessment in the classroom. *Theory into Practice*, 55(2), 153-159.
- Donald, D., Lazarus, S., & Lolwana, P. (2002). Educational psychology is the social context (2nd edn)(Cape Town, Oxford University Press).
- Donohue, D., & Bornman, J. (2014). The challenges of realising inclusive education in South Africa. *South African Journal of Education*, 34(2), 01-14.
- Donohue, D., & Bornman, J. (2015). South African teachers' attitudes toward the inclusion of learners with different abilities in mainstream classrooms. *International Journal of Disability, Development and Education*, 62(1), 42-59.
- Downing, J. E., & Chen, D. (2003). Using tactile strategies with students who are blind and have severe disabilities. *Teaching Exceptional Children*, 36(2), 56-61.
- du Plessis, P. (2014). Problems and complexities in rural schools: Challenges of education and social development. *Mediterranean Journal of Social Sciences*, 5(20), 1109.
- Du Plooy-Cilliers, F., Davis, C., & Bezuidenhout, R.-M. (2014). *Research matters*. Claremont: Juta.
- Earl, K., & Giles, D. (2011). An-other look at assessment: Assessment in learning.
- Department of Basic Education, (2001). Education White Paper 6: Special needs education: Building an inclusive education and training system. In: Department of Education Pretoria.
- Department of Basic Education, (2007). The New Zealand curriculum. In: Learning Media Limited New Zealand, New Zealand.
- Ehrlich, M., Boll, W., Van Oijen, A., Hariharan, R., Chandran, K., Nibert, M. L., & Kirchhausen, T. (2004). Endocytosis by random initiation and stabilization of clathrin-coated pits. *Cell*, 118(5), 591-605.
- Einstein, A. (1956). *Investigations on the Theory of the Brownian Movement*. Courier Corporation.
- Eisner, E. W. (2017). *The Enlightened Eye: Qualitative Inquiry and Enhancement of Educational Practice*. New York: Teacher College Press.
- Engelbrecht, P., Oswald, M., Swart, E., & Eloff, I. (2003). Including learners with intellectual disabilities: Stressful for teachers? *International Journal of Disability, Development and Education*, 50(3), 293-308.
- Etkind, M., & Shafrir, U. (2013). *Teaching and learning in the digital age with pedagogy for conceptual thinking and peer cooperation*. Paper presented at the Proc. 7th International Technology, Education and Development Conference (INTED).
- Eva, Y. H. L., Chang, C. Y., Hu, N., Wang, Y. C. J., Lai, C. C., Herrup, K., ... & Bradley, A. (1992). Mice deficient for Rb are nonviable and show defects in neurogenesis and haematopoiesis. *Nature*, 359(6393), 288-294.
- Fakolade, O. A., Adeniyi, S. O., & Tella, A. (2017). Attitude of teachers towards the inclusion of special needs children in the general education classroom: the case of teachers in some selected schools in Nigeria. *International Electronic Journal of elementary education*, 1(3), 155-169.

- Flicek, P., Ahmed, I., Amode, M. R., Barrell, D., Beal, K., Brent, S., ... & Fitzgerald, S. (2012). Ensembl 2013. *Nucleic acids research*, 41(D1), D48-D55. Flicek, Paul, Ikhlaq Ahmed, M. Ridwan Amode, Daniel Barrell, Kathryn Beal, Simon Brent, Denise Carvalho-Silva et al. "Ensembl 2013." *Nucleic acids research* 41, no. D1 (2012): D48-D55.
- Flick, T. (2006). *Studies on the Optical Readout for the ATLAS Pixel Detector*. Universität Wuppertal, Fakultät für Mathematik und Naturwissenschaften ...
- Flick, U. (2013). *The SAGE handbook of qualitative data analysis*: Sage.
- Florian, L. (2012). Preparing teachers to work in inclusive classrooms: Key lessons for the professional development of teacher educators from Scotland's inclusive practise project. *Journal of Teacher Education*, 63(4), 275-285.
- Frankel, E. B., Gold, S., & Ajodhia-Andrews, A. (2010). International preschool inclusion: Bridging the gap between vision and practices. *Young Exceptional Children*, 13(5), 2-16.
- Fraser, W. J., & Maguvhe, M. O. (2008). Teaching life sciences to blind and visually impaired learners. *Journal of Biological Education*, 42(2), 84-89.
- French, K. (2004). *Perkins school for the blind*. Chicago: Arcadia Publishing.
- Garbutt, G. W., Nyabuto, E., & Natade, J. L. (2018). Support Strategies Teachers' use for o blind and visually impaired learners. *Journal of Biological Education*, 2(7), 3-19.
- Gehrke, R. S., & McCoy, K. (2007). Considering the context: Differences between the environments of beginning special educators who stay and those who leave. *Rural Special Education Quarterly*, 26(3), 32-40.
- Gerber, E. (2003). The benefits of and barriers to computer use for individuals who are visually impaired. *Journal of Visual Impairment & Blindness*, 97(0).
- Gissler, M., Hartgill, T., & Pirhonen, J. (2011). Experiences of expert midwives in a training program aimed at decreasing perineal tears. *International Journal of Nursing and Midwifery*, 3(6), 70-75.
- Goldberg, I., Hoory, R., Mizrachi, B., & Kons, Z. (2014). Method and system for text-to-speech synthesis with personalized voice. In. USA: Google Patents.
- Hamilton, L., Halverson, R., Jackson, S. S., Mandinach, E., Supovitz, J. A., Wayman, J. C., . . . Steele, J. L. (2009). Using student achievement data to support instructional decision making.
- Hammond, M., & Wellington, J. (2013). *Research Methods: The Key Concepts*. New York and London: Routledge.
- Hargreaves, A. (1994). Development and desire: A postmodern perspective.
- Hargreaves, D. H. (1995). School culture, school effectiveness and school improvement. *School effectiveness and school improvement*, 6(1), 23-46.
- Hersh, M., & Johnson, M. A. (2010). *Assistive technology for visually impaired and blind people*: Springer Science & Business Media.
- Herzberg, T. S., & Stough, L. M. (2007). The production of brailled instructional materials in Texas public schools. *Journal of Visual Impairment & Blindness*, 101(8), 465-478.
- Horne, M. D., & Ricciardo, J. L. (1988). Hierarchy of response to handicaps. *Psychological Reports*, 62(1), 83-86.
- Howitt, D., & Cramer, D. (2007). *Introduction to research methods in psychology*. Pearson Education.
- Howitt, D., & Cramer, D. (2007). *Introduction to research methods in psychology*. England: Pearson Education.

- Hrapovic, S., Majid, E., Liu, Y., Male, K., & Luong, J. H. (2006). Metallic nanoparticle–carbon nanotube composites for electrochemical determination of explosive nitroaromatic compounds. *Analytical chemistry*, 78(15), 5504-5512.
- Huizinga, T., Handelzalts, A., Nieveen, N., & Voogt, J. M. (2014). Teacher involvement in curriculum design: Need for support to enhance teachers' design expertise. *Journal of curriculum studies*, 46(1), 33-57.
- Huxley, A. (1998). *Brave New World*. 1932. London: Vintage.
- Hwang, Y.-S., & Evans, D. (2011). Attitudes towards inclusion: Gaps between belief and practice. *International journal of special education*, 26(1), 136-146.
- Jansen, J. D. (2001). Image-ining teachers: Policy images and teacher identity in South African classrooms. *South African Journal of Education*, 21(4), 242-246.
- Jones, N. D., Youngs, P., & Frank, K. A. (2013). The role of school-based colleagues in shaping the commitment of novice special and general education teachers. *Exceptional Children*, 79(3), 365-383.
- Jonker, J., & Pennink, P. (2010). *The essence of research methodology: A concise guide for Masters and PhD students in Management Sciences*. Hiedelburg, Germany: Springer.
- Kamei-Hannan, C., Howe, J., Herrera, R. R., & Erin, J. N. (2012). Perceptions of teachers of students with visual impairments regarding assistive technology: A follow-up research to a university course. *Journal of Visual Impairment & Blindness*, 106(10), 666-678.
- Karshmer, A., & Gillian, D. (2005). *Math readers for blind students: Errors, frustrations, and the need for a better technique*. Paper presented at the Proceedings of the 2005 International Conference on Human-Computer Interaction (HCII).
- Kaufman, Y. J., Koren, I., Remer, L. A., Rosenfeld, D., & Rudich, Y. (2005). The effect of smoke, dust, and pollution aerosol on shallow cloud development over the Atlantic Ocean. *Proceedings of the National Academy of Sciences*, 102(32), 11207-11212.
- Kelly, K., & Phillips, S. (2016). *Teaching literacy to learners with dyslexia: A multi-sensory approach*. New Delhi: Sage.
- Kesiktaş, A. D. M. S., & Akcamete, A. G. P. D. (2011). The Relationship of Personnel Preparation to the Competence of Teachers of Students with Visual Impairments in Turkey. *Journal of Visual Impairment & Blindness*, 105(2), 108-124. DOI:10.1177/0145482X11110500208
- Kessler, R. C., Adler, L. A., Barkley, R., Biederman, J., Connors, C. K., Faraone, S. V., ... & Üstün, T. B. (2005). Patterns and predictors of attention-deficit/hyperactivity disorder persistence into adulthood: results from the national comorbidity survey
- Khadka, J., Ryan, B., Margrain, T. H., Woodhouse, J. M., & Davies, N. (2012). Listening to the voices of children with a visual impairment: A focus group research. *British Journal of Visual Impairment*, 30(3), 182-196.
- Khoza, S. B. (2015a). Can Turnitin come to the rescue: From teachers' reflections? *South African Journal of Education*, 35(4), 1-9. DOI:10.15700
- Khoza, S. B. (2015b). Student Teachers' reflections On Their Practices Of The Curriculum And Assessment Policy Statement. *South African Journal of Higher Education*, 29(4).
- Koenig, A. (1996). Growing into literacy. *Children with visual impairments: A parents' guide*, 227-257.
- Kohler, U. D., & Kreuter, F. (2005). *Data analysis using stata*. College Station, Tex.: Stata Press.
- Konur, O. (2006). Teaching disabled students in higher education. *Teaching in Higher Education*, 11(3), 351-363.

- Kothari, C. R. (2004). *Research methodology: Methods and techniques*. Darya Ganj, New Delhi: New International.
- Kumagai, J. (1995). Inventions born of necessity offer new tools for the blind to research and do science. *Physics Today*, 48, 82.
- Kumer, S. C., & Vrana, K. E. (1996). Intricate regulation of tyrosine hydroxylase activity and gene expression. *Journal of neurochemistry*, 67(2), 443-462.
- Ladbrook, M. W. (2009). *Challenges experienced by educators in the implementation of inclusive education in primary schools in South Africa* (Doctoral dissertation).
- Landsberg, J. M., & Teitler, Z. (2010). On the ranks and border ranks of symmetric tensors. *Foundations of Computational Mathematics*, 10(3), 339-366.
- Lazar, J., Allen, A., Kleinman, J., & Malarkey, C. (2007). What frustrates screen reader users on the web: A research of 100 blind users. *International Journal of human-computer interaction*, 22(3), 247-269.
- Lehohla, P. (2005). Statistics South Africa 2005. *Statistics*, 39(3).
- Lichtman, D., & Posner, E. A. (2006). Holding internet service providers accountable. *Sup. Ct. Econ. Rev.*, 14, 221.
- Lieberman, L. J., Haegele, J. A., Columna, L., & Conroy, P. (2014). How students with visual impairments can learn components of the expanded core curriculum through physical education. *Journal of Visual Impairment & Blindness*, 108(3), 239-248.
- Lieberman, L. J., Haegele, J. A., Columna, L., & Conroy, P. (2014). How Students with Visual Impairments Can Learn Components of the Expanded Core Curriculum through Physical Education. *Journal of Visual Impairment & Blindness*, 108(3), 239-248.
- Lomofsky, L., & Lazarus, S. (2001). South Africa: First steps in the development of an inclusive education system. *Cambridge Journal of education*, 31(3), 303-317.
- Longhurst, R. (2003). Semi-structured interviews and focus groups. *Key methods in geography*, 117-132.
- Lovenheim, M. F., & Owens, E. G. (2014). Does federal financial aid affect college enrollment? Evidence from drug offenders and the Higher Education Act of 1998. *Journal of Urban Economics*, 81, 1-13.
- Lynch, P., McCall, S., Douglas, G., McLinden, M., Mogesa, B., Mwaura, M., . . . Njoroge, M. (2011). Inclusive educational practices in Kenya: Evidencing practice of itinerant teachers who work with children with visual impairment in local mainstream schools. *International Journal of Educational Development*, 31(5), 478-488.
- Maag, J. W., & Katsiyannis, A. (2000). Recent legal and policy developments in special education. *NASSP Bulletin*, 84(613), 1-8.
- Maher, M. (2009). Information and advocacy: Forgotten components in the strategies for achieving inclusive education in South Africa? *Africa Education Review*, 6(1), 19-36.
- Mao, Z. M., So, H.-S. W., & Woo, A. (1998). JAWS: A Java work-stealing scheduler over a network of workstations. *The University of California at Berkeley, Berkeley, USA, Technical*.
- Maree, K. (2009). *First Steps in Research*. Pretoria: Van Schaik.
- Marshall, M. N. (1996). Sampling for qualitative research. *Family practice*, 13(6), 522-526.
- Marson, S. M., Harrington, C. F., & Walls, A. (2013). Teaching introductory statistics to blind students. *Teaching Statistics*, 35(1), 21-25.
- Mason, B., & Krashen, S. (1997). Extensive reading in English as a foreign language. *The system*, 25(1), 91-102.

- Matshedisho, K. R. (2007). Access to higher education for disabled students in South Africa: A contradictory conjuncture of benevolence, rights and the social model of disability. *Disability and Society*, 22(7), 685.
- Mberimana, E. (2018). *Factors that Hinder Academic Performance of Learners with Visual impairments in two Selected Special Schools of Rwanda*. The University of Rwanda.
- McCarthy, J., & Wright, P. (2004). Technology as experience. *interactions*, 11(5), 42-43.
- McClelland, G. H. (1983). Family-size desires as measures of demand. *Determinants of fertility in developing countries: a summary of knowledge*, 15, 234.
- McDaniel, M. A., Schmidt, F. L., & Hunter, J. E. (1988). Job experience correlates of job performance. *Journal of Applied Psychology*, 73(2), 327.
- McDonough, H., Sticken, E., & Haack, S. (2006). The expanded core curriculum for students who are visually impaired. *Journal of Visual Impairment & Blindness*, 100(10), 596-598.
- McMillan, J., & Schumacher, S. (2010). Designing qualitative research. *Research in education: evidence-based enquiry*, 319-341.
- Mégret, F. (2008). The disabilities convention: Human rights of persons with disabilities or disability rights? *Human Rights Quarterly*, 30(2), 494-516.
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*.
- Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative Research: A Guide to Design and Implementation* (4th ed.). St Fransisco: Jossey-Bass.
- Mertens, D. M. (2015). *Research and Evaluation in Education and Psychology* (4th ed.). London, Los Angels, New Delhi, Singapore: Sage.
- Mertler, C. A. (2016). *Classroom assessment: A practical guide for educators*. New York: Routledge.
- Miles, M. B., Huberman, A. M., & Saldana, J. (2013). *Qualitative Data Analysis: A Methods Sourcebook* (3rd ed.). Los Angeles, New Delhi, Singapore, Washington D.C.: Sage.
- Milner, K., & Khoza, H. (2008). A comparison of teacher stress and school climate across schools with different matric success rates. *South African Journal of Education*, 28(2), 155-173.
- Minke, K. M., Bear, G. G., Deemer, S. A., & Griffin, S. M. (1996). Teachers' experiences with inclusive classrooms: Implications for special education reform. *The Journal of Special Education*, 30(2), 152-186.
- Miriam, S. (1998). Qualitative research and case research. In: San Francisco: Wiley & Sons, Inc.
- Mishler, J., Parry, E., Sutherland, B., & Bushrod, J. (1979). Clinical research of low molecular weight-hydroxyethyl starch, a new plasma expander. *British journal of clinical pharmacology*, 7(6), 619-622.
- Mligo, E. S. (2016). *Research Methods and Report Writing: A Practical Guide to Students and Research in Social Sciences and Humanities*. Eugen, Oregon: Resource Publications.
- Msila, V. (2007). From apartheid education to the Revised National Curriculum Statement: Pedagogy for identity formation and nation building in South Africa. *Nordic Journal of African Studies*, 16(2).
- Mukhopadhyay, S., Molosiwa, S. M., & Moswela, E. (2009). Teacher trainees' level of preparedness for inclusive education in Botswana schools: Need for change. *International Journal of Scientific Research in Education*, 2(2), 51-58.
- Mullick, S., Menziwa, M., Mosery, N., Khoza, D., & Maroga, E. (2008). Feasibility, acceptability, effectiveness and cost of models of integrating HIV prevention and

- counseling and testing for HIV within family planning services in North West Province, South Africa.
- Mulloy, A. M., Gevarter, C., Hopkins, M., Sutherland, K. S., & Ramdoss, S. T. (2014). Assistive technology for students with visual impairments and blindness. In *Assistive technologies for people with diverse abilities* (pp. 113-156): Springer.
- Muthukrishna, N., & Schoeman, M. (2000). From 'special needs' to quality education for all': A participatory, problem-centred approach to policy development in South Africa. *International journal of inclusive education*, 4(4), 315-335.
- Nel, P. (2017). *Was the Cat in the Hat Black?: The Hidden Racism of Children's Literature, and the Need for Diverse Books*. Oxford University Press.
- Ngcobo, J., & Muthukrishna, N. (2011). The geographies of inclusion of students with disabilities in an ordinary school. *South African Journal of Education*, 31(3), 357-368.
- Nicotera, A. M. (1993). *Interpersonal communication in friend and mate relationships*: SUNY Press.
- Noswell, L. S., Norns, J. M., White, D. E., & Moules, N. J. (2017). Thematic Analysis: Striving to Meet the Trustworthiness Criteria. *International Journal of Qualitative Methods*, 16(2017), 1-13.
- Nzimande, B. (2010). Keynote Address by Minister of Higher Education and Training Dr Blade Nzimande to the Stakeholder Summit on Higher Education Transformation. *Cape Peninsula University of Technology: Stakeholder Summit on Higher Education Transformation*.
- Obradović, S., Bjekić, D., & Zlatić, L. (2015). Creative Teaching with ICT support for students with specific learning disabilities. *Procedia-Social and Behavioral Sciences*, 203, 291-296.
- Padayachee, P., & Laher, S. (2014). South African Hindu psychologists' perceptions of mental illness. *Journal of religion and health*, 53(2), 424-437.
- Padgett, D. K. (2016). *Qualitative Methods in Social Work Research* (3rd ed.). Los Angeles, London, New Delhi, Singapore, Washington D.C., Melbourne: Sage.
- Palmer, M., Gildea, D., & Kingsbury, P. (2005). The Proposition Bank: An Annotated Corpus of Semantic Roles. *Computational Linguistics*, 31(1), 71-106.
- Pappu, R., Recht, B., Taylor, J., & Gershenfeld, N. (2002). Physical one-way functions. *Science*, 297(5589), 2026-2030.
- Paris, C. B., & Cowen, R. K. (2004). Direct evidence of a biophysical retention mechanism for coral reef fish larvae. *Limnology and Oceanography*, 49(6), 1964-1979.
- Park, J., Turnbull, A. P., & Turnbull III, H. R. (2002). Impacts of poverty on quality of life in families of children with disabilities. *Exceptional Children*, 68(2), 151-170.
- Paterson, A. H., Bowers, J. E., Bruggmann, R., Dubchak, I., Grimwood, J., Gundlach, H., ... & Schmutz, J. (2009). The Sorghum bicolor genome and the diversification of grasses. *Nature*, 457(7229), 551-556.
- Perren, T. J., Swart, A. M., Pfisterer, J., Ledermann, J. A., Pujade-Lauraine, E., Kristensen, G., ... & Bois, A. D. (2011). A phase 3 trial of bevacizumab in ovarian cancer. *New England Journal of Medicine*, 365(26), 2484-2496.
- Plimmer, B., Crossan, A., Brewster, S. A., & Blagojevic, R. (2008). *Multimodal collaborative handwriting training for visually-impaired people*. Paper presented at the Proceedings of the SIGCHI Conference on Human Factors in Computing Systems.

- Pogorzelski, S., & Wheldall, K. (2002). Do differences in phonological processing performance predict gains made by older low-progress readers following intensive literacy intervention?. *Educational Psychology*, 22(4), 413-427.
- Polat, F. (2011). Inclusion in education: A step towards social justice. *International Journal of Educational Development*, 31(1), 50-58.
- Presley, I., & D'Andrea, F. M. (2009). *Assistive technology for students who are blind or visually impaired: A guide to assessment*. New York: American Foundation for the Blind.
- Pretorius, L. (2017). Effective teaching and learning: working towards a new, all-inclusive paradigm for effective and successful teaching and learning in higher education and training. *Educator Multidisciplinary Journal*, 1(1), 6-29.
- Pritchard, A. (2013). *Ways of learning: Learning theories and learning styles in the classroom*. New York: Routledge.
- Punch, K. F., & Oancea, A. (2014). *Introduction to research methods in education*: Sage.
- Remillard, J. T. (2013). Examining resources and re-sourcing as insights into teaching. *ZMD Mathematics Education*, 45(7), 925-927.
- Resnikoff, S., Pascolini, D., Etya'ale, D., Kocur, I., Pararajasegaram, R., Pokharel, G. P., & Mariotti, S. P. (2004). Global data on visual impairment in the year 2002. *Bulletin of the world health organization*, 82(11), 844-851.
- Ramage, E. S. (1985). Augustus' Treatment of Julius Caesar. *Historia: Zeitschrift für Alte Geschichte*, (H. 2), 223-245.
- Scriven, M. (1967). The methodology of evaluation (AERA Monograph series on curriculum evaluation, No. 1). *New York: Rand Mc Nally*.
- Rioufol, G., Finet, G., Ginon, I., Andre-Fouet, X., Rossi, R., Vialle, E., ... & Tabib, A. (2002). Multiple atherosclerotic plaque rupture in acute coronary syndrome: a three-vessel intravascular ultrasound study. *Circulation*, 106(7), 804-808.
- Ritchie, D. A. (2014). *Doing oral history*: Oxford University Press.
- Rosenthal, M. A., Kavar, B., Hill, J. S., Morgan, D. J., Nation, R. L., Stylli, S. S., Green, M. D. (2001). Phase I and pharmacokinetic research of photodynamic therapy for high-grade gliomas using a novel boronated porphyrin. *Journal of clinical oncology*, 19(2), 519-524.
- Round, P. N., Subban, P. K., & Sharma, U. (2016). 'I don't have time to be this busy.' Exploring the concerns of secondary school teachers towards inclusive education. *International Journal of Inclusive Education*, 20(2), 185-198.
- Rule, P., & John, V. (2011). *Your guide to case research research*. Pretoria: Van Schaik
- Sadato, N., Pascual-Leone, A., Grafman, J., Deiber, M.-P., Ibanez, V., & Hallett, M. (1998). Neural Networks for Braille Reading by the Blind. *Brain: a journal of neurology*, 121(7), 1213-1229.
- Salkind, N. J. (2012). One hundred questions (and answers) about research methods. In: London: Sage Publications.[Links].
- Schiro, M. S. (2012). *Curriculum theory: Conflicting visions and enduring concerns*. New Delhi: Sage Publications.
- Schoeman, P. M. (2000). South Africa as an emerging middle power. *African Security Review*, 9(3), 47-58.
- Siekierska, E., Labelle, R., Brunet, L., Mccurdy, B., Pulsifer, P., Rieger, M. K., & O'Neil, L. (2003). Enhancing spatial learning and mobility training of visually impaired people—

- a technical paper on the Internet-based tactile and audio-tactile mapping. *The Canadian Geographer/Le Géographe canadien*, 47(4), 480-493.
- Smith, M. (1998). Feelin'groovy: Functional tactual skills. Retrieved January 24, 2000. In South Africa. Department of Higher Education and Training. (2014). White paper for post-school education and training: Building an expanded, effective and integrated post-school system.
- South, A., & Juta, L. (2011). *The Constitution of the Republic of South Africa, 1996* (11th ed. ed.). Claremont, Cape Town: Juta Law.
- Southern, C., Clawson, J., Frey, B., Abowd, G., & Romero, M. (2012). *An evaluation of BrailleTouch: mobile touchscreen text entry for the visually impaired*. Paper presented at the Proceedings of the 14th international conference on Human-computer interaction with mobile devices and services.
- Spacey, J. (2017). Elements of Visual Balance” Simplicable, August 22 2016. In.
- Spiers, E. T. (1992). Students Who Are Blind or Visually Impaired in Postsecondary Education.
- Spollett, G. (2006). Promoting continuing education in diabetes management. *Endocrine Practice*, 12(Supplement 3), 68-71.
- Stacks, D. W. (2016). *Primer of Public Relations Research* (2nd ed.). New York, London: The Guilford Press.
- Stephens, D. (2003). Quality of basic education. *Paper for EFA Global Monitoring Report*, <http://unesdoc.unesco.org/images/0014/001469/146968e.pdf>.
- Stofile, S. Y. (2008). *Factors affecting the implementation of inclusive education policy: A case research in one province in South Africa*. University of the Western Cape.
- Taggart, N. (2008). *The educational and psychological support of educators to include learners from child-headed homes in urban classrooms*. University of Johannesburg.
- Taylor, S.J., (2008). *What's wrong with our schools and how can we fix them*. Paper presented at the CSR in Education Conference, TSiBA Education, Cape Town.
- Taylor, S. J., Bogdan, R., & De Vault, M. (2015). *Introduction to Qualitative Research Methods: A Guidebook and Resource* Canada: Wiley & Sons.
- Terre Blanche, M., Durrheim, K., & Painter, D. (2006). Research in practice: Applied methods for the social sciences. In: Cape Town: UCT Press.
- Thomas, R., Barker, L., Rubin, G., & Dahmann-Noor, A. (2015). Assistive technology for children and young people with low vision. *Cochrane database of systematic reviews*(6).
- Thurlow, M., Johnstone, C., Timmons, J., & Altman, J. (2009). Survey of teachers of students with visual impairments: Students served and their access to state assessments of reading. *Minneapolis, MN: University of Minnesota, Technology Assisted Reading Assessment*.
- Tiwari, A., Das, A., & Sharma, M. (2015). Inclusive education a “rhetoric” or “reality”? Teachers' perspectives and beliefs. *Teaching and Teacher Education*, 52, 128-136.
- Torgersen, S., Kringlen, E., & Cramer, V. (2001). The prevalence of personality disorders in a community sample. *Archives of general psychiatry*, 58(6), 590-596.
- Trief, E., & Feeney, R. (2002). Guidelines for precollege students with blindness and visual impairments. *Review*, 35(3), 137-143.
- Valmoradi, M., Jones, J., Turunen, H., & Snelgrove, S. (2016). Theme development in qualitative content analysis and thematic analysis. *Journal of Nursing Education and Practice*, 6(5), 100-110.

- Vaughn, S., Bos, C. S., & Schumm, J. S. (2011). *Teaching students who are exceptional, diverse, and at risk in the general education classroom* (5th ed. ed.). Upper Saddle River, N.J.: Pearson Education.
- Vithal, R., & Jonathan, J. (2010). *Designing your first research proposal: A Manual for Researchers in Education and Social Sciences*. Claremont: Juta.
- Wahyuni, D. (2012). The research design maze: Understanding paradigms, cases, methods and methodologies. *Journal of Applied Management Accountability Research*, 10(1), 69-80.
- Wall, R. (2002). Teachers' exposure to people with visual impairments and the effect on attitudes toward inclusion. *Review*, 34(3), 111.
- Ward, J., Center, Y., & Bochner, S. (1994). A question of attitudes: integrating children with disabilities into regular classrooms? *British Journal of Special Education*, 21(1), 34-39.
- Waterfield, J., & West, B. (2008). Meeting the specific requirements of Blind and Partially Sighted Students researching in Higher Education in the UK. *University of Plymouth*.
- Watts, J., Cockcroft, K., & Duncan, N. (2009). Developmental psychology. Cape Town. In: South Africa: UCT Press.
- Wellington, J. (2015). *Educational Research: Contemporary issues and practical approaches* (2nd ed.). London, New York, Sydney: Bloomsbury.
- Wheeler, A., Hatton, D., Holloway, V., Sideris, J., Neebe, E., Roberts, J., & Reznick, J. (2010). Maternal responses to child frustration and requests for help in dyads with fragile X syndrome. *Journal of Intellectual Disability Research*, 54(6), 501-515.
- Wiliam, D. (2006). Formative assessment: Getting the focus right. *Educational assessment*, 11(3-4), 283-289.replication. *Biological psychiatry*, 57(11), 1442-1451.
- Wood, R., & Ashfield, J. (2008). The use of the interactive whiteboard for creative teaching and learning in literacy and mathematics: A case research . *British journal of educational technology*, 39(1), 84-96.
- Yanow, D., & Schwartz-Shea, P. (2013). *Interpretation and Method: Empirical Research Methods and the Interpretative Turn* (2nd ed.). Armonk, New York, London, England: M.E. Sharpe.
- Yilmaz, K. (2013). Comparison of quantitative and qualitative research traditions: Epistemological, theoretical, and methodological differences. *European Journal of Education*, 48(2), 311-325.
- Yilmaz, K. (2013). Comparison of Quantity and Qualitative Research Traditions: epistemological, theoretical and methodological differences. *European Journal of Education*, 48(2), 312-325.
- Yin, R. K. (2015). *Qualitative Research fro Start to Finish* (2nd ed.). New York, London: The Guilford Press.
- Yin, Y., Zhang, X., Peng, D., & Li, X. (2009). Model validation and case research on internally cooled/heated dehumidifier/regenerator of liquid desiccant systems. *International journal of thermal sciences*, 48(8), 1664-1671.
- Zhao, H., Plaisant, C., Shneiderman, B., & Lazar, J. (2006). *Interactive Auditory Data Exploration: A Framework and Evaluation with Geo-referenced Data Sonification* (No. 2006-22). Tech Report HCIL-2006-22, Human-Computer Interaction Lab, University of Maryland, USA, <http://cgis.cs.umd.edu/localphp/hcil/tech-reports/search.php>.

APPENDICES

Appendix 1

INTERVIEW SCHEDULE FOR THE LECTURING STAFF

The below questions will only serve as a guideline in the interview process. Ultimately the responses of the participants and the researcher will serve to initiate additional questions, thereby enriching the quality of data obtained.

The researcher will greet the participants.

You have been invited to this interview because you indicate a willingness to follow up some of your responses to the questionnaire in an interview. I would like to remind you that all your responses will be treated with strict confidentiality. I would also like to remind you that your participation in this interview is voluntary, and you may decline to answer any questions that you do not wish to answer. The interview will be recorded and transcribed to help me with note-taking. Thank you for agreeing to participate. I have planned this interview to last no more than an hour. During this time, I would also like to explore some of the questions that were not answered fully in our first interview

Interview Questions

Questions to be asked during a one on one interview

- Do you teach visually impaired student in this Campus?
- If yes.....were you trained to teach students with such impairment?
- How are your lectures accommodating such students?
Motivate your answer
- If students have challenges with their visual impairment, how do you assist?
- Do you use different approaches?
- Kindly specify the different approaches you use to cater for students with visual impairment
- How are assessment approach adapted for these students?
- What training have you received regarding inclusive education while teaching students with visual impairment in this college?

- What college or DHET support have you received as a lecturer of students with visual impairment?
- What challenges do you face in your everyday teaching of visually impaired students?

Focus group interviews

- How is this college catering to visually impaired students?
- Please share your views about the needs of TVET College to enrol students with visual impairment.
- What advice would you give students with visually impaired who want to further their studies at a TVET College?
- Is there a college policy on inclusive education?
- If there is one, would you say the college is fully implemented it? why?
- I would like to ask you as a lecturer about students with visual impairment are affected by any policies of the college? think about the rules of the college.
- Are there any policies implemented by the college that you face are having a **negative impact** on student's studies? if **yes** please state how it impacts other student's studies.
- Are there any policies that you think are helping students to do well (having a **positive impact**) if **yes** mention those and comment on how to impacts student's studies?
- Can you think any ways in which policies can be improved to help students in their studies?
- Please share your views about approaches that are necessary for promoting more access with success for students with the usually "disability".

Appendix 2

Consent letter (Education of Higher Education and Training)



University of KwaZulu-Natal

Edgewood Campus

Private Bag X03

ASHWOOD

3605

15 July 2019

Department of Higher Education and Training

Umfolozi TVET College

Private Bag X 5023

Richards Bay

3900

Dear Mrs (ABC) College head

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT APPLE COLLEGE (PSEUDONAME) CAMPUS

I am a Master in Education student at the University of KwaZulu-Natal, Edgewood Campus, in the faculty of education. As part of the requirements for the degree of Master of Education, I am required to conduct a research and to interview lecturers on **Exploring lecturers in teaching visually impaired students in TVET College: A case research in one TVET College in KwaZulu Natal**. I humbly request permission to conduct research at Apple College (pseudonym) Campus under King Cetshwayo Districts.

The research aims to explore lecturers' experiences in teaching visually impaired students in TVET College. The planned research will focus on NC(V) and NATED lecturers. The research will use semi-structured interviews and classroom observations with language lecturers.

Participants will be interviewed for approximately 30 minutes at the times convenient to them which will not disturb teaching and learning. There will be an individual interview which will last for at least 45 minutes in October 2019. Each semi-structured interview will be voice-recorded. Certainly, the semi-structured interview process will not disrupt teaching and learning. It will be conducted when the participants are free or after college hours.

Supervisor contact details	UKZN Research Office	Researcher's/ Student's contact details
Dr B. Ndlovu Tel: 031 260 3670 (office) Email: ndlovubl@ukzn.ac.za	Mariette Snyman HSSREC-Ethics Tel: 031 260 8350	035 7965568 (work) Cell: 073 1416816, Email: 218068190@stu.ukzn.ac.za

Your positive response in this regard will be highly appreciated. Thanking you in advance.

Yours faithfully

Z.D Msimango

Appendix 3

Department of Higher Education and training letter



higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA



Let the future be known

15/07/2019

TO WHOM IT MAY CONCERN:

The purpose of this letter is to grant permission to **Msimango Zwethanda Derrick (218068190)**

As per the request to conduct the research project :

Research Project Title: Teaching visually impaired students:A case study in a Technical and Vocational Education and Training College in KwaZulu.

Aim of the Research:To explore the experiences of TVET College lecturers in teaching visually impaired students.

Tertiary Insitution : University of KwaZulu Natal

Faculty : Faculty of Humanities,Development and Social Sciences

Qualification: Masters of Education

Name of Supervisor : BN Ndlovu

Study Site Location: Umfolozzi TVET College (Esikhawini Campus)

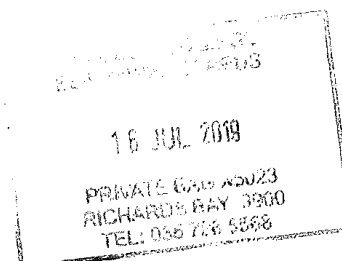
Consent of participants : All participants must be given consent forms to sign before the commencement of study.

Confidentiality : All participants must be guaranteed confidentiality

Permission granted by:

EPL du Toit

ACTING PRINCIPAL



Appendix 4

Consent letter (Campus Manager)



University of KwaZulu Natal

Edgewood Campus

Private Bag X03

ASHWOOD

3605

15 July 2019

Department of Higher Education and Training

Umfolozi TVET College

Private Bag X 5023

Richards Bay

3900

The Campus Manager

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT APPLE COLLEGE (PSEUDONAME) CAMPUS

I am a Master in Education student at the University of KwaZulu-Natal, Edgewood Campus, in the faculty of education. As part of the requirements for the degree of Master of Education, I am required to conduct research and to interview lecturers on **Exploring lecturers in teaching visually impaired students in TVET College: A case research in one TVET College in KwaZulu Natal (Apple College (pseudo-name) Campus)**. I humbly request permission to conduct research at Apple College (pseudo-name) Campus under King Cetshwayo Districts.

The research aims to explore lecturers' experiences in teaching visually impaired students in TVET College. The planned research will focus on NC(V) and NATED lecturers. The research will use semi-structured interviews and classroom observations with language lecturers.

Participants will be interviewed for approximately 30 minutes at the times convenient to them which will not disturb teaching and learning. There will be an individual interview which will last for at least 45 minutes in October 2019. Each semi-structured interview will be voice-recorded. Certainly, the semi-structured interview process will not disrupt teaching and learning. It will be conducted when the participants are free or after college hours.

Supervisor contact details	UKZN Research Office	Researcher's/ Student's contact details
Dr B. Ndlovu Tel: 031 260 3670 (office) Email: ndlovubl@ukzn.ac.za	Mariette Snyman HSSREC-Ethics Tel: 031 260 8350	035 7965568 (work), Cell: 073 1416816, Email 218068190@stu.ukzn.ac.za

Time table schedule

Visits	Activity	Dates	Type of activity
1 st visit	Introducing myself	02/09/2019	To introduce myself and also give the research participants letters to sign
2 nd visit	Semi-structured interviews	05/09/2019	
3 rd visit	Classroom observation/s	09/09/2019	Either structured / unstructured
4 th visit	Lecturers' documents e.g. lecturers' files, subject files, assessment files and IQMS file.	13/09/2019	Checking of TVET College and lecturers' documents.
5 th visit	Data confirmation	16/09/2019	To confirm the data generated and also make sure that what I have correlates with what they gave me.
6 th visit	Thesis delivery/ Thank you	15/10/2019	To thank the research participants and their contribution to this research

Your positive response in this regard will be highly appreciated. Thanking you in advance.

Yours faithfully

Z.D Msimango

CLASSROOM OBSERVATION SCHEDULE

CLASSROOM OBSERVATION SCHEDULE: 30 AUGUST TO 25 OCTOBER 2019

NO.	Pseudonym	Days	Duration	Time period	Researcher's comments
1	Mr Summer	5 days	01 week	1 hour/day	
NO.	Pseudonym	Days	Duration	Time period	Researcher's comments
2	Mr Autumn	5 days	01 week	1 hour/day	
NO.	Pseudonym	Days	Duration	Time period	Researcher's comments
3	Mr Winter	5 days	01 week	1 hour/day	
NO.	Pseudonym	Days	Duration	Time period	Researcher's comments
4	Mr Spring	5 days	01 week	1 hour/day	

Appendix 5

Consent letter (Participants)



University of KwaZulu-Natal
Edgewood Campus
Private Bag X03
ASHWOOD
3605
15 July 2019

Dear Sir/Madam

RE: REQUEST FOR YOUR PARTICIPATION IN MY RESEARCH

I am a Master in Education student at the University of KwaZulu-Natal, Edgewood Campus, in the faculty of education. As part of the requirements for the degree of Master of Education, I am required to conduct research and to interviewI humbly request you to participate in this research.

The research aims **to explore lecturers' experiences in teaching visually impaired students**. It is hoped that the insight gained *will assist lecturers in trying new ways of teaching. It will also help lecturers in planning according to their classrooms' abilities.*

If you agree to participate in this research, I will come and visit at a time convenient to you. I will visit you three times in August this year, 2019. Two of the visits will be informal interview sessions, of about thirty minutes to an hour each. Each interview will be voice-recorded and will be conducted when you are free. The third visit will be classroom observation.

Please note that you are free to withdraw your consent and discontinue participation at any time without penalty.

Supervisor contact details	UKZN Research Office	Researcher's/ Student's contact details
Dr B. Ndlovu Tel: +27 31 260 3670 (office) Email: ndlovubl@ukzn.ac.za	Mariette Snyman HSSREC-Ethics Tel: +27 31 260 8350	+27 35 7965568 (work) Cell: +27 73 1416816 Email: 218068190@stu.ukzn.ac.za

As an indication of your positive response to my request, please fill in the informed consent declaration attached to this letter.

I will greatly appreciate your help and I am looking forward to meeting you.

Yours Sincerely

.....

Z.D Msimango

INFORMED CONSENT DECLARATION

I, the participant I fully give consent to my participation in this research. I give consent to that the interview may be audio recorded and that I may be observed in class. I also understand that I am at liberty to withdraw my participation at any point without penalty.

Preferred method of contact (please circle):

home / cell / office phone / e-mail

Contact info:

(number)

(e-mail)

.....
Signature

.....
Date

FOCUS GROUP DISCUSSION CONSENT FORM

I.....have granted consent that the information I shared during the group discussion {focus group interview} may be used by the researcher **Zwethanda Derrick Msimango** for research purposes.

I am aware that the group discussion will be audio-recorded and I grant consent to ensure an accurate recording. I am also aware that excerpts from the interview may be included in publications to come from this research, with the understanding that the quotations will be anonymous

I was informed that I may withdraw my consent at any time without penalty by advising the researcher.

I am aware that I will not receive any remuneration for my participation.

Participant’s Name (staff) :.....

Participant’s SignatureDate.....

Researcher’s Name: Z.D Msimango

Researcher’s Signature.....Date.....

Appendix 6

Ethical clearance letter (University of KwaZulu Natal)



20 September 2019

Mr Zwetanda Derrick Msimango (218068190)
School Of Education
Edgewood Campus

Dear Mr Msimango,

Protocol reference number: HSSREC/00000367/2019

Project title: Teaching visually impaired students: A case study in a Technical and Vocational Education and Training College in KwaZulu Natal.

Full Approval – Expedited Application

This letter serves to notify you that your application received on 11 September 2019 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid for one year from 20 September 2019.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

Yours sincerely,

Dr Rosemary Sibanda (Chair)

/spm

Humanities & Social Sciences Research Ethics Committee
Dr Rosemary Sibanda (Chair)

UKZN Research Ethics Office Westville Campus, Govan Mbeki Building
Postal Address: Private Bag 254001, Durban 4000
Website: <http://research.ukzn.ac.za/Research-Ethics/>

Founding Campuses: ■ Edgewood ■ Howard College ■ Medical School ■ Pietermaritzburg ■ Westville

INSPIRING GREATNESS