INVESTIGATING THE PRACTICES OF INCLUSIVE EDUCATION IN PUBLIC TECHNICAL COLLEGES IN MALAWI: A CASE OF SOCHE TECHNICAL COLLEGE

MASTER OF TECHNICAL AND VOCATIONAL EDUCATION

KENNETH SCOTT PHIRI

UNIVERSITY OF MALAWI

THE POLYTECHNIC

APRIL, 2017

INVESTIGATING THE PRACTICES OF INCLUSIVE EDUCATION IN PUBLIC TECHNICAL COLLEGES IN MALAWI: A CASE OF SOCHE TECHNICAL COLLEGE

Kenneth Scott Phiri

(BSc. TED)

A dissertation submitted to the Faculty of Education and Media Studies, The Malawi Polytechnic, University of Malawi, in partial fulfilment of the requirements for the degree of Master of Technical and Vocational Education

April, 2017

DECLARATION

I, **Kenneth Scott Phiri,** declare that this thesis is my own original work. Where other sources of information have been used, they have been acknowledged. I hereby certify that this work has not been submitted before in part or full for any other degree or examination.

SIGNATURE :

DATE :

CERTIFICATE OF APPROVAL

We, the undersigned, certify that we have read and hereby recommend for acceptance by the University of Malawi a thesis entitled, '*Investigating the Practices of Inclusive Education in Public Technical Colleges in Malawi: A Case of Soche Technical College'.*

Dean - Postgraduate :

Signature :

Date :

Main Supervisor :

Signature :

Date :

Co-Supervisor :

Signature :

Date :

Head of Department :

Signature :

Date :

ACKNOWLEDGEMENTS

My sincere gratitude should go to my supervisors; Dr. L. Sankhulani and Dr. N. Kufaine for their guidance, support, constructive suggestions and valuable time given to me throughout the research project.

Special thanks should also go to Mr. C. Zidana, Mr. Ndalama, my wife and my colleagues for their support and encouragement in producing this dissertation.

DEDICATION

I dedicate this dissertation to the Almighty God for giving me the physical, financial and mental strength and capability to accomplish this research project.

ABSTRACT

This study investigated the practices of inclusive education in public technical colleges in Malawi. The study was undertaken at Soche Technical College as a case study. This study was conducted in order to evaluate how inclusive education has been practiced in public technical colleges. This study intends to extend our understanding of the practices and effectiveness of inclusive education in Malawi's public technical colleges. This study was based on feminist disability theory of universal design as a framework. The research design, methodology and the data collection instruments were structured according to this theoretical framework. A qualitative case study design was used. The research philosophy that informed this study was phenomenology. The target population was 71 which included both teachers and students with special needs. Purposive method of sampling was used to draw the sample. Data collection was through interviews, observations and focus group discussions. The meaning of the data was achieved by using thematic analysis. The findings of the study were examined and interpreted guided by the feminist disability theory of universal design framework. The study revealed that successful implementation of inclusive education at Soche Technical College is challenged by lack of adequate resources and facilities. This situation posed significant barriers to the effective practices of inclusive education at the college. Therefore the study suggests that before enrolling students with special needs in regular colleges; it is vital to ensure that they acquire all the necessary resources, support and services. Teachers also need to be provided with enough resources and support, as well as being equipped with relevant skills and knowledge for implementing inclusive education.

Keywords: inclusive education, public technical colleges in Malawi

TABLE OF CONTENTS

LIST OF TABLES

ABBREVIATIONS AND ACRONYMS

IE	Inclusive Education
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UN	United Nations
EFA	Education for All
MDGs	Millennium Development Goals
MGDS	Malawi Growth and Development Strategy
NESP	National Education Sector Plan
SEN	Special Education Needs
IEP	Individualised Educational Program
CBET	Competency Based Education and Training
TEVET	Technical, Entrepreneurial and Vocational Education and Training
TEVETA	Technical, Entrepreneurial and Vocational Education and Training Authority
MACOHA	Malawi Council for the Handicapped
MLYMD	Ministry of Labour, Youth and Manpower Development
NAD	Norwegian Association of Disabled
UDL	Universal Design for Learning
UDI	Universal Design of Instruction
UD	Universal Design
VI	Visual Impairment
HI	Hearing Impairment
LD	Learning Disability
STC	Soche Technical College
FDTUDE	Feminist Disability Theory of Universal Design in Education
FDTUD	Feminist Disability Theory of Universal Design
DS	Diversity Statement
T	Teacher
T1	Teacher number 1
T2	Teacher number 2
T3	Teacher number 3
T4	Teacher number 4

S Student

CHAPTER 1

INTRODUCTION

1.1 Background

The concept and practice of Inclusive Education (IE) has gained prominence in recent years. Globally, the term is increasingly understood more broadly as a reform that supports and welcomes diversity amongst all students (Sakiz & Woods, 2014; UNESCO, 2009a). IE is a process that involves the transformation of schools and other centres of learning to cater for all children - including boys and girls, learners from ethnic and linguistic minorities, rural populations, those affected by HIV and AIDS, and those with disabilities and difficulties in learning and to provide learning opportunities for all youth and adults as well (Miller, 2007; UNESCO, 2009a, 2014). The aim of IE is to eliminate exclusion that is a consequence of negative attitudes and a lack of response to diversity in race, economic status, social class, ethnicity, language, religion, gender, sexual orientation and ability (UNESCO, 2009a). This has resulted in widening access in education.

Kaur and Arora (2014) define IE as a process for increasing participation and reducing marginalization, in a way that successfully responds to the diverse needs of all students. This means adjusting the educational system to meet the needs of individuals rather than modifying the individual to fit the system. IE aims at ensuring the participation of all students in accessing quality education. IE is not only accommodating children in the regular or general school, rather it goes beyond that. Mitiku, Alemu, and Mengsitu (2014) asserted that it is a focus on creating surroundings responsive to the varying developmental capacities, desires and potentials of all youngsters. IE recognizes that all children have individual needs, and that teachers who are trained to facilitate an inclusive classroom can better meet the needs of all children (Mitiku et al., 2014; UNESCO, 2009a). IE is a major policy initiative designed to improve the educational opportunities of all children with disabilities (Ainscow, 2005a; Kamchedzera & Aubrey, 2010; Lindsay, 2007; UNESCO, 1994; United Nations, 2006). The principle of IE was first adopted at the Salamanca World Conference on Special Needs Education, and was restated at the Dakar World Education Forum (Save the Children, 2006; UNESCO, 1994, 2009a). The outcome of the conference meant that schools were supposed to accommodate all learners regardless of their intellectual, physical, emotional, linguistic, social or other conditions. This includes children from remote or nomadic populations, disabled and gifted children, children from linguistic, ethnic or cultural minorities, street and working children, and children from other disadvantaged or marginalised areas or groups (Miles, 2000; UNESCO, 2008).

The Salamanca statement argues that regular schools with an inclusive orientation are the most effective means of combating discriminatory attitudes, creating welcoming communities, building an inclusive society and achieving education for all (Ainscow, 2005b; Miles, 2000; UNESCO, 1994). Furthermore, the Salamanca statement suggests that such schools can provide an effective education for the majority of youngsters and improve the efficiency and ultimately the cost effectiveness of the whole education system (Ainscow, 2004, 2005b; Ainscow, Booth, & Dyson, 2006; Ainscow, Dyson, & Weiner, 2014; Instituto Universitario de Integración en la Comunidad, 2009; Miles, 2000; Peters, 2003). The Salamanca statement is supported by studies that have discovered that learners with special needs perform very well when they are included in general educational institutions. The largest study of educational outcomes of 11,000 learners with disabilities, the National Longitudinal Transition Study, revealed that when learners with special needs spent more time in a regular education classrooms they were more likely to score higher on standardized tests of reading and math; experience fewer referrals for disruptive behavior; have fewer absences from school; and achieve more positive post-school outcomes such as a high paying job, not living in segregated housing and having a broad and supportive social network (Wagner, Newman, Cameto, Levine, & Garza, 2006). These findings were true regardless of learners' disability, severity of special need, gender or socioeconomic status (Kaur & Arora, 2014; Wagner et al., 2006; Winzer & Mazurek, 2011). Some studies have revealed that implementing IE on a school wide basis enhances achievement for all learners. Just as important as academic outcomes are the attitudes and values that all students learn when they are educated together (Kaur & Arora, 2014). In addition, Metts (2000) cited a 1993 World Bank study of Special Education in Asia which concluded that firstly, there are personal, social and economic dividends to educating primary school aged children with special education needs (SEN) in mainstream schools; secondly, most SEN learners can be successfully and less expensively accommodated in integrated schools than in segregated institutional settings and; finally, the vast majority of children with special education needs can be cost-effectively accommodated in regular primary schools (Peters, 2003).

At the Dakar World Education Forum held in April 2000, the principle of IE was restated with the aim of achieving Education for All (EFA) (UNESCO, 2003, 2009a). The forum declared that EFA must take account of the needs of the poor and the most disadvantaged, including working children, remote rural dwellers and nomads, ethnic and linguistic minorities, children, young people and adults affected by conflict, HIV/AIDS, hunger and poor health; and those with special learning needs (Ainscow, 2016; Miles & Singal, 2010; Shaeffer, 2002; UNESCO, 2009a; World Education Forum, 2000). EFA also clearly identified IE as one of the key strategies to address issues of marginalization

and exclusion. The fundamental principle of EFA is that all children should have the opportunity to learn, while the fundamental principle of IE is that all children should have the opportunity to learn together (Peters, 2003).

The Convention on the Rights of Persons with Disabilities guaranteed IE as a right (United Nations, 2006). It calls on all State Parties to ensure an IE system at all levels. Although IE is a right, less than 5% of children with disabilities in most of the world finish primary schools (World Bank, 2003). This data reveals that there are some challenges affecting the implementation of IE.

Malawi follows international trends in accordance with the social rights discourse and favoured IE. The Malawi Growth and Development Strategy II (MGDS II) 2011-2016 outlined and accepted its responsibility to provide a supportive IE environment for all learners including all those with special needs (IMF, 2012). This policy is supported by other policies such as the National Education Sector Plan 2008-2017, the Technical, Entrepreneurial and Vocational Education and Training (TEVET) policy and the Policy Investment Framework (Ministry of Education and Vocational Training, 2008). One of the key priority areas in the National Educational Sector Plan, the TEVET Policy and the Policy Investment Framework is to widen access to education (Ministry of Education and Vocational Training, 2008). One way of widening access to education is through IE. The goal for IE is to widen access to education and to promote full participation and opportunities for all learners vulnerable to exclusion to realise their potential (European Agency for Development in Special Needs Education, 2011).

Malawi's adoption of the policy Education for All (EFA) also confirms that Malawi is committed to the provision of IE to all children irrespective of their gender, age, and the physical and mental ability. In addition, it emphasizes IE with particular focus on marginalized groups, more especially the girl child and children with special needs and those with disabilities. The Education for All programmes that the Malawi Government embarked on were in response to the recommendations made at both the Jomtien and Dakar global conferences on Education for All (Ministry of Education, 2004).

In addition, Malawi passed the Education Bill 2012. The Bill replaced the Education Act with new legislation which makes provision for accessible, quality and relevant IE (MOEST, 2012).

With the adoption of the various policies which support IE, regular schools and colleges in Malawi started enrolling all children regardless of their gender, age, and the physical and mental ability. The Malawi Government, in an effort to provide more opportunities for learners with disabilities to access regular schools and colleges, the following measures were put in place:

- To promote access by learners with disabilities to public universities, they were exempted from writing Public University Entrance Examinations. Their selection was based on the basis of six credits obtained at Malawi School Certificate Examinations level (O-levels).
- The introduction of compulsory modules on special needs education in the national teacher training curriculum.
- Enforcement of the policy on free primary education.
- Concerted efforts to train and deploy more specialist teachers.
- Establishment of an increased number of resource centers within regular schools and in some tertiary education institutions (104, 22 at primary school and secondary school level, respectively); and
- Establishment of a Special Needs Education Unit in the Ministry of Education, Science and Technology to coordinate and ensure that learners with disabilities access quality education. Now they have changed it to Inclusive Education unit to be in conformity with article 24 of the United Nations Convention on the rights of Persons with Disabilities (Kachaje, 2014).

Besides these measures, Malawi Government passed an education bill 2012, which makes the primary education free and compulsory. Section 13 of the education bill reads "The provision of primary education in Government schools shall be free of tuition to all and compulsory for every child below 18 years of age" (MOEST, 2012). This is another way of promoting IE in Malawi schools and colleges, whereby education is for all; irrespective of race, ethnicity, gender, religion, disability or any other discriminatory characteristics.

Malawi's adoption of the policies on IE shows that the country is committed to the provision of IE. However, the pressing concern of critics of IE lies with the fact that if not evaluated, coordinated, implemented and monitored effectively and judiciously, learners with special needs would still be exposed to a different and inferior education than their normal counterparts. The argument is supported by clause 1.4.3 of Education White Paper (EWP) 6, "Believing in, and supporting a policy of inclusive education are not enough to ensure that such a system will work in practice," (Department of Education, 2001). It can be contended that formulation of policies on IE alone as it

was done may not be adequate to judge its effectiveness. Further, since embracing IE in Malawi public technical colleges, there is little or no evidence of studies which investigated the effectiveness of IE, and the extent to which IE is being practiced. The need to establish the facts on IE motivated the researcher to conduct an investigation on the practices of IE in Malawi's public technical colleges.

1.2 Statement of the Problem

The Government of Malawi is committed to the provision of IE to all children irrespective of their gender, age, and the physical and mental ability. In addition, it emphasizes IE with particular focus to marginalized groups, particularly the girl child and children with special needs and those with disabilities (IMF, 2012; Ministry of Labour, 2013; MOEST, 2012). The commitment includes the formulation of policy documents which support IE, for example, the MGDS II. The MGDS II is supported by other policy documents such as National Education Sector Plan, the Education Bill 2012, the Malawi Education for All National Action Plan, the Policy Investment Framework and the Malawi TEVET policy. As well, the government is committed to the adoption of international conventions and declarations on IE, for example, the Education for All, the Salamanca Statement and Framework for Action on Special Needs Education, Convention on the Rights of Persons with Disabilities and the Millennium Development Goals (Chavuta, Phiri, Chiwaya, Sikero, & Alindiamao, 2008a; Chilemba, 2013; Kamchedzera, 2010). However, there seem to be little or no evidence of the effectiveness of policy and initiative implementation, and the extent to which Inclusive Education is practiced in public technical colleges (Kamchedzera, 2010). Technical and vocational education courses involve hands on activities and its teaching approach is Competence Based Education and Training (CBET) which requires a learner to get all things (both theory and practice) correct for him/her to proceed to the next level or module. However, the extent to how IE has been practiced with the CBET approach is not known. In fact, formulation of policies on Inclusive Education is not adequate to determine its effectiveness because learners with special needs would still be exposed to a different and substandard education than their normal colleagues in a regular school. In addition, Inclusive Education policy is regarded by many as a policy that seems to be good on paper but difficult to implement because of its principle (Ainscow, 2005b; Kafia, 2014; Peters, 2004).

The fundamental principle of the inclusive school is that all children should learn together, wherever possible regardless of any difficulties or differences they may have (Rajeshwari & Chander, 2014; UNESCO, 1994; Weber, 2012). Inclusive educational institutions must recognize and respond to the

diverse needs of their learners, accommodating both different styles and rates of learning and ensuring quality education to all through appropriate curricula, organizational arrangements, teaching strategies, resource use and partnerships with their communities (Peters, 2004). There should be a continuum of support and services to match the continuum of special needs encountered in every school (Peters, 2004; UNESCO, 1994). Inclusive Education involves changes and modifications in content, approaches, structures and strategies, with a common vision which covers all learners of the appropriate age range and a conviction that it is the responsibility of the regular system to educate all children (UNESCO, 1994). The IE being implemented may appear to be successful because all students are accepted in regular schools regardless of their capabilities, yet these students may be excluded in other activities in the schools. The awareness of the current situation prompted the need to conduct a study to investigate the practices of IE in Malawi's public technical colleges.

1.3 Purpose of the Study

The purpose of this study was to investigate the practices of IE in Malawi's public technical colleges. The study was meant to unveil the challenges in the implementation of IE in the technical colleges and also to establish the possible solutions to the challenges to ensure effective IE. The study further focused on the possible levers that could help to move the IE system forward.

1.4 Research Objectives

The general research objective of the study was to investigate the practices of IE in Malawi's public technical colleges. The secondary research objectives of this study included the following:

a) To examine the availability of resources for effective inclusive teaching and learning.
b) To examine the college environment for its support to the effective implementation of IE.
c) To examine instructor's skills and knowledge for the inclusive setting.

1.5 Significance of the Study

The study was important because it was meant to unravel the factors surrounding the implementation of IE in Malawi. Firstly, this study revealed the challenges affecting the implementation of IE in technical colleges and suggested measures to overcome the challenges. Secondly, the study provided a better understanding of the practices and effectiveness of IE in Malawi's public technical colleges. Thirdly, the results of this study uncovered the actual practices of how IE is being implemented in

public technical colleges. The results of the study also contributed to the limited existing literature on IE in the Malawian public technical colleges. Furthermore, the study is hoped to contribute to national and international debates on IE growing global literature on the implementation of effective inclusive education practices. The study is also hoped to make a significant contribution to an understanding of IE practices in Malawi's public technical colleges by identifying what needs to be done to ensure effective implementation of IE. Finally, this study opened up avenues for future research in the area of IE.

1.6 Limitations

Inclusion is becoming the ruling principle in the 21st century and the concept of IE is becoming the means to allow each and every child to be involved in the system of education regardless of differences in terms of disability, sex, religion, ethnicity and other (Mitiku et al., 2014). With this in mind, some respondents required services of an interpreter. The researcher involved an expert experienced in special needs to be his/her interpreter.

Although IE has gained importance and is being practiced in the field of education at all levels, the researcher had the view that most teachers (respondents) were unaware of the concept of IE. The lack of awareness might have had an impact on the information about the study area. To overcome this limitation, the researcher briefed the respondents on the concept of IE before engaging them. The other limitation was that the researcher is not a special needs educator and was likely to face some challenges during data collection. However, the researcher was helped by a special needs educator.

1.7 Definition of Terms

The following are definitions of key terms which were used in the study:

Students or learners with special needs: Refers to students or learners who experience conditions, barriers or factors that hinder their normal learning. Such conditions include physical disability, mental challenge, visual impairment, hearing impairment, speech and language problems and multiple handicaps, social, emotional and health difficulties.

Inclusive education: Refers to education that addresses the learner's needs within the regular school and advocates for all learners regardless of their physical disability, intellectual, social, emotional, linguistic disorders among other needs.

Inclusion: Refers to a philosophy of including learners with special needs in regular educational institutions.

Disability: Refers to any restriction or lack of ability to perform an activity in the manner within the range considered normal for human beings.

Special needs education: Refers to learning needs which may not ordinarily be met by the regular services of regular educational institutions.

Regular schools: These are educational institutions that normally admit learners without special needs.

1.8 Chapter Summary

This chapter contained the background of the study, the statement of the problem, the purpose of the study, the research objectives, the significance of the study and the limitations.

The related literature is presented in Chapter two starting with an introduction followed by the following themes: History of IE in Malawi's formal education, the theoretical framework, teacher education for inclusion, support services for IE, teaching and learning strategies for IE, Inclusive classroom environment, physical environment, teaching and learning resources for IE and summary of literature review.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

Inclusive Education is about equal opportunities for all learners, whatever their age, gender, ethnicity, attainment and background. IE involves focusing on the individual needs of learners and helping them to overcome any barriers that may prevent them from reaching their potential (Walker & Logan, 2009). This chapter presents a review of the literature on the research topic. The purpose of the review was to acquire relevant information that enables the successful implementation of IE. This information helped in investigating the practices of IE at Soche Technical College.

This chapter presents the following sections: the historical events that have led to the movement for Inclusive Education and practices in today's education system in Malawi, the theoretical framework to which the study is based, teacher education for inclusion, support services for IE, teaching and learning strategies for IE, Inclusive classroom environment, physical environment, teaching and learning resources for IE and summary of literature review. The researcher found abundant published information on the factors that have been shown to be highly pertinent for successful implementation of IE.

2.2 History of Inclusive Education in Malawi's Formal Education

Formal education in Malawi was introduced by the missionaries in the late 19th Century (Hauya, 1993). The main focus of education then was on reading, writing and arithmetic. However, special Needs Education (SNE) was not included in the inception of formal education in Malawi. Special Needs Education is the education for students with disabilities, in consideration of their individual educational needs, which aims at full development of their capabilities and at their independence and social participation (MEXT, 2014).

The delivery of SNE in Malawi began in the 1950s through the initiatives of the Evangelical Missionaries (Chavuta, Phiri, Chiwaya, Sikero, & Alindiamao, 2008b; Kamchedzera, 2008). Government initiatives in SNE came late, with the Ministry of Education (MoE) developing the first Education Plan (1972-1980) in 1972 (Kamchedzera, 2008, 2010). This plan emphasised quality in primary and secondary education and access, relevance and equity at the tertiary level (Ministry of Education, 1972).

Between 1980 and 1990, the government put much investment in new special schools to meet the needs of children and young people with learning and physical disabilities. The justification for these separate schools was that mainstream education was not able to provide these learners with the additional support and care required.

Since the beginning of the 21st century there has been a shift in thinking with many regular schools enrolling all learners regardless of their difficulties and special schools started enrolling learners without special needs. Advocates of this change cite that the social aspect of education is crucial to all learners and that a person's learning or physical difficulties are best met in an inclusive social environment, for example, an inclusive educational institution (International Labour Office, 2007). In addition, widening access to education through IE is part of the country's agenda.

Malawi has made promising start with IE in basic education, but the challenge is to extend IE to secondary education and tertiary education (Kamchedzera, 2010). In the past, public technical colleges had very few students with disabilities attending their training programmes. The past Technical Training Policy even barred people with physical disabilities from enrolling in certain courses like plumbing, carpentry and joinery (International Labour Office, 2007). Currently, public technical colleges are enrolling all learners regardless of their intellectual, social, emotional, physical, linguistic or other conditions. This shows that the public technical colleges are responding to the Malawi Growth and Development Strategy, the TEVET Policy and the National Education Sector Plan. The major policy document, namely, the Malawi Growth and Development Strategy II (MGDS II) 2011-2016 outlined and accepted the country's responsibility to provide a supportive IE environment for all learners including all those with special needs (IMF, 2012). This policy document is supported by other policies such as the TEVET policy, the National Education Sector Plan 2008-2017 and the Policy Investment Framework (Ministry of Education and Vocational Training, 2008). One of the key priority areas of the supporting policy documents is to widen access to education. One way of widening access to education is through IE.

In public technical colleges, IE started at Soche Technical College as a pilot project. The integration of persons with disabilities into mainstream technical colleges has been extended to the other six public technical colleges. Most students with special needs are enrolled at Soche Technical College. IE in public technical colleges is resulting in widened access to technical and vocational education for learners with special needs. However, no study has been conducted to explore the practices of IE

in public technical colleges. Literature on Malawi with regard to inclusive technical and vocational education is also sparse.

2.3 Theoretical Framework

This study was based on Feminist Disability Theory of Universal Design (FDTUD). Feminist disability theory of UD is a theory that believes in establishing, protecting, and advocating for equal opportunities for marginalized groups of individuals (DuPree, 2012; Hamraie, 2013). In the study, the marginalized group are the students with special needs. According to Feminist disability theory, disability is a product of the built and social environments, rather than a medical state that is intrinsic to the body of a given individual (Hamraie, 2013; Wendell, 1996), and this theory cite Universal Design (UD) to prove this. Universal Design is defined as the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaption or specialized design (Center for Universal Design, 1997). In education setting, UD means developing instruction, physical environment and student services to be accessible to and usable by learners across the broadest diversity ranges. This study adopted this theory because Inclusive Education aims at eliminating exclusion, widening access to education and improving the educational opportunities of all learners (Ainscow, 2005b; Lindsay, 2007; UNESCO, 1994; United Nations, 2006), through Universal Design in Education (UDE). The vital requirements for inclusive education are barrier-free learning environments. The principles of universal design in education help to remove barriers in the learning institutions and to ensure accessibility, usability and safety of learning institutions for all learners. Inclusive education facilitates the access, participation and success of all learners. UDE is an educational framework, based on research in the learning sciences, that guides the development of flexible learning environments which can accommodate individual learning differences (Rose & Meyer, 2002). Universal Design in Education acknowledges that students with special needs learn differently but these students are not less academically capable.

UDE applies the principles of Universal Design to the education setting as a means of increasing accessibility and enhancing inclusion, for example, modifying physical college environment to be accessible for all learners. The feminist disability theory of universal design applies the seven principles of Universal Design, developed by the Center for Universal Design. This study was based on five principles of the feminist disability theory of universal design which include: equitable use, flexibility in use, perceptible information, low physical effort, and size and space for approach and use.

Equitable use is the first principle of the feminist disability theory of universal design on which this study was based. This principle states that the designs should allow all users equal access and avoid segregating or stigmatizing anyone. An educational application of this principle is that students should have equitable educational experience, for example, instruction should be understandable and relevant to all learners and accessible to students with a diverse range of abilities; and information should be available in various formats at the same time, for instance, books should be available in print form and audio form (Bremer, Clapper, Hitchcock, Hall, & Kachgal, 2002; Burgstahler, 2012b; Conn-Powers, Cross, Traub, & Hutter-Pishgahi, 2006).

Flexibility in use is the second principle of the feminist disability theory of universal design on which this study was based. This principle states that the designs should accommodate a wide range of individual preferences and abilities. An educational application of this principle is providing flexible material and instruction to the students, for example, accommodating different learning styles, allowing learners to demonstrate knowledge through multiple means, using the equipment which accommodate the widest range of users, and using materials that are adapted to suit all learning paces (Bremer et al., 2002; Burgstahler, 2012b).

Perceptible information is the third principle of the feminist disability theory of universal design on which this study was based. This principle states that the designs should communicate necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities. Examples of educational applications to this principle include providing students with sensory impairments access to materials in alternative formats, for example, textbooks should be visual and auditory; and an emergency alarm system with visual, aural, and kinesthetic characteristics in a hostel (Bremer et al., 2002).

Low physical effort is the fourth principle of the feminist disability theory of universal design on which this study was based. This principle states that the designs should be used efficiently and comfortably and with a minimum of fatigue (Conn-Powers et al., 2006). An educational application of this principle is eliminating unnecessary physical effort in learning environments, for example, the equipment should be physically easy to operate; and the overall classroom environment should provide ease of access to curricular materials, promotes comfort, addresses motivation, and encourages student engagement (Bremer et al., 2002; Conn-Powers et al., 2006).

Size and space for approach and use is the last principle of the feminist disability theory of universal design on which this study was based. This principle meant that appropriate size and space should be provided for approach, reach, manipulation, and use regardless of the user's body size, posture or mobility (Bremer et al., 2002; Conn-Powers et al., 2006). An educational application of this principle is physical accessibility, for example, school and classroom environment that allows for varied student groupings; classroom space that encourages learning, classroom space that is arranged to accommodate assistive devices and personal assistance (Bremer et al., 2002; Conn-Powers et al., 2006).

The main categories of feminist disability theory of universal design in educational settings, that are relevant for the effective practices of inclusive education in colleges or other centres of learning, are the universal designs of physical environment, instruction and student services. Universal design of physical environment refers to designs that ensure that the physical environment of schools are welcoming, comfortable, accessible, attractive, and functional (Burgstahler, 2007b). Specific considerations are made for climate, entrances and routes of travel, furniture and fixtures, and safety. There are several examples of universal design of physical environment in colleges. One of the examples is that in a universally designed classroom, furniture is adjustable in height (or furniture is of different heights and sizes) and can be easily arranged for different learning activities and groupings (Burgstahler, 2012a). The second example of universal design of physical environment is facilities with clear directional signs in large, high-contrast print and in braille. The third example of UD of physical environment is wide and transparent doors, light doors, automatic doors and ramped entrances (Burgstahler, 2012a). Another example of UD of physical environment is the use of nonslip walking surfaces, having emergency systems been installed that incorporate audio and visual warnings, and having aisles that are wide and clear of obstructions for the safety of users who have mobility or visual impairments (Burgstahler, 2007b). This ensures safety of the physical environment.

Universal Design of Instruction (UDI) refers to the designing of instruction for potential learners who have broad ranges with respect to ability, disability, age, learning style, native language, race and ethnicity (Burgstahler, 2007a). UDI can be applied to all aspects of instruction, for example, classroom climate, interaction, physical environments and products, delivery methods and accommodation (Burgstahler, 2007a). On classroom climate, the instructors adopt practices that reflect high values with respect to both diversity and inclusiveness, for example, creating a welcoming environment for all learners, avoiding stereotyping, being approachable and available,

using teaching methods and materials that are motivating and relevant to learners with diverse characteristics, and avoiding segregating or stigmatizing any learner (Burgstahler, 2007a). On interaction, teachers encourage regular and effective interactions between learners and the teacher and ensure that communication methods are accessible to all learners, for example, employing interactive teaching techniques and encouraging inclusive cooperative learning (Burgstahler, 2007a). While on the physical environments and products, instructors ensure that facilities, activities, materials, and equipment are physically accessible to and usable by all learners, and that all potential learner characteristics are addressed in safety considerations, for example, classrooms, labs, workspaces and workshops are accessible to individuals with a wide range of physical abilities; ensuring that all learners can use equipment and materials; and ensuring safety for all learners (Burgstahler, 2007a). On delivery methods, teachers use multiple instructional methods that are accessible to all learners, for example, peer-mediated instruction, differentiated instruction and co-operative learning (Burgstahler, 2007a), while on accommodation, teachers plan for accommodations for learners whose needs are not fully met by the instructional design (Burgstahler, 2007a). The goal of UDI is to maximize the learning of students with special needs by applying UD principles to all aspects of instruction.

Universal design of student services refers to universal designs that are applied to student services to make them accessible to and usable by all students (Burgstahler, 2007c). Examples of student services that need universal design include computer labs, workshops, libraries, admissions, registration, advising, career services, tutoring and learning centers, and student organizations. If an educational institution has these services, the institution ensures that everyone who needs to use these services should be able to do so comfortably and efficiently (Burgstahler, 2007c). Burgstahler (2007c) asserted that institutions should make sure everyone feels welcome and can: get to the facility and maneuver within it, communicate effectively with support staff, access printed materials and electronic resources, and fully participate in events and other activities. This means that staff should be trained in how they can support students with special needs, for example, how to respond to requests from students with special needs and how to communicate with them.

2.4 Teacher Education for Inclusion

Lack of teacher education on inclusion has been identified as an obstacle to IE in learning institutions (Brown, Packer, & Passmore, 2013; Cologon, 2013; Hehir, 2002). Educator training for inclusion is directly associated to educator attitudes toward IE. Educators who receive training about IE have been found to have positive attitudes towards IE (Cologon, 2012, 2013). Given the

significance of attitudes for IE, training all instructors as inclusive educators is an essential goal (Bacon & Causton-Theoharis, 2012).

Educator training has been found to lead to more inclusive attitudes (Baglieri, 2008; Cagran & Schmidt, 2011; Cologon, 2013; Florian, 2010; Forlin, Cedillo, Romero-Contreras, Fletcher, & Hernández, 2010; Sharma, Forlin, & Loreman, 2008; Sharma, Moore, & Sonawane, 2009). More current studies have examined effective strategies for improving attitudes regarding and confidence in IE, through educator training.

From the research studies, it is clear that crucial elements of teacher training that create more positive attitudes and understanding of IE involve:

- Educator education that enables educators to develop knowledge of ableism, be aware of ableist values and practices as well as seek to abandon ableist attitudes (Beckett, 2009; Cologon, 2012, 2013; McLean, 2008).
- Encouragement to move beyond deficit thinking entrenched in the special education paradigm to an IE system that welcomes and celebrates diversity (Bacon & Causton-Theoharis, 2012; Baglieri, Bejoian, Broderick, Connor, & Valle, 2011; Cologon, 2013; Lalvani, 2013; Macartney & Morton, 2011).
- Learning about and developing understanding of IE (Breitenbach, Armstrong, & Bryson, 2013; Cologon, 2012, 2013; Hemmings & Woodcock, 2011).
- Building confidence for IE through reflective practice on advancing knowledge of modifying pedagogy and Universal Design for Learning (Cologon, 2012, 2013; Connor & Goldmansour, 2012; Florian, 2010; Kasa-Hendrickson & Kluth, 2005).
- Advancing an understanding of diversity as a resource instead of a problem and learning to embrace positive expectations of all youngsters (Biklen, 2000; Biklen & Burke, 2006; Cologon, 2012, 2013; Grenier, 2010; Kasa-Hendrickson & Kluth, 2005).
- Learning about available supports for facilitating IE (Avramidis & Norwich, 2002; Cologon, 2012; Koutrouba, Vamvakari, & Steliou, 2006; Sharma et al., 2008).
- Advancing an understanding of the importance of building relationships with youngsters with the aim of meeting individual needs (Cologon, 2012, 2013).
- Advancing an understanding of the significance of listening to individuals who experience disability (Biklen, 2000; Cologon, 2013; Connor & Goldmansour, 2012; Macartney & Morton, 2011).

- Establishing strategies for on-going collaboration with other educators (Broderick et al., 2012).

Bringing about IE requires providing education in disability studies and inclusion as an essential component of teacher education and on-going professional development for all teachers and all other professionals involved in supporting IE (Cologon, 2013). Teacher education on inclusion provides knowledge and skills for handling and supporting students with special needs in an inclusive classroom or environment, for example, how to identify students with learning disabilities and methods of teaching in an inclusive classroom, how to respond to requests from students with special needs and how to communicate effectively with students with special needs, how to make students with special needs to fully participate in learning and other educational activities, sign language and braille (Burgstahler, 2007c). The training of teachers for inclusion allows all learners equal access to education thereby enhancing inclusive education. Teachers should have the skills and knowledge required to provide quality education to students with diverse learning needs.

The issues raised on teacher education for inclusion acted as a springboard towards the achievement of the research objectives such as to assess instructor's skills and knowledge for the inclusive setting. The reviewed literature helped the researcher to work out how to answer the research objectives and to formulate the questions that were asked to the participants of the study during data collection. The identified issues on teacher education for inclusion raised the question of whether or not Soche Technical College is conceptualising and implementing IE in line with the basic philosophical ideas as well as research underpinning the concept. In other words, are the instructors implementing inclusion in any meaningful way to foster academic and social inclusion?

2.5 Support Services for Inclusive Education

Limited funding and resources, lack of support from specialist staff and education authorities, and insufficient professional development opportunities were identified as obstacles to implementing IE (Cologon, 2013; Department of Education Employment and Workplace Relations (DEEWR), 2012). These outcomes are consistent with study evidence suggesting that the majority of educators feel inadequately supported and under-resourced for IE (Curcic, 2009; Morris & Sharma, 2011). Educators' lack of knowledge, support and resources has effects on the implementation of the practices of IE in their schools and can also impact adversely on attitudes.

In an Australian research study with 20 learners with visual impairments in regular preschool and primary school settings, Brown et al. (2013) found that many teachers were conversant with the

approaches to adapt the curriculum to be inclusive (Cologon, 2013). Nevertheless, they lacked knowledge and support concerning organizing the environment and using visual aids. Furthermore, they lacked adequate resources and specialist support necessary for real inclusion. Limited training, along with insufficient specialist input, human resources, planning time and resources to assist staff, posed a serious challenge for educators to implement inclusion for learners with visual impairment (Brown et al., 2013; Cologon, 2013). Concerns reported by educators relating to IE include: big classroom sizes, absence of specialist support, insufficient time for planning and reflective practice, insufficient professional development and a lack of resources (Brown et al., 2013; Cologon, 2012; Hemmings & Woodcock, 2011). Lack of support and resources, as well as lack of planning time, lack of professional development by teachers, inadequate personnel, and insufficient materials create considerable obstacles to IE (Cologon, 2013; Frankel, Gold, & Ajodhia-Andrews, 2010; Jordan, Glenn, & McGhie-Richmond, 2010; Morris & Sharma, 2011; Petriwskyj, 2010a, 2010b; Theodorou & Nind, 2010). In addressing these obstacles, attention needs to be taken not to (re)create ableist approaches. An emphasis on resources without concern of the structure and culture within a setting may give rise to deficit-based thinking that weakens the very meaning of IE (Cologon, 2013; Purdue, 2009). Furthermore, lack of resources is frequently used as an excuse for not allowing students with special needs to participate or enrol. Providing support for educators is vital to facilitating inclusion, but the provision of support needs to be managed from an understanding of IE and an active desire to resist ableism (Cologon, 2013).

Educators and college administrators need support in order to make adaptations to the environment and resources as required for the involvement of individual students (Batu, 2010; Brown et al., 2013; Carlson, Hemmings, Wurf, & Reupert, 2012; Cologon, 2012, 2013). The adaptation involves a combination of materials and specialist support. Whereas specialist support must be effected cautiously in order to prevent creating micro-exclusion as debated earlier. Educators need to be supported to advance strategies for communication and involvement as needed, thus specialist educators and allied health professionals play an essential role in working together with learners, educators and parents to support inclusion.

Educators and other professionals often lack understanding about roles and responsibilities in the care and education of students with special needs (Cologon, 2013; Finke, McNaughton, & Drager, 2009; Mayer, 2009). Thorough consideration of and communication about the duties of different professionals is vital in order to prevent creating situations of micro-exclusion (Cologon, 2013; Finke et al., 2009; Mogharreban & Bruns, 2009).

Regular collaboration with all members of the educational team, as well as parents, and specialist support professionals is required (Cologon, 2013; Purdue, 2009; Trepanier-Street, 2010). The collaboration encompasses allied health professionals and specialist educators working with educators and parents, rather than with learners directly. Where applicable, this support may be offered in a push-in model of learning where a support personnel is directly involved in classroom practice, instead of a traditional pull-out model (Cologon, 2013). Seeking advice from students regarding the support service they need and how this is best effected is also vital within this process (Coates & Vickerman, 2010; Cologon, 2013; Macartney & Morton, 2011).

The issues highlighted on support services for inclusive education acted as a stepping-stone towards the achievement of the research objectives. The literature on support services for inclusive education assisted the researcher to work out how to respond the research objectives and to formulate the data collection instruments. Furthermore, the reviewed literature provided the general understanding which gave meaning to the discussion of findings, conclusions as well as the recommendations. The highlighted issues on support services for inclusive education raised the question of whether or not Soche Technical College is implementing IE in line with the basic philosophical ideas as well as research underpinning the concept. In other words, does the college collaborate with health authorities who organize periodic health examinations for students? Does the college receive support from specialist staff and education authorities? Does the college receive adequate funding and resources from government? Do instructors and the college administrator receive support from government and other institutions which deal with people with special needs? And does the college receive support from parents?

2.6 Teaching and Learning Strategies for Inclusive Education

This section discusses some of the teaching and learning strategies that have been shown to be highly pertinent for achieving quality IE. Teaching strategies that are available for the successful implementation of IE included the following: co-teaching, differentiated instruction and peer-mediated instruction and interventions (PMII). On the other hand, the learning strategies that are available for IE include collaborative learning and peer tutoring. These teaching strategies address the needs of leaners with a variety of backgrounds, learning styles and abilities.

2.6.1 Co –teaching

Co-teaching is a method of teaching where two or more people share responsibility for teaching some or all of the students assigned to a classroom (villa, Thousand, & Nevin, 2008). It involves the

distribution of responsibility among people for planning, instruction, and evaluation for a classroom of students (Villa et al., 2008). It is a creative way to connect with and support others to help all children learn. Although inclusion can take place with or without participation from a special education teacher, a co-teaching arrangement is typical (Solis, Vaughn, Swanson, & McCulley, 2012). By working together the general and special education teacher are better able to provide support for students with special needs than the former could do independently (Ford, 2013). In this case, the desire to remove students with special needs for specialized instruction is eliminated.
There are different models of co-teaching. Vaughn, Schumm, and Arguelles (1997) described five evidence-based models for co-teaching. These models are one teach, one assist; station teaching; parallel teaching; alternative teaching and team teaching.

- **One teach, one assist model**: In this model one educator is responsible for instructing all learners while the other provides additional support for those who need it. The advantage of using this model is that not only learners with special need benefit but all learners who need extra support are provided with extra instruction in an IE setting.
- **Station teaching model:** With this model, learners are divided into three groups. During a block period, each group works with one of the two teachers in addition to having an independent work time (Ford, 2013). All learners are able to benefit from this model by being able to receive small group instructions (Ford, 2013).
- **Parallel teaching model:** With this model educators are required to plan lessons together before splitting learners in two sets (Ford, 2013). The educators then teach the same lesson to these two small groups. In this model not only do learners get the benefits of working in small groups, educators also benefit by learning from each other's expertise (Ford, 2013).
- **Alternative teaching model:** With this model of co-teaching one educator is responsible for teaching and the other is responsible for pre-teaching and re-teaching concepts to learners who need additional support (Ford, 2013).
- **Team teaching model:** This is a co-teaching model where educators provide instruction together in the same classroom. Educators may take turns leading instruction or may model learner behavior while the other educator is teaching, for example, how to take notes or ask questions appropriately (Ford, 2013).

2.6.2 Differentiated Instruction

Differentiated instruction involves students with special needs, and others with diverse learning needs, being provided with instructional methods and resources that are matched to their individual needs (Scruggs, Mastropieri, & Marshak, 2012). The use of differentiated instruction requires general and special teachers to possess flexible instruction approaches, as well as, to be flexible in adjusting the curriculum based upon needs of the learner (Obiakor, Harris, Mutua, Rotatori, & Algozzine, 2012). Learners have different learning needs. Some are young, others are adult learners and they may have different learning styles, educational backgrounds and language abilities. Teachers should keep in mind that most people have one or more preferred styles of learning such as visual, reading, writing and kinesthetic. By incorporating a range of learning activities that use a variety of media, educators will be catering for different learning styles. Choice boosts motivation to learn, and freedom to negotiate and select methods of delivery adding to quality learning. Whatever activity or technique educators choose, they need clear goals that lead to meaningful learning. The starting point of differentiated instruction for the educator is to start by identifying their learners' readiness levels, interests, and preferred ways of learning in order to design learning objectives options to tap into these three factors (Corley, 2005; Simonnet & Modrick, 2010). Five guidelines for successfully differentiating instruction in inclusive classrooms that were provided by Tomlinson (2001) and Ford (2013) are:

- Clarify all key concepts and generalizations.
- Use assessment as an instruction tool to extend, not only measure, instruction.
- Make critical and creative thinking a goal of lesson design.
- Engage every learner in learning.
- Provide a balance of tasks between what is assigned by the educator and selected by the learner. (Ford, 2013; Tomlinson, 2001).

The benefit of differentiated instruction is being able to provide learning opportunities to all learners within an inclusive classroom (Ford, 2013). Regardless of this benefit, the practice is not without constraints. One constraint is that some learners may feel stigmatized as a result of receiving a perceived less challenging curriculum (Scruggs et al., 2012). However, this constraint can be addressed when educators provide effective differentiated instruction without appearing to single out any learner. Such a practice is consistent with the system of Universal Design for Learning (UDL). UDL is an educational framework, based on research in the learning sciences, that guides the development of flexible learning environments which can accommodate individual learning

differences (Rose & Meyer, 2002). Thompson, Johnstone, and Thurlow (2002, p. 1) defined UDL as the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. UDL was originated in the field of architecture and design, and the term universal design requires that the environment be organized to meet the needs of a wide spectrum of users (Hansen, 2013). The general premise is that if physical environments are designed to meet the needs of individuals with special needs, then they will be accessible and useful for the majority of people without further adaptation and without jeopardizing the integrity of the product (Burgstahler, 2009). UDL applies the principles of universal design to the education setting as a means of increasing accessibility and enhancing inclusion.

By addressing the limitation of differentiated instruction, the approach can be an effective method to include learners with special needs in inclusive classrooms. Barnum and Glass (2009) and Simonnet and Modrick (2010) outlined the following as some of the instructional strategies advocated for differentiated instruction:

- Temporary scaffolding.
- Tiering.
- Guided practice to independent practice.
- Multiple grouping strategies.
- Diagnostic and formative, ongoing assessment.

These instructional strategies provide learning opportunities to all learners by accommodating individual learning differences.

2.6.3 Peer-mediated Instruction and Interventions

Peer-mediated instruction and interventions **(**PMII) are a set of alternative teaching strategies that employ the use of learners as instructors for learners in their class (Ford, 2013). As a result, when PMII are used in teaching and learning the role of the educator changes from being the main provider of instruction to that of a facilitator of peer provided instruction. Peer provided instruction can be direct, for example, tutoring or indirect, for example, modelling and can focus on either academic or social-emotional development (Kalfus, 1984). Many instructional systems have been developed based on the principles of PMII. These include Class-wide Student Tutoring Teams (CSTT) (Maheady, Harper, & Mallette, 1991), Class-wide Peer Tutoring (CWPT) (Greenwood,

Delquadri, & Carta, 1999), and Peer-Assisted Learning Strategies (PALS) (Fuchs, Fuchs, & Mathes, 1996).

2.6.4 Cooperative Learning

Cooperative learning is one of the ideal ways to teach learners with diverse abilities in an inclusive classroom. Cooperative-learning instruction involves learners working together, assisting each other to learn (Sapon-Shevin, 2005). It occurs when learners work together in group conditions that meet five criteria: positive interdependence, individual accountability, face-to-face interaction, appropriate use of collaborative skills, and regular self-assessment of team functioning (Simonnet & Modrick, 2010).

One way of organising a classroom for cooperative learning is the Jigsaw. The jigsaw involves dividing the material to be learned into five or six parts and assigning learners to heterogeneous five or six member teams. Each learner is responsible for learning and then teaching his or her portion of the material to the whole team. Participants of different groups who have been assigned the same portion of material meet in expert groups to study and discuss their section (Aronson, 1978). In this approach, all learners must assist each other learn; no one can sit back without participating because each group member is responsible for all the material.

Another way for organizing the classroom for cooperative learning is called learning together. With learning together, the educator assigns heterogeneous groups of learners to produce a single product as a group (Johnson & Johnson, 1999). The educator arranges the classroom to facilitate peer interaction, provides necessary resources, constructs and explains the task so that it requires group collaboration, observes the learners' interactions, and intervenes as necessary (Johnson & Johnson, 1999). Learners might be placed with a partner, for example, and asked to do a complex calculation problem. Each fellow must be able to clarify the answer; they cannot just say, because Kenneth said the solution is 200. Therefore, higher level students must work with and teach lower level learners. Big groups, consisting of four or five learners, might be asked to produce a short episode with diverse group members assigned to the writing, directing, and acting; or the learners write a cooperative report. This method places considerable emphasis on teaching group members appropriate social skills to facilitate smooth interaction and cooperation.

For cooperative learning and peer tutoring to be effective, educators are supposed to teach learners social skills (Sapon-Shevin, 2005). Educators must provide direct instruction on ways to praise, offer

encouragement, and resolve conflicts. One way of imparting such skills is by engaging learners on a task of giving and receiving help. Learners can explore and practice ways of offering help, for example, saying "Can I help you?" rather than "Let me do that; you're too short-dumb-slow"; as well as ways of accepting and declining help gracefully, for example, saying "No thanks, I'm doing fine," rather than "What do you think I am, dumb or something?" (Sapon-Shevin, 2005).

The reviewed literature on teaching and learning strategies for IE helped the researcher to gather valuable data and ideas that guided the researcher in conducting the research. The literature assisted the researcher to achieve the research objective which aimed at assessing the instructor's skills and knowledge for the inclusive setting. The literature also helped the researcher to formulate appropriate data collection instruments. Furthermore, the reviewed literature provided the general understanding which gave meaning to the discussion of findings, conclusions as well as the recommendations. The highlighted issues on teaching and learning strategies for IE raised the question of whether or not the instructors at Soche Technical College apply the strategies that are available to support educating learners with special needs in inclusive classrooms. The other question raised by the literature was: Are teachers implementing IE in any meaningful way to foster academic and social inclusion?

2.7 Inclusive Classroom Environment

The form of classroom environment that an educator creates and encourages can either increase or decrease a learner's ability to learn and feel comfortable as a member of the class (Bucholz & Sheffler, 2009). The classroom environment should do more to foster cooperation and acceptance as the teaching strategies that the educator practices.

Educators have the task of creating a classroom environment that is conducive for assisting all learners work cooperatively in order to learn. As stated earlier, the classroom environment can either improve or slow down a learner's ability to learn and feel safe and comfortable as a member of the class. Classrooms that guarantee emotional well-being create an ideal atmosphere for both learning and emotional development. Studies in education supports creating an atmosphere of mutual respect, where learners feel relaxed in asking questions and expressing their thoughts and feelings (Stronge, 2002). Bucholz and Sheffler (2009) asserted that classroom design, classroom procedures and classroom strategies are some of the areas to be considered when establishing an atmosphere of mutual respect. Applying a few strategies that address these areas can help develop a strong sense of

community and encourage positive interactions and cooperative learning for learners with and without special needs.

2.7.1 Classroom Design

At the commencement of the school year educators need to organize, arrange, and decorate the classroom (Bucholz & Sheffler, 2009). The physical environment of a classroom plays a part in the ownership learners feel about their school and more specifically their class (Bucholz & Sheffler, 2009). Learners are sensitive to the atmosphere created in the classroom. The classrooms should be warm and inviting, and all areas of the classrooms should be accessible to all students.

The arrangement of furniture in the classroom is also important. There should be adequate space for all learners to move easily throughout the classroom. Educators should consider the use of universal design. Universal design in education is a set of principles that help in the process of designing the classroom environment and instruction so that they are contributing to the learning of all learners (Samuels, 2007). Educators should apply the strategy of universal design for learning to make sure that activities, resources, and equipment are physically accessible and usable by all learners. Educators should also increase safety measures to all learners.

2.7.2 Classroom Procedures

Setting classroom procedures is another way of creating an inclusive classroom environment. Conducting classroom meetings is an example of a classroom procedure. Educators can make their classrooms encouraging and supportive by teaching learners problem solving and conflict resolution skills in small groups and whole class meetings (Gartrell, 2006). Class meetings involve the educator assigning a designated time of the day when learners form a circle and work together to discuss and solve classroom issues and problems (Bucholz & Sheffler, 2009). Classroom meetings help to create a sense of belonging and trust for learners (Bucholz & Sheffler, 2009). Classroom meetings also encourage learners to work together to solve problems while practicing pro-social skills (Bucholz & Sheffler, 2009). Browning, Davis, and Resta (2000) used classroom meetings with learners to teach them positive forms of conflict resolution and decrease acts of verbal and physical aggression (Bucholz & Sheffler, 2009). Before the introduction of the class meeting, acts of aggression were rampant in this classroom. However, after the application of the classroom meeting aggressive behaviour was reduced (Bucholz & Sheffler, 2009).

There are different kinds of classroom meetings, the meetings include open-ended meetings, problem-solving meetings, and educational-diagnostic meetings (Bucholz & Sheffler, 2009). In an open-ended meeting the issue of discussion can be anything of interest to the class (Bucholz & Sheffler, 2009). In a problem-solving meeting all class members work together to solve a problem of concern to the class (Bucholz & Sheffler, 2009). The problem could be one that involves the entire class or a problem an individual learner is facing (Bucholz & Sheffler, 2009). The purpose of an educational-diagnostic meeting is to evaluate learners' background knowledge prior to introducing a new topic and assess the level of understanding learners have gained for a topic that has recently been taught (Bucholz & Sheffler, 2009; Lundeberg, Emmett, Osland, & Lindquist, 1997).

2.7.3 Classroom Strategies

Teachers also create an inclusive classroom environment by using appropriate classroom strategies. One of the classroom strategies that teachers can use is to equip learners with skills that can help them, especially those with special needs to advocate for themselves (Bucholz & Sheffler, 2009). Jones (2006) and Bucholz and Sheffler (2009) identified five steps to empower learners and assist them become self-advocate, and the steps are:

1) Encourage disability awareness and self-discovery. Help learners identify their areas of strength and areas of need (Bucholz & Sheffler, 2009; Jones, 2006).

2) Teach learners about special education services. Help them understand what services are available to them based on the needs identified in their individualised educational programme (Bucholz & Sheffler, 2009; Jones, 2006).

3) Teach learners to self-monitor their work. This allows them to see their own progress and identify areas they need to work on. This gives them ownership for making the steps necessary to meet their goals (Bucholz & Sheffler, 2009; Jones, 2006).

4) Prepare learners for participation. Learners need to be aware of what takes place in an individualised educational program (IEP) meeting so that they have the understanding to be an active participant (Bucholz & Sheffler, 2009).

5) Evaluate the effectiveness of their efforts. Instructors need to evaluate their own instruction of these steps to ensure that the learners are getting their best (Bucholz & Sheffler, 2009; Jones, 2006).

Self-Determined Learning Model of Instruction is a teaching model instructors can use to assist learners set educational and learning goals for themselves, formulate plans to reach those goals, and observe their advancement toward those same goals ((Agran, Blanchard, & Wehmeyer, 2000; Palmer & Wehmeyer, 2003) in Bucholz and Sheffler (2009)). This model of teaching can be used with learners with and without special needs and has been used fruitfully with adults as well as with learners as young as five (Agran et al., 2000; Palmer & Wehmeyer, 2003). There are three stages in the Self-Determined Learning Model of Instruction; each stage provides a problem for the learner to solve. Learners solve these problems by responding to four questions for each stage. Stage one call for the learner to identify a goal. Learners accomplish this by listing things they want to study, identifying their prerequisite knowledge about the topic, identifying what needs to be done to learn the information they do not know at present, and identifying measures to help them acquire this new information (Bucholz & Sheffler, 2009). The second stage calls for the learner to create a plan in order to achieve their identified goal. During this stage, learners respond to questions that help them to identify what they can do to acquire the new information, problems the learner might face in trying to meet the goal, and ways to overcome those problems (Bucholz & Sheffler, 2009). The third and final stage requires learners to self-evaluate their advancement on meeting their goal and make adjustments to their plan as necessary to be fruitful (Bucholz & Sheffler, 2009). Learners do this by responding to four questions that require them to reflect on the actions they took, the problems they overcame, and the information they learned (Bucholz & Sheffler, 2009). Learners finish this stage by evaluating whether or not they learned what they wanted to learn when they originally established the goal (Bucholz & Sheffler, 2009; Palmer & Wehmeyer, 2003).

The issues raised on inclusive classroom environment acted as a stepping-stone towards the achievement of the second research objective which aimed at examining the college environment for its support to the effective implementation of IE. The literature on inclusive classroom environment assisted the researcher to work out how to respond to the second research objective and to formulate the data collection instruments. Furthermore, the reviewed literature provided the general understanding which gave meaning to the discussion of findings and conclusions. The issues highlighted on inclusive classroom environment raised the question of whether or not Soche Technical College is implementing IE in line with the basic philosophical ideas as well as research underpinning the concept. In other words, do the teachers at Soche create classroom environments that are conducive for assisting all learners work cooperatively in order to learn? Do teachers create safe and comfortable classroom environments for all learners? Do teachers create warm and inviting classroom environments? Do classes at Soche Technical College have adequate space for all learners

to move easily throughout the classrooms? Do teachers at the college apply the strategies of universal design for learning to make sure that activities, resources, and equipment are physically accessible and usable by all learners? Do teachers teach learners problem solving and conflict resolution skills in small groups and whole class meetings? And do teachers equip learners with skills that can help them, especially those with special needs to advocate for themselves?

2.8 Physical Environment

An accessible physical environment is another major factor that ensures effective IE. The physical school environment should be accessible for all learners. A learner-friendly physical and psychological environment is a prerequisite for a successful educational experience by both normal and special needs children (Nwazuoke, 2004). The school entrances, reception area, corridors, fire strategies, entrances into buildings, doors, playground, toilets and signage are parts of the physical environment that should be accessible by all learners.

2.8.1 Entrance Accessibility

For an inclusive school where entrance is accessible:

- The path of travel is stable, firm, slip-resistant and at least 1 meter wide
- All ramps are higher than half a metre but not steep and have railings on both sides. The ramps are non-slip.
- If there are stairs at the main entrance, there should be a ramp, lift, or alternative accessible entrance. All inaccessible entrances should have signs indicating the location of an accessible entrance.
- The door handles should not be higher than 1.2 meters and should be operable with a closed fist. Doors should be opened without too much force, that is to say they should not be heavy. If the doors are heavy they should be opened and closed by automation. Furthermore, doors should be wide enough to allow students on wheelchairs to enter buildings. The doors should be transparent such that people on each side of the door, either standing or seated should see each other and be seen (Aderemi, 2010; Direct Access Consultancy; Pivik, McComas, & Laflamme, 2002).

2.8.2 Toilet Accessibility

The toilets for an inclusive school must be accessible to all learners. A school should have at least one toilet (one for each sex) which is fully accessible by all learners. There should be signs at inaccessible toilets that give directions to accessible ones. The toilets should have tactile signage identifying toilets. The doors of the toilets should be equipped with accessible handles (operable with a closed fist) which are 1.2 meters high or less. Toilets should have grab rails to assist people with ambulant disabilities to manoeuvre. Besides this, the compartments for toilets should be large enough to allow manoeuvring into position for frontal, lateral, angled and backward transfer unassisted. The entry configuration of the toilets should provide adequate maneuvering space for a person using a wheelchair. The floor surfaces of the toilets should be slip-resistant. Soap and other dispensers and hand dryer, sinks should be 1.2 meters high or less and usable with one closed fist (Aderemi, 2010; Direct Access Consultancy; Pivik et al., 2002).

2.8.3 Changing and Shower Accessibility

Changing and shower rooms should be accessible by learners on wheelchairs. The shower control should be easy to operate by all learners. Changing and shower rooms should have grab rails to assist people with ambulant disabilities to manoeuvre. The floor surfaces of the changing and shower rooms should be slip-resistant.

2.8.4 Signage

All signage should be 1.5 meters above the ground. Signs on doors should be on the same side as the door knob. Signage should be well lit, using uniform lighting (not spotlights), with illumination coming from behind or beside the text or sign; and should be in clear contrasting colours for example black and white. Signage should also be in Braille (Aderemi, 2010; Direct Access Consultancy; Pivik et al., 2002).

2.8.5 Service Area Accessibility

The service area ought to be accessible. For the service area to be accessible, signs designating permanent rooms and spaces, such as rest room signs, exit signs, and room numbers should comply with the appropriate requirements for accessible signage; the aisles between chairs or tables should be at least 1 meter wide; the spaces for wheelchair seating should be distributed throughout; the tops of tables or counters should be between 0.7 and 1 meter high; the ramps should be at all levels; and stairs should have continuous rails on both sides, with extensions beyond the top and bottom stairs (Direct Access Consultancy). All the key facilities within the school should be accessible for all

users, for example, playground, main hall, music room, computer labs and changing rooms (Aderemi, 2010; Direct Access Consultancy; Pivik et al., 2002).

The issues raised on the physical environment acted as a springboard towards the achievement of the second research objective which aimed at examining the college environment for its support to the effective implementation of IE. The reviewed literature on physical environment assisted the researcher to work out how to respond to the second research objective and to formulate the data collection instruments. In addition, the reviewed literature provided the general understanding which gave meaning to the discussion of findings, conclusions as well as the recommendations. The issues stressed on the physical environment raised the question of whether or not Soche Technical College is implementing IE in line with the basic philosophical ideas as well as research underpinning the concept. In other words, is the physical college environment for Soche Technical accessible to all learners? Are all entrances into buildings accessible to all learners? Are the toilets accessible to all learners? Are the changing and shower rooms accessible to all learners? And are the service areas accessible to all learners?

2.9 Teaching and Learning Resources for Inclusive Education

Availability of adequate teaching and learning resources is another vital factor that ensures effective IE. Students with specific special needs require some specialized educational resources at individual and college level. Students with visual impairment require white canes and Braille at individual level, while at college level they require Braille machines, Braille kit, Braille papers, adapted computers, tactile diagrams and maps, adapted desks and chairs (Cavanaugh; Department of Basic Education, 2010; Ehrlich & Carlson, 2005; Moraa, 2013; Wachira, 2012). Students with low vision need eyeglasses, magnifying glasses and large print reading materials (Cavanaugh; Department of Basic Education, 2010; Wachira, 2012). Students with hearing impairment need personal hearing aids and batteries, speech training units, auditory training, sign language dictionaries and books (Cavanaugh; Department of Basic Education, 2010; Ehrlich & Carlson, 2005; Wachira, 2012).

Students with physical disabilities need resources like adapted seats, therapy equipment, sports and recreational facilities, wheelchairs, crutches, adapted functional aids like pens cutlery and computers (Cavanaugh; Department of Basic Education, 2010; Moraa, 2013; Wachira, 2012). Students with mental handicaps need functional aids and real objects as learning materials. These include recreational and vocational training equipment, sports and recreational therapy equipment, physiotherapy and occupational therapy equipment, music and art therapy equipment, visual auditory

tactile and functional training materials (Kirk & Anastasiow, 2003; Moraa, 2013; Wachira, 2012). Students with learning disabilities require symbol based software, text to speech, word prediction and word banks, phonetic spell checkers, speech recognition, digital voice recorders and electronic memory aids (British Assistive Technology Association, 2011; Cavanaugh). All teaching and learning resources for different special needs should be available and sufficient in inclusive technical colleges. UNESCO (2009a) and Kenyan Republic (1999) asserted that the quality and adequacy of teaching and resources have a direct impact on the effectiveness of the practices of IE, as they determine how effectively inclusive education is implemented. Students with special needs in an inclusive school often need the highlighted specialized aids in order to move about, to read and write as well as to hear. Inadequate teaching and learning resources as well as lack of relevant teaching and learning resources are some of the major obstacles to the implementation of inclusive education in developing countries (Charema & Peresuh, 1996).

The issues highlighted on the teaching and learning resources for inclusive education acted as a stepping-stone towards the achievement of the first research objective which aimed at assessing the availability of resources for effective inclusive teaching and learning. The reviewed literature on the teaching and learning resources for inclusive education assisted the researcher to work out how to respond to the first research objective and to formulate the data collection instruments. In addition, the reviewed literature provided the general understanding which gave meaning to the discussion of findings, conclusions as well as the recommendations. The issues stressed on the teaching and learning resources for inclusive education raised the question of whether or not Soche Technical College is implementing IE in line with the basic philosophical ideas as well as research underpinning the concept. In other words, does the college have adequate teaching and learning resources for inclusive education?

2.10 Chapter Summary

The literature review revealed the aspects that enable the successful implementation of the practices of IE in schools and colleges. According to the literature reviewed, advancing toward successful practices of IE requires that all educators and other players involved in this process acquire the essential skills and competencies to perform their roles better. For the educators, this means access to thorough pre-service and ongoing in-service training to develop the essential skills of adapting curricula, using a variety of instructional approaches, identifying individual needs, collaborating and solving problems, developing individualized education plans, and monitoring student progress (Porter, 1999; Simonnet & Modrick, 2010).

An accessible physical environment also ensures effective IE practice. Successful IE practice requires that the physical school environment should be accessible for all learners. In addition, the college should have adequate teaching and learning resources suitable for all learners, and the teachers should be adequately supported. The concept of IE ensures that all schools and other centers of learning are free from barriers to all students.

The information obtained from the literature review helped in determining the appropriate type of data collection instruments used. The literature review also helped in developing data collection instruments. In addition, the literature informed the methodology used in investigating the practices of IE at Soche Technical College. The issues identified in the reviewed literature raised the question of whether or not Soche Technical College is conceptualising and implementing IE in line with the basic philosophical ideas as well as research underpinning the concept. That is to say, is Soche Technical College restructured, reoriented as well as re-organised to create college norms or environment conducive for IE? And are instructors implementing inclusion in any meaningful way to foster academic and social inclusion? This image of inclusive education at Soche Technical College created a need for investigating the practices of inclusive education.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The study investigated the practices of Inclusive Education in Malawi public technical colleges. The results of the study revealed how IE was being practiced and why it was being practiced in such a way. The study focused on the following areas:

- Availability of resources for effective inclusive teaching and learning.
- College environments for its support to effective implementation of IE.
- Instructors' skills and knowledge for IE.

This chapter presents the methodology that was used for the exploration of these areas. This chapter therefore, describes the research design, population, sampling, data collection techniques, data analysis and interpretation, issues of validity and reliability and ethical considerations of the study.

3.2 Research Design

The study used a qualitative research methodology. A qualitative research methodology primarily relies on the collection of qualitative data which is nonnumerical data, such as words and pictures (Christensen & Johnson, 2012). Qualitative research traditions are investigations of lived experiences of the participants in their naturally occurring environments (McMillan & Schumacher, 2014; Mukhopadhyay, Johnson, & Abosi, 2012). Using this methodology enabled the researcher to examine the perspectives of participants as well as to explore their experiences in the settings in which they occurred.

This research methodology was adopted because little was known about how IE was practiced in public technical colleges in Malawi and the researcher wanted to gain insights into the practice and process of IE. Qualitative research methodology was also used because the researcher wanted to understand people's experiences and to express their perspectives. Christensen and Johnson (2012) asserted that qualitative research is used when little is known about a topic or phenomenon and when one wants to discover and learn more about it. Qualitative research methodology is commonly used to understand the people's experiences and to express their perspectives.

A qualitative research methodology was selected to gain a deeper understanding of the practice of IE in public technical colleges in order to verify if it was being implemented as it was supposed to be.

The study used a case study design. A case study design is a research design that facilitates exploration of a phenomenon within its context using a variety of data sources (Baxter & Jack, 2008). This ensures that the issue is not explored through single lens, but rather a wide range of lenses, which allows for multiple facets of the phenomenon to be revealed and understood. A case study design was chosen because not much was known about an issue or phenomenon, which was the practices of IE in technical colleges. The case was to investigate the practices of IE at Soche Technical College, but the case could not be considered without the context, Soche Technical College, and more specifically the college and classroom settings. It was in these settings that the practice and process of IE were taking place. It was impossible for this study to have a true picture of practices of IE without considering the context within which it occurs. A case study design is considered when: (a) the focus of the study is to answer "how" and "why" questions; (b) the researcher cannot manipulate the behaviour of those involved in the study; (c) the researcher wants to cover contextual conditions because the researcher believes they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context (Yin, 2003).

A single-case study design was used to gain insights into the practice and process of IE. It was a single case study design because the practice and process of IE was investigated in one environment, which is Soche Technical College (Yin, 2003). The case study was single and exploratory. Exploratory case study is used to explore those situations in which the intervention being evaluated has no clear, single set of outcomes (Yin, 2003).

The research philosophy that informed this study was phenomenology. Phenomenology is the study of people's perceptions, perspectives and understandings of a particular situation or phenomenon (Offredy & Vickers, 2010). The phenomena is the concept being studied, and in this case it is the practice of inclusive education at Soche Technical College. This research philosophy aims at clarifying individuals' situations in everyday life (Giorgi & Giorgi, 2003; Mukhopadhyay et al., 2012). In this research, the specific aspects of daily life that were of significance to the researcher were the processes and practices of IE in Malawi public technical colleges. This study is phenomenological because it focused on the experiences of humans, that is, teachers and learners in inclusive education. Phenomenological studies focus on human experiences and the ways in which

things present themselves in and through experience (Sokolowski, 2000). This study understood and interpreted the meanings of experiences of teachers and learners in inclusive education.

3.3 Population

The target population was 71. The population comprised of 30 instructors, 40 students with special needs and the principal from Soche Technical College. There are 7 public technical colleges in Malawi. The institution was selected through purposive sampling. Purposive sampling is a type of sampling where the researcher specifies the characteristics of the population and locates individuals with those characteristics (Christensen & Johnson, 2012). Soche Technical College was selected because it had a lot of students with various special needs.

3.4 Sampling

Sampling is defined as a process of selecting the appropriate number of participants from a defined population (Christensen & Johnson, 2012). There were 21 participants for this study. The participants consisted of the principal of the college, 12 students with various special needs and 8 instructors who were teaching inclusive classes.

The sample for instructors was drawn using purposive sampling. This type of sampling was used because it allows choosing small groups or individuals who are likely to be knowledgeable and informative about the phenomenon of interest (McMillan & Schumacher, 2014). The researcher requested the college principal to submit a database for the instructors. The information that was required on the database were the names of teachers, whether the teacher was teaching inclusive classes or not, their qualifications, their work experience and the subjects that they were teaching. The researcher selected 8 participants based on their trade, work experience and if they were teaching inclusive classes.

The sample for students was also drawn using purposive sampling. The researcher requested the college principal to submit a database for the students. The information that was required on the database for students were the names of students, the special need that a student had, trade of a student and the period that a student had stayed at the college. Then the researcher selected 12 students with special needs based on categories of special needs, type of trades and the longest period that a student had stayed at the college.

3.5 Data Collection Techniques

Data for this study was collected using interviews, observation, and focus group discussion. The instruments for the collection of data were developed by following all the guidelines on construction of data collection instruments, such that there was a high rate of response.

3.5.1 Interviews

Interviews were conducted with the principal and individual teachers. Interviews were used because it obtains in-depth information about a participant's thoughts, beliefs, knowledge, reasoning, motivations and feelings about the research topic (Christensen & Johnson, 2012). A standardized open-ended interview was used as attached in appendix 5 and 6. A standardized open-ended interview is a type of interview which consists of a set of open-ended questions that are asked in a specific order and exactly as worded (McMillan & Schumacher, 2014). The questions for the interview were well written and the researcher was reading the questions exactly as written and in the same order to all the interviewees. The interviews were recorded and later transcribed. The interviews took place in one of the offices at Soche Technical College. Each interview took about 30 minutes. The researcher faced some challenges during interviews. One of the challenges faced by the researcher was that some respondents were unaware of other concepts of IE. To overcome this challenge, the researcher briefed the respondents on those concepts before and during the interviews. The other challenge faced by the researcher was researcher fatigue. This challenge was overcame by limiting the number of interviews conducted in one day and taking 30-60 minutes breaks between interviews.

3.5.2 Observation

Observation is another method that was used to collect data for this study. Observation is defined as the watching of behavioural patterns of people in certain situations to obtain information about the phenomenon of interest (Christensen & Johnson, 2014). Observation was used to collect data because it was hoped that it will uncover the actual practices of IE in technical colleges. Observation collects truthful information about people because people do not always do what they say they do. A non-participant classroom observation was undertaken to gain insights into the practice of IE. The researcher did not participate in class tasks, offer proposals about how to provide training or interact with students. This form of observation allowed the researcher to closely document the classroom practices. If the researcher had chosen to interact with the students or teachers during observation, it could have affected their decisions with text and influenced the validity and reliability of the study (Hall, 2007). The researcher observed ten classrooms and each observation took 2 hours. The ten

classrooms observed were all different and with ten different instructors. The researcher took reflexive field notes using an observation schedule/checklist to record, for example, interactions between instructors and learners, and interaction among learners, pedagogical practice, classroom accommodation, lesson content, teaching and learning materials that were used, language of instruction and classroom management strategies.

3.5.3 Post Observation Interview

Data for this study was also collected using post observation interviews. After each classroom observation, the researcher had informal follow up conversations with instructors about the classroom instruction for clarification. This approach enabled the researcher to collect comprehensive and accurate data to understand the principles and practice of IE at Soche Technical College. The follow up conversations with instructors were recorded using a phone.

3.5.4 Infrastructure Audit

The researcher audited infrastructure facilities such as buildings, toilets, sports and recreation facilities at the college. This data collection strategy assisted the researcher to find out the kinds of provisions that were in place to increase access and participation of students with special needs (Mukhopadhyay, 2013; Mukhopadhyay et al., 2012). Furthermore, the researcher took snapshots of different facilities and activities at the college and reviewed documents, referral notes, curriculum, Individualised Educational Program (IEP) and assessment reports (medical and psycho-educational) to gather information about the practice of IE at Soche Technical College (Mukhopadhyay, 2013; Mukhopadhyay et al., 2012).

3.5.5 Focus Group Discussion

Focus group discussion was conducted with 12 students. A focus group discussion is a type of group interview in which a moderator (working for the researcher) leads a discussion with a small group of individuals to examine in detail how the group members think and feel about a topic (Christensen & Johnson, 2012). The researcher generated group discussion through the use of open ended questions. There was no moderator. The researcher personally moderated the focus group discussion. One focus group discussion comprising of 12 students was conducted. The focus group discussion took 30 minutes. A focus group interview protocol was used. The interview protocol is basically an interview guide. The focus group discussion was recorded using a phone. Focus group strategy was chosen because it is considered very effective for eliciting perceptions, feelings, attitudes and ideas on a topic relevant to the group's experience (Vaughn, Shay, Schumm, & Sinagub, 1996). The challenge

faced by the researcher during the focus group discussion was that some respondents required the services of an interpreter. To overcome this challenge, the researcher involved an expert experienced in special needs to be his or her interpreter. The researcher had in mind that with the nature of the study, the services of an interpreter would be required by some respondents. The other challenge faced by the researcher was that some respondents were unaware of other concepts of IE. To overcome this challenge, the researcher briefed the respondents on those concepts before and during the focus group discussion.

3.6 Data Analysis and Interpretation

The interviews and the focus group discussions were transcribed verbatim. All the data collected from interviews and the focus group discussions were transcribed. The files of the recorded interviews and focus group discussions were transferred from the phone into the computer. The file formats were converted into MP3 formats on the computer. The researcher opened an MS Word document and saved it. The researcher made sure that his headphones were plugged in to the computer and ready to listen to the recording and type. Then the researcher played the recording of the research interview first. The researcher begun typing the moment the recording started playing. The researcher typed as much as he could comprehend but pressed pause at short intervals because speech is faster than writing, so the researcher would miss a lot of content if the recording just kept on playing. Then the researcher was pausing and rewinding to where he was left off. "Pause" and "restart" was the habit for the researcher as a transcriber. During the transcription process, the researcher made sure to abbreviate respondents' names, for example, T1 for teacher number 1 and I for interviewer. This enabled the speeches of the interviewer and interviewee to be clearly distinguished. Space was inserted whenever there was change in the speaker, with the name initials of the speaker appearing, in bold, ahead of the passage. When the researcher was done with the initial draft of the transcription, the editing process begun where the researcher listened to the interview again and made the required changes and corrections when the researcher spotted anomalies between the recording and what the researcher had written. Focus group discussion were also transcribed using the same procedure. The six basic stages of thematic analysis framed by Braun and Clarke (2006) were applied. These stages in their order are: data familiarisation, generation of initial codes, searching for themes, reviewing themes, defining and naming themes, and report production. During this process the objectives of the study were used to guide the organisation and interpretation of data. The data that was obtained from the multimethods strategies of data collection was triangulated to come up with the common theme. Triangulation involves the use of multiple and different sources, methods, investigators, and theories to shed light on a theme or perspective

(Creswell, 1998, p. 202). Focus group discussions were triangulated with document analysis, interviews, classroom observations and access-audit to get an insight about the college and classroom practices.

Triangulation refers to using multiple data sources in an investigation to produce understanding (Cohen & Crabtree, 2006). Triangulation was used because it gives a more detailed and balanced picture of the situation (Altrichter, Posch, & Somekh, 1996). In addition, it assures the validity and credibility of the research findings through the use of a variety of methods to collect data on the same topic. The type of triangulation that was used is data triangulation. Data triangulation involves using different sources of information (Ismail, 2013).

3.7 Issues of Credibility, Dependability and Transferability

The study complied with the research requirements concerning credibility, dependability and transferability to ensure trustworthiness and validity of the results of the study.

3.7.1 Credibility

Credibility refers to the extent to which the research approach and findings remain in sync with generally accepted natural laws and phenomenon, standards, and observations (Merriam, 1998). To ensure credibility of the research findings, several techniques were used. The first technique for ensuring credibility was piloting the data collection instruments. The data collection instruments were piloted at one of the public technical colleges which was not participating in the study. After piloting, the data collection instruments were modified. The instruments were examined for suitability, clarity and relevance for the study purpose during piloting. The other technique that the researcher used to ensure credibility was that the researcher collected data through classroom observation over an extended time period. The long period of time ensured an in-depth understanding of the phenomenon.

The researcher also ensured credibility of research findings by triangulation. Triangulation means using more than one method to collect data on the same topic. The researcher used several methods of collecting data such as interviews, classroom observation, focus groups, access audit and document analysis to cross-check information. When the different procedures or sources were in agreement, the researcher had corroboration (validation).

Credibility was also ensured by using low-inference descriptors. Low-inference descriptors are descriptions that are phrased very similarly to the participants' accounts and the researchers' field notes (Christensen & Johnson, 2012). Verbatim such as direct quotations were used.

3.7.2 Dependability

Dependability is an evaluation of the quality of the integrated processes of data collection, data analysis and theory generation (Merriam, 1998). It is a technique qualitative researchers use to show consistency of findings. Triangulation was used to ensure dependability of the research findings. Triangulation made sure that the weak points of one method to data collection were compensated by the use of alternate data-gathering approaches, for example, classroom observations, interviews, access audit and focus groups. Therefore, triangulation cross-validated the data.

3.7.3 Transferability

Transferability is the extent to which the results of the study apply to other contexts or settings (Slevin, 2002). Transferability was enhanced by providing thick description, that is, giving enough detail so that the readers can decide for themselves if the findings are transferable to their own contexts. The researcher provided a detailed description of the study's site, participants as well as procedures used to collect data in order for other researchers to assess whether or not to apply the results of this research to their contexts or setting. Transferability is the responsibility of the researcher seeking to apply the findings of the research to a new context (Marshall & Rossman, 1989). In this case, the responsibility of the researcher ends in providing sufficient descriptive data to make such similarity judgments possible (Davis, 1992).

3.8 Ethical Considerations

For every research that involves human participants, ethical considerations need to be ensured. The purpose of ethical research planning is to protect the welfare and the rights of research participants (Kimmel, 1996). The research ethical guidelines that was used in this study were: full disclosure, informed consent, voluntary participation and privacy (McMillan & Schumacher, 2014).

3.8.1 Full disclosure

To ensure full disclosure, the researcher was open and honest with participants about all aspects of the study. This involved a full disclosure of the purpose of the research.

3.8.2 Informed Consent

The researcher sought an informed consent from all the participants, that is, the college principal, educators, and the students. The researcher also sought an informed consent from the principal for Soche Technical College to allow the study to take place at the institution. Informed consent was sought by providing participants with an explanation of the research and an opportunity to withdraw from the study at any time. Consent was obtained by asking participants to sign a form that indicates an understanding of the research and consent to participate. Informed consent implies that the participants have a choice about whether to participate in the study or not. The information that was included in a consent form of this study is: purpose of the study, a description of the procedures and the length of the time needed, a description of the benefits of the research, a statement of the extent of confidentiality, names of people who may be contacted about the study, and a statement that participation is voluntary and participants can refuse to participate at any time without penalty (Christensen & Johnson, 2008).

3.8.3 Voluntary Participation

The participants were participating in this study voluntarily. The researcher was not forcing any person to participate in this research.

3.8.4 Privacy

The researcher protected the privacy of the research participants. This means that access to participants' characteristics, responses, behaviour and other information was restricted to the researcher (McMillan & Schumacher, 2014). The researcher ensured privacy by using the following practices: anonymity, confidentiality and appropriate storage of data.

Anonymity means that the researcher cannot identify the participants from the information that has been gathered. Confidentiality means that no one has access to individual data or the names of the participants except the researcher and that the participants know before they participated, who will see that data. Confidentiality was ensured by making certain that the data could not be linked to individual participants by name. This was accomplished by collecting the data anonymously and asking subjects to use aliases or numbers.

The last strategy that was used for ensuring privacy was to store the data in a way that provides maximum protection of the participants' identities. This was accomplished by securing the recorded information of interviews and focus groups with a password.

3.9 Chapter Summary

This chapter examined the methodology that was used to gather appropriate data, which answered the research questions of the study. It contained the research design, the population, the sample, data collection techniques, data analysis, issues of credibility, dependability and transferability, and the ethical considerations. The results and discussion of the study are presented in chapter four.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents and discusses the findings of the study. The study investigated the practices of Inclusive Education (IE) in Malawi's public technical colleges, a case of Soche Technical College. Data for this study was collected using interviews, observation, focus group discussion and access audit. Data was analysed using thematic analysis. The research objectives of the study and the theoretical framework were used to guide the organisation and interpretation of data. Major themes and sub themes emerged from the collected data using a priori categories from the Feminist Disability Theory of Universal Design in Education (FDTUDE). The major themes were physical college environment, availability of teaching and learning materials for IE, teachers' knowledge and skills for IE, support services, availability of furniture and classrooms, teaching and learning strategies used at the college, classroom climate, interaction and accommodation. The discussion of results for this study are combined with the results for clarity.

4.2 Background of Participants

The participants of this study were drawn from Soche Technical College (STC). STC is a public technical college situated in the heart of the commercial city of Blantyre. The institution provides technical and vocational training from certificate up to Advanced Craft and Diploma Level. The college caters for boarding and day-release students. The total participants targeted for the study was 21, purposefully selected from Soche Technical College. All the targeted participants participated in the study, representing a 100% response rate. The participants consisted of the principal of the college, 12 students with various special needs and 8 instructors who were teaching inclusive classes. Eight instructors were interviewed. The researcher requested the college principal to submit a database for the instructors. Eight instructors were selected for interviews based on their trade, work experience and if they were teaching inclusive classes. Table 4.1 shows the 8 instructors interviewed and their trades, work experience, highest qualification and whether they have a teaching qualification or not. Instructors are represented by numbers for confidentiality and anonymity reasons. The interviews were also conducted with the principal of the college.

Table 4.1: Details of the eight instructors

Instructor's number	Trade	Work Experience	Highest qualification	Teaching qualification
1	Automobile mechanics	5 years	Advanced Craft certificate	No
2	Textile and Design	10 years	Diploma in Textile and Design	No
3	Communication	13 years	Degree in Technical Education	Yes
4	Plumbing	10 years	Degree in Technical Education	Yes
5	Hotel and Catering	4 years	Diploma in Hotel and Catering	No
6	Information Technology	11 years	Master's Degree	Yes
7	Financial Accounting	5 years	Diploma in Accounting	No
8	Marketing	6 years	Advanced Diploma in Marketing	No

Twelve students were selected for focus group discussion. The researcher requested the college principal to submit a database for the students. The researcher selected 12 students with special needs based on categories of special needs, type of trades and the longest period that a student had stayed at the college. Table 4.2 shows the 12 students and their trades, type of disability and the period that they had stayed at the college. Students are represented by numbers for confidentiality and anonymity reasons.

Table 4.2: The twelve students for focus group discussion

Student's number	Type of disability	Trade	Period stayed at the college
1	Low visual impairment	Automobile Mechanics	2 years
2	Physical disability	Textile and Design	4 months
3	Speech or language impairment	Electrical Installation	2 years
4	Physical disability	Plumbing	2 years
5	Visual impairment (VI)	Hotel and Catering	1 year
6	Visual Impairment	Information Technology	1 year
7	Mental retardation	Financial Accounting	6 months
8	Hearing Impairment	Marketing	6 months
9	Physical disability	Rural Community and Development	1 year
10	Learning disability (LD)	General Fitting	1 year
11	Visual impairment	Human Resource Management	6 months
12	Hearing impairment (HI)	Electrical and Electronics Engineering	1 year

The study also employed classroom observations to uncover the actual practices of IE at Soche Technical College. The aims of the classroom observations were to understand the instructors' classroom practices. Table 4.3 shows the summary of the classes and the subjects that were observed.

Table 4.3: Classes and subjects observed

Classes observed	Subjects observed	Number of classroom observations	Date of observations
Automobile Mechanics	Technology	1	2/02/16
Textile and Design	Technology	1	2/02/16
Plumbing	Technology	1	4/02/16
Information Technology	Networking	1	4/02/16
Rural and Community Development	Community empowerment and sociology	1	8/02/16
Electrical Installation	Technology	1	8/02/16
Financial Accounting	Practical mathematics and computing	1	10/02/16
General Fitting	Technology	1	10/02/16
Human Resource Management	Managing people	1	12/02/16
Hotel and Catering	Food and beverage	1	12/02/16

The classroom observations were recorded through field notes based on the delivery of the lessons, pedagogical practice, teaching and learning materials that were used, interactions between instructors and learners in classrooms, interaction among learners in classrooms and classroom accommodation.

Some literature indicates that the data collected from first class of observation normally does not give a true picture of what takes place in class because students are not familiar with the researcher. To overcome this challenge or threat, the researcher spent a period of time in the classrooms to be observed before starting collecting the data. This ensured that participants of the study had the opportunity to become used to the presence of the researcher in the classrooms. This is supported by the literature in which several writers recommend that the researcher should spend a period of time in the situation before data collection starts. The researcher will then become sensitised to the situation and at the same time the participants have the opportunity to become used to the presence of the researcher (Brink, 1993; Field & Morse, 1985; Huberman & Miles, 1984; Le Comple & Goetz, 1992). In addition, the data collected through classroom observations was cross-validated by triangulating it with the data collected from other sources such as interviews and focus group discussions.

4.3 Physical College Environment

The study examined the accessibility of the physical college environment by all learners. The findings from interviews with teachers, focus group discussion with students and access audit of buildings indicated that the physical college environment was not accessible by all learners. Some of the physical facilities were not accessible by a particular group of students, for example, students with visual impairments and those who use wheel chairs. Some offices at the administration and nearly all toilets were not accessible by students on wheelchair (see appendix 10). Not all classes were specifically designed to accommodate all students. These results were substantiated by data from access audit of the classrooms, buildings and college grounds that involves students. Table 4.4 shows the data collected from the access audit of classrooms and other buildings.

Table 4.4: Data from access audit

Description of facilities	Number of facilities
Buildings with ramps	33
Buildings without ramps	2
Toilets accessible by wheel chair users	2
Toilets not accessible by wheel chair users	18
Steps with hand rails	30
Steps without hand rails	5
Wide doors	50
Doors not wide	10
Heavy doors	25
Buildings with signage	60
Buildings without signage	10

Most buildings at the college had ramps, which were wide enough for a wheel chair user to move freely. However, the ramps had steep gradient and their surfaces were not slip resistant and colour contrasted; and the ramps had no handrails on the sides (see appendix 11). As a result, students with physical impairments had to be assisted by their peers in order to get physical access to buildings. The corridors were wide enough and free from obstruction to wheel chair users to manoeuvre and for other people to pass, but were hazardous to people with impaired sight.

Most steps on the buildings had handrails on each side but they were not colour contrasted to aid people with impaired vision. In addition, there were no visual and tactile warnings at the top and bottom of the steps (see appendix 12).

Most door openings were wide enough for all users. However, the doors were not transparent. People on each side of the door, either standing or seated, could not see each other and be seen. This was due to security concerns. Some doors were heavy and could not be easily opened single handedly. On the contrary, the door handles were at a suitable height for both standing and seated users to open and close the doors without difficulties. The door requirements for an inclusive physical environment are that the door handles should not be higher than 1.2 meters and should be operable with a closed fist; doors should not be heavy and if the doors are heavy they should be opened and closed by automation; doors should be wide enough to allow students on wheelchairs to enter buildings and the doors should be transparent such that people on each side of the door, either standing or seated should see each other and be seen (Aderemi, 2010; Direct Access Consultancy; Pivik, McComas, & Laflamme, 2002).

Most aisles between chairs or tables in the classrooms and library were not wide enough for a wheel chair user to pass through to other areas of the classroom and library. In addition, spaces for wheelchair seating were not distributed throughout the classrooms.

The floor surfaces of the toilets and urinal blocks were slippery (see appendix 13). Urinals, toilets and shower facilities did not have grab rails to assist people with ambulant disabilities to manoeuvre (see appendix 14). Besides this, the compartments for toilets were not large enough to allow manoeuvring into position for frontal, lateral, angled and backward transfer unassisted. Furthermore, lever style taps were not provided within the WCs to aid people with dexterity impairments.

Most buildings had signage, and the signage was in clear contrasting colors. However, the signage was not in braille and was placed very high (see appendix 15).

The results of the classroom observation also indicated that nearly all door entrances of the classrooms observed were wide enough for wheel chair users. Most of the classrooms observed did not have adequate space due to the size of the rooms and large number of students. As a result, space was almost entirely taken up by the desks and chairs. In these classrooms, the aisles between chairs or desks were not wide enough for a wheel chair user to pass through to other areas of the classroom and even the other learners without special needs, for example, the rural and community development class and automobile mechanics class. Classes were overcrowded. The movement around the rooms was therefore restricted. Table 4.5 shows the number of learners in the classes that were observed.

Table 4.5: Number of learners in each class observed

Class	Number of learners in class
Automobile Mechanics	164
Textile and Design	22
Plumbing	23
Information Technology	88
Rural and Community Development	129
Electrical Installation	82
Financial Accounting	28
General fitting	13
Human Resource Management	29
Hotel and Catering	63

The study through focus group discussions with the students assessed the perceptions of students with special needs regarding physical access at Soche Technical College. Participating learners highlighted challenges pertaining to facilities and physical access within the college environment. Learners acknowledged that the physical environment created barriers to their learning as well as made them vulnerable or unsafe. The students highlighted that they were not able to access all the physical facilities at the college with ease. For example, some classrooms and offices, all toilets and shower rooms.

The study also interviewed teachers to assess the accessibility of the physical college environment. Teachers who were interviewed reported that students with special needs experienced accessibility constraints. The challenges faced by learners with special needs were around physical access in the form of accessing the toilets, shower rooms, some classes and offices, and other college buildings.

The overall results indicated that the physical college environment was not accessible by some learners with special needs. However, an accessible physical environment is one of the main factors that ensures effective practices of IE (Bucholz & Sheffler, 2009; Nwazuoke, 2004). This implies that IE was not practised the way it was supposed to be practised because of the inaccessibility of the physical college environment by some learners with special needs. For IE to be successful, the physical environment should be accessible by all learners. These findings are consistent with the literature that established that a learner-friendly physical and psychological environment is a prerequisite for a successful educational experience by both normal and special needs children (Mitiku et al., 2014; Nwazuoke, 2004). These results are also supported by one of the principles of the theoretical framework adopted by this study which stipulate that appropriate size and space should be provided for approach, reach, manipulation, and use regardless of the user's body size, posture or mobility (Bremer et al., 2002; Conn-Powers et al., 2006). According to Conn-Powers et al. (2006) and Bremer et al. (2002), an educational application of this principle is physical accessibility of the learning institutions by all learners, for example, the college and classroom environment should allow for varied student groupings; classroom space should encourage learning and the classroom space should be arranged to accommodate assistive devices and personal assistance.

4.4 Availability of Furniture and Classrooms

The study assessed the availability of furniture in the classrooms and the availability of classrooms at the institution through interviews, document review, general observation and classroom observation. The findings are presented in sections 4.4.1 and 4.4.2.

4.4.1 Availability of Classrooms

The findings from the document review and classroom observations indicated that the college had inadequate classrooms. The results revealed that in other classes, specifically from the commercial department, for example, community and rural development class, hotel and catering class, electrical installation class and information technology class had more than 60 students in a classroom that was supposed to accommodate 20 students only. Table 4.6 shows the number of students in a classroom for some courses offered at Soche Technical College.

Table 4.6: Number of students in a classroom for some courses offered at Soche

Course	Number of students in the classroom
Community and rural development	129
Financial accounting	28
Electrical and electronics engineering	64
Information technology	88
Automobile mechanics	164
Electrical installation	82
Hotel and catering	63
Welding	8
Plumbing	23

The problem of lack of classrooms resulted in congestion in most classrooms, and the learner to teacher ratio was very high, for example 164:1 instead of the ideal learner to teacher ratio of 20:1. The results suggest that teachers failed to identify problems which individual students may be experiencing in classrooms because of congestion. In addition, students using wheel chairs and other students found difficulties in accessing some areas of the classroom because of the same reason.

The principal and teachers who were interviewed to determine if the college had enough classes to cater for all the enrolled students reported that the college had acute shortage of classrooms. One of the responses by the teachers typifying this view is presented in extract 4.1.

Extract 4.1

T: *The college does not have adequate classrooms to accommodate the relatively large numbers of learners.*

Lack of classrooms resulted in large class sizes in most available classrooms which created more burdens for the instructors. The principal and the instructors felt that the large class sizes were one of the barriers to the successful implementation of inclusive education at the college. One of the responses by the teachers highlighting this view is shown in extract 4.2.

Extract 4.2

T: *Including students with special needs in large class sizes create more problems for the teachers.*

4.4.2 Availability of Furniture

Data from classroom observations showed that there was inadequate furniture in the classroom (see appendix 16). In addition, the furniture was not designed for use by all learners including those with special educational needs. The table tops and desk tops were very high for some students with special needs to use them comfortably, for example, students using wheel chairs. These findings were corroborated with the data collected from the focus group discussions. During the focus group discussions, one participant expressed that she was not able to use the desks and tables because their tops were very high. The expression is presented in extract 4.3.

Extract 4.3

S: *I am not able to use the desks and tables because their tops are very high.*

The desks and tables were not adjustable in height and made the students not to feel comfortable when using them. The study through interviews with the teachers and the principal also assessed the availability of furniture in the college classrooms. Participating teachers and the principal highlighted that the college had inadequate furniture, and the furniture that was available was not designed for use by all learners including those with special educational needs. Extract 4.4 shows some of the responses from the teachers typifying this view.

Extract 4.4

T1: *The College does not have adequate and appropriate furniture.*

T2: *Some students sit on the floor or tables due to lack of furniture.*

T3: *The furniture is not adjustable in height to cater for different sizes of the learners.*

The overall results of the availability of furniture and classrooms found that the college had inadequate furniture and classrooms. In addition, the furniture that was available was not appropriate for other students. This implies that the practices of IE were hindered because inadequate classrooms made the already available classrooms to be congested, thereby preventing the teachers from identifying problems which individual students may be experiencing in classrooms. It has been observed that the minimum number of learners in many classes is 60 and above. Consequently, instructors and learners tend to face difficulties in teaching and learning. These results are consistent with the results of the study on the effects of over-crowded classrooms on teacher-student

interactions, which concluded that over-crowded classrooms offer nothing but noise making, difficulties in teaching learners, restriction of instructor's mobility in the classroom and inadequate participation of learners sitting at the back of the classroom during the lesson (Ijaiya, 1997). Ijaiya (1997) further concluded that the quantity and quality of teacher-student interactions are likely to be negatively affected due to lack of space for moving round the classroom and the overwhelming number of learners that the instructor has to deal with within his or her teaching period. These effects of over-crowded classrooms challenged the practices of IE at the college. The instructors had a large number of learners and could not provide assistance to all learners, and this resulted into exclusion. Over-crowded classrooms also led instructors to use teacher-centered methods of teaching which do not cater for individual differences. Another study on the effects of teacher-pupil ratio on teaching-learning process also found that over-crowded classrooms have negative effects on teaching-learning process in relation to quality of teaching-learning progress (Dabo, 2015).

The results of the availability of furniture in classrooms found that the college had inadequate furniture; and the furniture that was available was not appropriate for other students. The students were not comfortable in the classrooms due to inadequate and inappropriate furniture in classrooms. Since learners were not comfortable in classrooms, they had a more difficult time focusing on the lessons that teachers were delivering. Many studies have shown that inadequate and inappropriate furniture have a negative impact on learners, for example physical, cognitive and behavioral effects. The results revealed that all classroom desks and chairs were the same and not adjustable, yet every student is different. The inability to make adjustments on the desks and chairs based on the shape and size of the learner could result in muscle pain on the back and neck of the learner; and could also cause wrist and shoulder discomfort (Hannah, 2013). Academic performance could also be impacted by these negative physical effects, because research have shown that learners also believe that ergonomics plays a role in their academic success (Hannah, 2013). Inadequate and inappropriate furniture in the classrooms could also lead to frustration and a lack of motivation by the learners.

Inadequate and inappropriate furniture might not only affect academic performance of learners, but might also cause some learners to disrupt the teacher and other learners during teaching and learning processes (Hannah, 2013). The results of this study are corroborated with one of principles of the theoretical framework to which the study is based that emphasises that in a universally designed classroom, furniture is adjustable in height or furniture is of different heights and sizes, and can be easily arranged for different learning activities and groupings (Burgstahler, 2012a). These findings are also consistent with the results of other studies which expressed concern about the dearth of

resources and facilities as one of the challenges of successful implementation of the practices of IE (Alur, 2001; Avramidis, Bayliss, & Burden, 2000; Johnstone & Chapman, 2009; Mukhopadhyay, 2013; Singal, 2005). The results suggest that lack of furniture and classroom could be due to insufficient funding at the college from the government. Inadequate financial support from the government to the colleges may cause classroom buildings, furniture and other teaching and learning resources not to be available for use by the learners. Hence, it is essential that the government should increase its financial and material support for inclusive education in technical colleges.

4.5 Classroom Climate

Classroom climate refers to the prevailing mood, attitudes, standards and tone that a teacher and his or her learners feel when they are in a classroom (Committee for Children, 2012). The findings from the classroom observations revealed that the classroom atmosphere of most of the classes was generally positive and enhanced learning opportunities for all students. The classrooms were warm and inviting. In all the classes observed, teachers began classes by greeting the students with a smile and in a friendly as well as in a courteous way. Some teachers were asking individual students how they are feeling, for example, extract 4.5.

Extract 4.5

T: *How are you feeling X?*

The teachers were adopting practices that reflect high values with respect to both diversity and inclusiveness, for example, creating a welcoming environment for all learners, avoiding stereotyping, being approachable, and avoiding segregating or stigmatizing any learner. The setting of the classrooms and the nature of the verbal interactions between teachers and students, and among students revealed that teachers were creating a welcoming environment for all learners. Teachers were approachable by the students, had concern for students' issues including those with special needs and treated learners as individuals and with respect. Teachers were also giving the students some sort of welcome statement before commencing the lesson, for example, extract 4.6.

Extract 4.6

T1: *You are all welcome to this class, feel free to contribute to this lesson.*

T2: *I am so glad that you are all here today.*

T3: *Welcome back to this lesson.*

Furthermore, a diversity statement was placed on walls of some classrooms, and it is presented in extract 4.7.

Extract 4.7

DS: *Teachers are committed to creating an inclusive environment in which all learners are respected and valued. Teachers will not tolerate disrespectful language or behavior on the basis of individual differences.*

The diversity statement expresses the teacher's core values of inclusion in the classroom and shows that all learners are welcome in the classroom.

The results also revealed that teachers were avoiding stereotyping by gender, physical challenge and other individual differences, for example: by providing equal amounts of help, feedback, encouragement and praise; using examples of both genders when teaching; asking questions to all learners regardless of gender or any individual differences; and checking students work without bias.

The findings indicate that teachers were able to establish and maintain a positive classroom climate. The findings also indicate that the teachers were promoting the practices of inclusive education because the teachers were adopting practices that reflect high values with respect to both diversity and inclusiveness, thereby achieving equity which is one of the principles of the theoretical framework to which this study is based. Classroom climate is seen as a major determiner of classroom behavior and learning (Adelman & Taylor, 2000). Research studies advocate significant relationships between classroom climate and matters such as student engagement, behavior, self'-efficacy, achievement, and social and emotional development, and overall quality of school life (Adelman & Taylor, 2000; Fraser, 1998; Freiberg, 1999). For instance, studies report strong associations between achievement levels and classrooms that are perceived as having greater cohesion and goal-direction, and less disorganization and conflict (Adelman & Taylor, 2000). Research studies also suggest that the impact of classroom climate may be greater on students from low-income homes and groups that often are discriminated against, such as students with special needs (Adelman & Taylor, 2000). The findings imply that the positive classroom climate at the college could have a positive influence on students' achievement, their self-esteem and participation in the lesson. This resulted in advancing the goals of inclusive education at the college.

4.6 Teaching and Learning Strategies Used at the College

The interviews with teachers showed that teachers mostly used teacher centred approaches such as lecturing, expository and teacher-led demonstration when teaching. Yet this approach does not cater for individual differences. Teachers expressed that, with the nature of the curriculum and the pressure to finish the content of the curriculum in time, they had to use teacher centred approaches. Extract 4.8 shows one of the responses from the teachers typifying this view.

Extract 4.8

T: W*ith the nature of the curriculum combined with pressure to finish the entire content of the curriculum within a specified time, we have no choice but to use teacher centred approaches.*

Teachers thought that learner centred methods which cater for individual differences were time consuming. The response typifying this view is presented in extract 4.9.

Extract 4.9

T: *Learner centred methods of teaching are time consuming.*

Occasionally, teachers engaged instructional accommodation during teaching and learning. These findings were consistent with what was observed during classroom observations and the data from the focus group discussion that was conducted with the students. In most lessons observed, teachers were not using and adapting the teaching methods that meet the needs of diverse learners in the classroom, for example, peer mediated instruction and co-operative learning. Table 4.7 shows the methods of instruction that instructors used when teaching. Numbers were used to represent teachers for confidentiality and anonymity reasons.

Table 4.7: Observed methods of instructions used by instructors

Teacher	Methods of instruction
1	Lecturing Teacher led demonstration Question and answer- used for recapitulation of previous lesson and concluding the lesson
2	Lecturing Question and answer- used for recapitulation of previous lesson and concluding the lesson
3	Teacher led demonstration Question and answer- used for recapitulation of previous lesson and concluding the lesson
4	Lecturing Question and answer- used for recapitulation of previous lesson and concluding the lesson
5	Lecturing Group discussion Question and answer- used for recapitulation of previous lesson
6	Lecturing Question and answer- used for recapitulation of previous lesson and concluding the lesson
7	Lecturing Question and answer- used for recapitulation of previous lesson and concluding the lesson
8	Lecturing Question and answer- used for recapitulation of previous lesson and concluding the lesson
9	Cooperative learning Teacher led demonstration Question and answer- used for recapitulation of previous lesson and concluding the lesson
10	Group discussion

Question and answer method was used when the instructor was giving recapitulation of what was covered in the previous lesson and when checking if the students had understood the content.

The results also revealed that instructors were not using a variety of approaches in delivering the lesson, and they were not recognizing the individual learning styles of students, for example, auditory, visual and kinesthetic.

In general, teacher centred method was the teaching and learning strategy that was mostly used by teachers. However, this method of teaching does not cater for individual differences. This implies that the teachers were not implementing the actual practices of IE because the needs of diverse learners were not met. These results are substantiated with two principles of the theoretical framework to which the study is based; that is equitable use and flexibility in use. These results are similar to the results of the research studies carried out by researchers such as Mukhopadhyay (2013); which expressed concern about the use of teacher centred methods as one of the challenges of fruitful implementation of IE. The results suggest that teachers were using teacher centred approaches when teaching because they lacked skills and knowledge for employing other teaching approaches that cater for individual differences. In addition, teachers were not aware of the teaching

approaches that cater for individual differences. This could be due to lack of professional development on IE and lack of teacher education.

The overall results also indicated that teachers were not recognizing the individual learning styles of students. It was important for instructors to understand the differences in their learners' learning styles in order for them to implement best practice strategies when delivering the lessons. One's learning style is identified to determine strengths for academic achievement (Abidin, Rezaee, Abdullah, & Singh, 2011; Yasmin, Akbar, & Hussain, 2016). Many studies have indicated that both low and average achievers earn higher scores on standardized achievement and attitude tests when they are taught within the realm of their learning styles (Abidin et al., 2011; Dunn, Beaudry, & Klavas, 1989; Yasmin et al., 2016). Teachers should keep in mind that most people have one or more preferred styles of learning and by incorporating a range of learning activities that use a variety of media, educators would be catering for different learning styles. These results are corroborated with one of principles of the theoretical framework to which the study is based that advocates that teachers should provide flexible instruction to the students by accommodating different learning styles with the aim of accommodating a wide range of student preferences and abilities (Bremer et al., 2002; Burgstahler, 2012b).

The results indicate that teachers were not meeting the needs of diverse learners in the classroom when delivering the lesson. The teachers' failure to use a variety of teaching methods during lesson delivery did not enhance learning and participation in the classroom activities. The variation of teaching methods would have helped the realization of the principle of valuing diversity in the sense that certain methods would suit the needs of students with special need (Kamchedzera, 2010). The results suggest that the actual practices of IE were not implemented when delivering the lessons because the needs of diverse learners were not met. This was evidenced by teachers' failure to use learner-centred approaches, variety of teaching methods and to incorporate different learning styles which cater for the needs of all learners. According to Felder (1995), learners learn more when information is obtainable in a variety of approaches than when only a single approach is applied (Abidin et al., 2011).

4.7 Availability of Teaching and Learning Materials

The study assessed the availability of teaching and learning materials for effective inclusive teaching and learning. The findings from interviews with the principal and teachers showed that the college

did not have enough teaching and learning materials for students with special needs. This was illustrated in extract 4:10.

Extract 4.10

T1: *We do not have enough teaching and learning resources for learners with special needs.*

T2: *The college lacks teaching and learning resources for various special needs".*

Teaching and learning materials that the college lacked includes braille machines, braille books, electric sewing machines, audio books and large print reading materials. Consequently, not all students learnt effectively in an inclusive classroom and teachers had difficulties in teaching the inclusive classes. These results were corroborated by data from classroom observations and the audit on the availability of a basic level of teaching and learning materials that is needed for teachers to include all students effectively in the classes. The classroom observation revealed that the college lacked teaching and learning materials that were user friendly to students with special needs, for example, modern equipment like electric sewing machines in textile and design classes and car diagnostic machines in automobile mechanics classes. Lack of these modern equipment made these students not to participate in other learning activities depending on the nature of their disabilities which resulted in not achieving the main goal of IE which is inclusion. For instance, in textile and design class, a student with special needs was failing to use ordinary sewing machines which were not powered by electricity because of the nature of her disability, and during the sewing activity, this student was not participating in this activity because the college had no electric sewing machines. The audit on the availability of teaching and learning materials for IE also revealed lack of basic teaching and learning materials for IE. Table 4.8 shows the basic teaching and learning materials for IE that were audited at the college.

Table 4.8: Audited teaching and learning materials for inclusive education

Teaching and learning materials audited	Number of teaching and learning materials present
Braille machines	Nil
Braille books	Nil
Audio books	Nil
Large print reading materials	Nil
Electric sewing machines	Nil
Highlighter strips/reader trackers	Nil
Video tapes/DVDs	Nil
Audio tapes	Nil
Hearing aids	Nil

Several studies have indicated that teaching and learning resources as well as physical facilities play a vital role in achieving effective practices of inclusive education. According to UNESCO (2009a) and Kenyan Republic (1999), the quality and adequacy of resources such as physical facilities, equipment, teaching and learning resources have a direct impact on the effectiveness of the practices of IE, as they determine how effectively inclusive education is implemented. Students with special needs often need specialized aids to move about, to read and write as well as to hear (Kenyan Republic, 1999; UNESCO, 2009a, 2009b). According to the literature, the teaching and learning resources audited are the basic resources that inclusive schools are required to have in order to effectively implement IE.

The study through focus group discussions with the students also assessed the availability of teaching and learning materials for students with special needs at the college. Participating learners stressed out that the college did not have enough teaching and learning materials for learners with special needs. The students reported that few teaching and learning materials in the classrooms were presented in alternative accessible formats. The students also pointed out that they lacked modern teaching and learning equipment which are user friendly to the students with special needs, for example, electric sewing machines. This was revealed in extract 4.11 as a response by a student with special need from the Textile and Design class during the focus group discussion.

Extract 4.11

S: *With the nature of my disability, I cannot use a sewing machine which is not powered by electricity and the college had no electric sewing machines.*

This respondent further revealed that the college was under negotiation with MLYMD, TEVETA and MACOHA for the student to be transferred to MACOHA which had electric sewing machines.

The learners with special needs were also not satisfied with the library services they received at the college as very little material had been transcribed into accessible formats.

Availability of adequate teaching and learning resources is one of the vital factors that ensures effective IE. However, this study found that the college didn't have adequate teaching and learning materials for students with special needs. This resulted in hindering the implementation of the effective practices of IE because not all students were learning effectively in an inclusive classroom. The results suggest that all teaching and learning resources for different special needs should be available and sufficient in an inclusive technical college for the successful implementation of the actual practices of IE. These findings have been corroborated by Gill (2008), who pointed out that inclusion requires availability of adequate teaching and learning resources that meet the needs of all learners. He argues that lack of educational resources within a college hinder the process of inclusion. These findings are also supported by the principles of the theoretical framework to which this study is based, for example, equitable use, flexibility in use, perceptible information and low physical effort. On equitable use, the teaching and learning materials were supposed to be available in various formats, for example, books were supposed to be available in print form, large print form, audio form and in braille (Bremer et al., 2002; Burgstahler, 2012b; Conn-Powers et al., 2006). This would have allowed all learners equal access to education thereby enhancing inclusive education. On flexibility in use, the equipment that was used for teaching and learning, for example, sewing machines, should have accommodated the widest range of learners by using modern electric sewing machines. While on low physical effort, the equipment such as the sewing machines were supposed to be physically easy to operate (Bremer et al., 2002; Conn-Powers et al., 2006).

The results suggest that lack of teaching and learning materials for inclusive education could be due to insufficient funding at the college. Considering the high cost of teaching and learning materials for students with special needs and the current financial situation in which our government is in, it is impossible for the government to adequately fund the colleges. The financial problems prevents the colleges from buying teaching and learning materials for inclusive education which result in preventing students from participating in other learning activities. This hinders the effective practices of IE.

Availability of adequate teaching and learning materials make instruction more powerful, make learning more immediate and make access to education more equal (Likoko, Mutsotso, & Nasongo, 2013). There is also a very strong positive significant relationship between availability of adequate

teaching and learning materials and academic performance (Adeogun, 2001). Schools that have adequate and high standard of teaching and learning resources performed better than schools that have inadequate and low standard of teaching and learning resources (Adeogun, 2001). The results discovered that the college did not have enough teaching and learning materials; and the teaching and learning resources available were of low standard. The results imply that effective teaching was not taking place because effective teaching cannot take place within the classroom if teaching and learning materials are not present, and if there are low standards of teaching and learning resources.

Likoko et al. (2013) also supported that learners performance is affected by the quality and quantity of teaching and learning materials. They noted that schools with adequate and excellent teaching and learning facilities stand a better chance of performing well academically than poorly equipped schools. To provide quality and equitable education in colleges and other educational institutions, the availability of adequate and relevant teaching and learning resources and facilities is crucial. The implication of inadequate and low standard of teaching and learning resources on the feminist disability theory of universal design is inequitable educational experience by the students. It is therefore necessary for the college to have adequate and high standard of teaching and learning resources relevant to all learners in order to allow all users equal access to education and avoid segregating or stigmatizing anyone.

4.8 Teachers' Knowledge and Skills

The results of interviews with teachers indicated that teachers lacked knowledge and skills for handling students with special needs in an inclusive classroom, for example, sign language, braille, how to identify students with learning disabilities and methods of teaching in an inclusive classroom. Responses from some teachers typifying this view are presented in extract 4.12.

Extract 4.12

T1: *I am not trained how to teach students with special needs.*

T2: *I face difficulties in teaching students with special needs because I was not trained in special needs education.*

T3: *I do not have knowledge and skills for handling students with special needs in an inclusive education.*

T4: *I do not know how to communicate with learners with hearing impairment because I do not know sign language".*

Teachers revealed that before the beginning of IE at the college, almost all the instructors were trained to teach students with special needs. The training was conducted as a professional development. This is shown in extract 4.13.

Extract 4.13

T: *Initially, nearly all instructors were trained in handling students with special needs before the college started enrolling students with special needs. The training was conducted as a professional development. We did not receive any training in handling students with special needs at the teachers training college.*

Although most instructors were trained at the beginning, the college had few instructors who were at least able to handle students with special needs because other instructors got transferred while others resigned. The findings from the interviews with the principal revealed that the college had 30 instructors but only 5 instructors were the ones who had received training in handling students with special needs. Teachers who joined the college after the first professional development was conducted were not yet trained, but they were teaching inclusive classes. Data from the interviews with teachers and the principal also revealed that there was no ongoing professional development in IE. This was revealed in extract 4.14.

Extract 4.14

T: *Teachers attended only one professional development on IE, and that was at the beginning of IE at the college.*

In addition, the data from the interviews with the principal revealed that the college had no special needs instructors. The college principal requested to have two or more special needs educators from the ministry but they were not recruited. Furthermore, some instructors at the college did not have teaching qualifications because they did not attend a teacher training school (see table 1). As a result, they faced more difficulties in managing students with special needs in an inclusive classroom. The principal of the college revealed that he was not trained how to manage an inclusive college and no budget was set aside to cater for professional development for IE. These results were corroborated by data from classroom observations which revealed that instructors recognized the need for the learners to participate fully in the classroom but lacked applicable approaches and skills to keep learners fully participating.

In general, the study found that teachers lacked knowledge and skills for handling students with special needs in an inclusive classroom. This was due to lack of professional development on IE and lack of teacher education. This implies that the practices of IE were hindered. These findings have been substantiated by other studies which identified that lack of teacher education and on-going professional development are obstacles to IE (Brown et al., 2013; Hehir, 2002). These findings are also substantiated by the principles of the theoretical framework to which this study is based. The framework advocated that teachers and other members of staff should be trained in how they can support and handle students with special needs, for example, how to identify students with learning disabilities and methods of teaching them in an inclusive classroom, how to respond to requests from students with special needs, how to communicate effectively with students with special needs, how to make students with special needs to fully participate in learning and other educational activities, sign language and braille (Burgstahler, 2007c). The training would have allowed all learners equal access to instruction, education and student services, thereby enhancing inclusive education.

The results of this study support the significance of teacher education and ongoing professional development as educators implement Inclusive Education. Teacher education and ongoing professional development are directly related to teacher attitudes. Teachers who receive training about inclusion have been found to be more likely to have positive attitudes towards IE (Cologon, 2012). Given the significance of attitudes for IE, training all instructors as inclusive educators is essential (Bacon & Causton-Theoharis, 2012). Furthermore, research indicate that teachers' knowledge and skills are important as they play a crucial role in instructional delivery (Avramidis et al., 2000; Kuyini & Mangope, 2011; Mukhopadhyay, 2013).

The results have revealed that the college principal requested to have two or more special needs educators from the ministry but they were not recruited. However, even if these two special needs were recruited at the college it would have been impossible for them to teach all courses because it is difficult to have a special needs teacher with skills in all courses that are offered at the college. This will still hinder the practices of IE at the college because these special needs teachers are specialised to teach only one or two courses. The best way that the Government should have done is to conduct ongoing professional development on IE with all instructors at the college.

4.9 Support Services

The findings from the interviews with teachers and the principal showed that Soche Technical College did not have all the support services in place. However, support services particularly professional support, parental support and management support are considered to be crucial in the implementation of IE.

4.9.1 Professional Support

The findings from interviews with teachers and the principal revealed that the college lacked professional support services. The response from one of the instructors typifying this view is presented in extract 4.15.

Extract 4.15

T: *We do not get support from professionals.*

The students with special needs lacked professional help from specialists such as educational psychologists, health professionals and speech-language therapists. One of the teachers also pointed out that the college does not collaborate with health authorities who organize periodic health examinations for students with special needs. In addition, it was revealed that the college did not have teacher aides (paraeducators) who were supposed to assist in identifying barriers to learning within the classroom as well as of individual students. On the contrary, teachers got consultation support from the nearby special schools and other departments/organisations such as Technical, Entrepreneurial and Vocational Education and Training Authority (TEVETA), Malawi Council for the Handicapped (MACOHA) and Montfort.

4.9.2 Parental Support

The study revealed that there was minimal parental support in ensuring that parents get involved in all aspects of their children's college lives and decisions that had to be made. However, consultation and involvement of guardians are crucial success factors in IE. The kind of support that the college got from parents was encouragement and the learning materials needed by the students at individual level.

4.9.3 Management Support

The results of interviews with teachers showed that teachers did not get any kind of support from the administrator and the college management team regarding the teaching of students with special needs in an inclusive classroom. What they got was an encouragement. The college management did not provide the necessary resources for the effective implementation of IE. Furthermore, there was lack of teamwork between teachers; and also between teachers and the college management team. The interviews with the principal and the teachers also indicated that the Ministry of Labour, Youth and Manpower Development (MLYMD) had not adequately supported teachers. Yet this Ministry was the one which was responsible for supporting the implementation of IE. The Ministry did not provide sufficient funding to the college for buying resources for implementing IE. The Ministry did not even bother to conduct professional development on IE for the teachers involved in the implementation of IE. It was revealed that professional development was done once during the commencement of IE at STC and it was conducted by an organisation called Norwegian Association of Disabled (NAD) on a pilot project of IE in technical colleges.

Support services are crucial for facilitating effective inclusive practices. The overall results indicated that students, teachers as well as the institution were not receiving adequate support services. There was lack of support from education authorities, professionals, parents and college management. The results suggest that lack of these support services have hindered the practices of IE at the college. These findings are supported with research evidence suggesting that many educators feel inadequately supported for IE (Curcic, 2009; Morris & Sharma, 2011). In addition, lack of support services create considerable obstacles to IE (Cologon, 2013; Frankel et al., 2010; Jordan et al., 2010; Morris & Sharma, 2011; Petriwskyj, 2010a, 2010b; Theodorou & Nind, 2010). From the findings, lack of support services undermined the principles of the theoretical framework underpinning this study by not allowing all learners equal access to education. Support services play an essential role in ensuring that all students have equal access to the education system and are able to participate optimally in the learning process (National Committee on Education Support Services, 1997). The National Committee on Education Support Services (1997) further argued that the role of support services is to minimise, remove and prevent barriers to learning and development to ensure effective learning and development of all students. Lack of adequate support services also prevent learners from reaching their full potential.

4.10 Interaction

The findings from classroom observation revealed that in most of the classes observed, there was interaction among the learners. Learners were comfortably sharing ideas, questions, concerns, or needs regardless of their differences or educational special needs. Learners with special needs were mixing freely with the other learners. Students demonstrated mutual respect. These results were corroborated by data from focus group discussion with students which revealed that teachers were supporting peer social relationships as well as facilitating collaborative problem-solving between students. The peer social relationships and collaborative problem-solving between students enhanced interaction among learners.

The findings from classroom observation also revealed that there was interaction between instructors and students in most of the classes that were observed. However, this interaction was not between students with special needs and the teachers. The instructors did not initiate any interaction with students with special needs, particularly those with hearing impairment during teaching. The challenge was that the instructors lacked sign language skills to keep them fully engaged with these learners. The participation of the students with special needs, particularly those with hearing impairment was passive. The instructors did not encourage the learners with special needs to ask and answer questions.

Overall, there was interaction among students. The interaction of students with special needs and other students is an extremely important part of instruction in an inclusive education school. The interaction helps the other students form positive, accepting attitudes towards students with special needs. In addition, the students with special needs have the opportunity to learn appropriate social skills. The findings attest that the practices of inclusive education was enhanced at the college through the interaction among students in classrooms, and these interactions provided many learning opportunities for all learners especially students with special needs, for example, the interactions stimulated the learners' involvement in the lessons; fueled learners' motivation to learn and to see the relevance of the subject content; and developed competency and critical thinking in students.

These results are corroborated by the universal designs of instruction which is one of the main categories of feminist disability theory of universal design in educational settings. Interaction is one of the aspect of universal designs of instruction which emphasizes that in an inclusive classroom there are regular and effective interactions between learners and the teacher (Burgstahler, 2007a).

The regular and effective interactions as suggested by this theory are interactions that forms positive relationships among instructors and learners; interactions that provide learners with frequent engaging learning activities; interactions that teach learners to think critically and provide ongoing feedback and support; the interactions that stimulates the learners' involvement in the lessons; interactions that fuels learners' motivation to learn and see the relevance of the subject content. From the suggested effective and regular interactions, the following interactions were evident but very low: providing learners with frequent engaging learning activities; teaching learners to think critically and providing ongoing feedback.

The findings also indicate that there was little interaction between instructors and students with special needs. This meant that students with special needs were not fully participating and engaged in the learning process thereby, undermining the effective practices of inclusive education. Lack of interaction between instructors and learners demotivates students to learn and can make the students with special needs to be at risk of dropping out from school. The interactions between instructors and all learners is one of the most powerful elements within the learning environment (Liberante, 2012). The main factor affecting learners' development, school engagement and academic motivation is the interaction between teachers and students in the classroom, which form the basis of the social context in which learning takes place (Hughes & Chen, 2011; Liberante, 2012; Roorda, Koomen, Spilt, & Oort, 2011; Spilt, Koomen, & Thijs, 2011). Positive interactions between teachers and learners ultimately promote a sense of school belonging and encourage learners to participate cooperatively in classroom activities (Hughes & Chen, 2011; Liberante, 2012). Furthermore, positive student and teacher interactions serve as a resource for learners at risk of school failure, while disconnection between teachers and learners may compound that threat (Ladd & Burgess, 2001).

4.11 Classroom Accommodation

The findings from the classroom observations revealed that the following classroom accommodations were provided to the students in classrooms: using visual presentations of verbal material such as posters, allowing students to use native language for responses, increasing waiting time for responses. The students were also assisted in other ways, such as allowing students to sit where he/she learns best, for example, near the instructor, giving the students extra time to complete assignments, tasks or projects, and providing assistance to students with special needs when moving around the classrooms. Nevertheless, other important classroom accommodations were not provided, for example, allowing students to listen to audio recordings instead of reading text; providing written materials in alternate formats such as large print, audio formats, and digital text; recording a lesson,

instead of taking notes; using an alarm to help the students with time management; providing additional personal space between desks in most classes observed; and providing accessible classroom places and accessible furniture such as special desks, tables and chairs.

The findings showed that there was no full classroom accommodation. However, the key to success for many learners with special needs and for many without, lies in having appropriate accommodations made to the instruction and other classroom activities. Students especially those with special needs need accommodations to their educational programs in order to participate fully in the general curriculum and to be successful in educational institutions (Pacer Center, 2015). The results imply that students were not fully participating in their lessons because of insufficient classroom accommodation, which resulted in not achieving the goals of IE. These findings are also supported by the principles of the theoretical framework to which this study is based, for example, equitable use, flexibility in use and perceptible information. On equitable use, the teaching and learning materials were supposed to be available in various formats, for example, teaching notes were supposed to be available in print form, large print form, audio form and in braille (Bremer et al., 2002; Burgstahler, 2012b; Conn-Powers et al., 2006). This would have allowed all learners equal access to learning thereby enhancing inclusive education. On flexibility in use, teachers would have allowed learners to demonstrate knowledge through multiple means and teachers would have used materials that are adapted to suit all learners (Bremer et al., 2002; Burgstahler, 2012b). While on perceptible information, teachers would have provided students with special needs access to materials in alternative formats (Bremer et al., 2002). Classroom accommodation allows learners to complete the same assignment, task or activity as other learners but with a change in the timing, formatting, setting, scheduling, response and presentation, which result in achieving the aims of inclusive education (Pacer Center, 2015). The results suggest that lack of skills and knowledge by teachers made the teachers not to accommodate the learners fully.

4.12 Chapter Summary

This chapter presented and discussed the findings of the study. It contained the background of the participants and the themes that emerged from the data. The themes were as follows: the physical college environment, availability of furniture and classrooms, teaching and learning strategies used at the college, teachers' knowledge and skills, availability of teaching and learning materials for IE, support services, teachers' knowledge and skills for IE, support services, classroom climate, interaction and accommodation. The summary, conclusion and recommendations of the study are presented in chapter five.

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary, the conclusion drawn and the recommendations made as an outgrowth of this study. This chapter also offers suggestions for further study. This study was investigating the practices of IE in public technical colleges in Malawi. The study was undertaken at Soche Technical College as a case study.

5.2 Summary

The purpose of the study was to investigate the practices of IE in Malawi public technical colleges. A case study design was used. The research philosophy that informed this study is phenomenology. The target population was 71 and comprised of 30 instructors, 40 students with special needs and the principal. The population was drawn from Soche Technical College. Purposive sampling was used to draw the sample which comprised of the principal of the college, 12 students with various special needs and 8 instructors who were teaching inclusive classes. A qualitative approach was adopted to collect data. The data collection methods used were interviews, observation, and focus group discussion. Thematic analysis was used to analyse data. The research study has already discussed the results according to these methods.

The study intended to answer the following research objectives:

1. To examine the availability of resources for effective inclusive teaching and learning.
2. To examine the college environment for its support to the effective implementation of IE.
3. To examine instructor's skills and knowledge for the inclusive setting.

The salient findings of the study were as follows:

The first objective of the study was to examine the availability of resources for effective inclusive teaching and learning. The study established that the college did not have adequate resources and facilities for effective inclusive teaching and learning. For example, the college had inadequate teaching and learning resources, furniture and classrooms. Furthermore, the college was not receiving adequate support services for IE, from MLYMD, parents and professionals such as educational psychologists, health professionals and speech-language therapists.

The second objective of the study was to examine the college environment for its support to the effective implementation of IE. The study found that the college environment did not support the effective implementation of IE. The physical college environment was not accessible by most learners and this was hindering the effective practices of IE.

The last objective of the study was to examine instructor's skills and knowledge for the inclusive setting. The study established that instructors lacked knowledge and skills for handling students with special needs in an inclusive classroom. This was as a result of lack of professional development on IE and lack of teacher education by some teachers. Instructors' lack of knowledge and skills were mostly exhibited during the classroom observations. For example, the teaching and learning strategies that teachers were using when teaching. This study found that teacher centred method was the teaching and learning strategy that was mostly used by teachers, yet this teaching method does not cater for individual differences. Little interaction between instructors and students with special needs in classrooms and inadequate classroom accommodations also revealed teachers' lack of knowledge and skills.

The findings of this study have been discussed and compared against the existing literature on inclusive education in chapter four. The findings of this study imply that the actual practices of IE at Soche Technical College were hindered. Students with special needs were being exposed to a different education environment than their normal colleagues. Learners at the college were not given equal opportunities to learning because of how inclusive education was practised. This undermined the aims of inclusive education which are eliminating exclusion, providing equal opportunities for all learners, widening access to education and improving the educational opportunities of all learners (Ainscow, 2005b; Lindsay, 2007; UNESCO, 1994; United Nations, 2006). The results of the study indicate that implementation of inclusive education at Soche technical college was experiencing challenges. These findings have a significant contribution to an understanding of IE practices in Malawi's public technical colleges by identifying what needs to be done to ensure effective implementation of IE. These findings have also important implications to the broader context of inclusive education by revealing challenges that affects the implementation of IE in technical colleges as well as other education institutions; and suggested measures of overcoming the challenges. The findings of the study are hoped to assist the practitioners and policy makers to effectively implement the policy of Inclusive Education in educational institutions by identifying what needs to be done to ensure effective implementation of the actual practices of IE. There is an urgent need for practitioners and policy makers to understand and address the challenges

experienced in implementing inclusive education in the educational institutions, if Malawi is to address the exclusion of learners from the education system.

5.3 Conclusion

The study established that IE at Soche Technical College was experiencing challenges to some extent. Students with special needs were being exposed to a different education environment than their normal colleagues because the actual practices of IE were being overlooked during its implementation. In addition, students with special needs were excluded in other educational activities. It is clearly evident that Soche Technical College lacked adequate facilities and teaching and learning resources for inclusive education. The status of teaching and learning materials, facilities and equipment are insufficient, outdated, dilapidated and unsuitable for inclusive education. This situation raises concern about the quality of education provided to the students, equal access of students to education at the college and the effectiveness of inclusive education. The enrollment of students with special needs in regular colleges in such conditions is a manifestation of not practicing inclusive education. The study provided evidence that failure by the college to implement the actual practices of IE also emanated from lack of support services and lack of knowledge and skills by teachers for handling students with special needs. These issues posed significant barriers to the effective practices of IE at the college. Therefore, the study suggest that enrollment of students with special needs in regular colleges is not adequate; it is vital to ensure that students with special needs acquire all the necessary resources, support and services for IE in order to progress. Teachers also need to be provided with enough resources and support, as well as be equipped with relevant skills and knowledge for implementing IE. Although the findings of this study focused on public technical colleges in Malawi, particularly Soche Technical College, the recommendations are also beneficial to all technical colleges and higher educational institutions in Malawi.

5.4 Recommendations

Based on the findings of the study and conclusions presented, the following recommendations were made:

1. The Government should provide adequate teaching and learning resources suitable for all learners at Soche Technical College to ensure that all students, including those with special needs are adequately and appropriately catered for.

2. The Government should restructure the physical environment at Soche Technical College to ensure a safe and accessible infrastructure for all students for effective learning to take place in the classroom and the broader college environment.
3. The Government should employ special education teachers to support general education teachers in teaching inclusive classrooms. The Government should also conduct ongoing professional development on IE with Soche Technical College instructors.
4. The college should employ teachers who have undergone teacher education training.
5. The college should make an effort to source funds from donors, well-wishers and Non-Governmental Organisations to expand the provision of appropriate facilities. This will complement the funds that the college receives from the government which is insufficient to put in place adapted facilities, appropriate learning resources and functional devices for students with special needs at the college.
6. The Government should provide sufficient funding to the college. The government should also provide the college with extra funding to cater for the special needs education programme.
7. The college should ensure collaboration and teamwork between instructors; between learners; and with parents, caregivers, professionals and colleges in the neighbourhood. All the stakeholders should be encouraged to play a part in the implementation of IE.
8. The college should reduce the student-teacher ratio in classrooms.

5.5 Suggestions for Further Research

The researcher proposes further research in the following areas:

- The study was carried out at one public technical college and therefore more research needs to be carried out in other public technical colleges.
- The study was carried out at a public technical college and therefore similar research needs to be carried out in private technical colleges and other higher education learning institutions.
- This study revealed some of the challenges affecting the implementation of IE at Soche Technical College, other challenges that were not revealed by this study need to be researched and suggest all the possible solutions for the challenges.
- Further study can also look into the experience of the successful special need students, how they excelled and what motivated them.

5.6 Chapter Summary

This chapter presented the summary of the findings, the conclusions drawn from this study and the recommendations made from this study. This chapter also offered suggestions for further research.

REFERENCES

Abidin, M. J. Z., Rezaee, A. A., Abdullah, H. N. & Singh, K. K. B. (2011). Learning styles and overall academic achievement in a specific educational system. *International Journal of Humanities and Social Science, 1*(10), 143-152.

Adelman, H. S. & Taylor, L. (2000). Classroom climate In S. W. Lee, P. A. Lowe & E. Robinson (Eds.), *Encyclopedia of School Psychology*. Thousand Oaks, CA: Sage.

Adeogun, A. A. (2001). The principal and the financial management of public secondary schools in Osun State. *Journal of Educational System and Development, 5*(1), 1-10.

Aderemi, T. J. (2010). Physical accessibility audit checklist. *United States Agency International Development*. Retrieved from: http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB8QFjAA&url=http%3A%2F%2Fwww.heard.org.za%2Fdownloads%2Fphysical-accessibility.pdf&ei=_pa_VIHeMZTYavOTgYAP&usg=AFQjCNGvyV5WbX9K7E8t12ImsyKGy8sBaw&bvm=bv.83829542,d.d2s

Agran, M., Blanchard, C., & Wehmeyer, M. L. (2000). Promoting transition goals and self-determination through student self-directed learning: The self-determined learning model of instruction. *Education and Training in Mental Retardation and Developmental Disabilities, 35*, 351-364.

Ainscow, M. (2004). Developing inclusive education systems: What are the levers for change? . Retrieved from: https://www.uam.es/personal_pdi/stmaria/sarrio/DOCUMENTOS,%20ARTICULOS,%20PONENECIAS,/Developing%20educational%20inclusive%20setings.pdf

Ainscow, M. (2005a). Developing inclusive education systems: What are the levers for change? *Journal of Educational Change, 6*(2), 109-124.

Ainscow, M. (2005b). Understanding the development of inclusive education system. *Electronic Journal of Research in Educational Psychology, 3*(7), 5-20.

Ainscow, M. (2016). Diversity and equity: A Global education challenge. *New Zealand Journal of Educational Studies, 51*(2), 143-155. doi: 10.1007/s40841-016-0056-x

Ainscow, M., Booth, T. & Dyson, A. (2006). *Improving schools, developing inclusion*. Retrieved from: https://www.scribd.com/document/324078885/Ainscow-Dyson-B-Improving-Schools-Developing-In-BookFi-org-pdf

Ainscow, M., Dyson, A. & Weiner, S. (2014). From exclusion to inclusion a review of international literature on ways of responding to students with special educational needs in school. *En-clave Pedagógica 1*(13), 13-30.

Altrichter, H., Posch, P. & Somekh, B. (1996). *Teachers investigate their work: An introduction to the methods of action research*. London: Routledge.

Alur, M. (2001). Some cultural and moral implications of inclusive education in India—a personal view. *Journal of Moral Education, 30*(3), 287-297.

Aronson, E. (1978). *The jigsaw classroom*. Beverly Hills, CA: Sage Publications.

Avramidis, E., Bayliss, P. & Burden, R. (2000). Student teachers attitudes towards the inclusion of children with special educational needs in the ordinary school. *Teaching and Teacher Education, 16*, 277-293.

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.

Bacon, J. K. & Causton-Theoharis, J. (2012). 'It should be teamwork': A critical investigation of school practices and parent advocacy in special education. *International Journal of Inclusive Education, 17*(7), 682-699. doi: 10.1080/13603116.2012.708060

Baglieri, S. (2008). 'I connected': Reflection and biography in teacher learning toward inclusion. *International Journal of Inclusive Education, 12*(5-6), 585-604.

Baglieri, S., Bejoian, L. M., Broderick, A. A., Connor, D. J. & Valle, J. (2011). [Re]claiming "inclusive education" toward cohesion in educational reform" disability studies unravels the myth of the normal child. *Teachers College Record, 113*(10), 2122-2154.

Barnum, L. & Glass, D. (2009). *Arts connects all: Case studies in fostering inclusive arts teaching and learning*. Washington, DC: VSA Arts.

Batu, S. E. (2010). Factors for the success of early childhood inclusion & related studies in Turkey. *Early Childhood Inclusion & Related Studies, 2*(1), 57–71.

Baxter, P. & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544-559.

Beckett, A. E. (2009). 'Challenging disabling attitudes, building an inclusive society': Considering the role of education in encouraging non-disabled children to develop positive attitudes towards disabled people. *British Journal of Sociology of Education 30*(3), 317–329.

Biklen, D. (2000). Constructing inclusion: Lessons from critical, disability narratives. *International Journal of Inclusive Education 4*(4), 337–353.

Biklen, D. & Burke, J. (2006). Presuming competence. *Equity & Excellence in Education, 39*(2), 166-175.

Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*, 77-101.

Breitenbach, M. M., Armstrong, V. L. & Bryson, S. E. (2013). The implementation of best education practices for a student severely affected by autism. *International Journal of Inclusive Education, 17*(3), 277–294.

Bremer, C. D., Clapper, A. T., Hitchcock, C., Hall, T., & Kachgal, M. (2002). Universal design: A strategy to support students' access to the general education curriculum. *National Center on Secondary Education and Transition Information Brief, 1(3),* 3–5.

Brink, H. I. L. (1993). *Validity and reliability in qualitative research*. Paper presented at the SA Society of Nurse Researchers' Workshop, South Africa.

British Assistive Technology Association. (2011). *Further information on what assistive technology is: Raising the awareness of assistive technology*. Retrieved from: http://www.bataonline.org/further-assistive-technology-definition

Broderick, A. A., Hawkins, G., Henze, S., Mirasol-Spath, C., Pollack-Berkovits, R., Prozzo Clune, H., . . . Steel, C. (2012). Teacher counter narratives: transgressing and 'restorying' disability in education. *International Journal of Inclusive Education, 16*(8), 825–842.

Brown, C. M., Packer, T. L. & Passmore, A. (2013). Adequacy of the regular early education classroom environment for students with visual impairment. *Journal of Special Education, 46*(4), 223–232.

Browning, L., Davis, B. & Resta, V. (2000). What do you mean "think before I act"?: Conflict resolution with choices. *Journal of Research in Childhood Education, 1*(14), 232-238.

Bucholz, J. L. & Sheffler, J. L. (2009). Creating a warm and inclusive classroom environment: Planning for all children to feel welcome. *Electronic Journal for Inclusive Education, 2*(4), 1–13.

Burgstahler, S. (2007a). *Equal access: Universal design of instruction*. Retrieved from: https://www.uw.edu/doit/Brochures/Academics/equal_access_udi.html

Burgstahler, S. (2007b). *Equal access: Universal design of physical spaces.* Retrieved from: https://www.uw.edu/doit/Brochures/Programs/equal_access_spaces.html

Burgstahler, S. (2007c). *Equal access: Universal design of student services*. Retrieved from: https://www.uw.edu/doit/Brochures/Academics/equal_access_ss.html

Burgstahler, S. (2009). *Universal design of instruction (UDI): Definition, principles, guidelines, and examples.* Retrieved from: http://www.washington.edu.doit

Burgstahler, S. (2012a). *Universal design in education: Principles and applications.* Retrieved from: https://www.washington.edu/doit/sites/default/files/atoms/files/Universal-Design-Education-Principles-Applications.pdf

Burgstahler, S. (2012b). *Universal design of instruction (UDI): Definition, principles, guidelines, and examples.* Retrieved from: http://www.washington.edu/doit/Brochures/Academics/instruction.html

Cagran, B. & Schmidt, M. (2011). Attitudes of Slovene teachers towards the inclusion of pupils with different types of special needs in primary school. *Educational Studies, 37*(2), 171–195.

Carlson, L., Hemmings, B., Wurf, G., & Reupert, A. (2012). The instructional strategies and attitudes of effective inclusive teachers. *Special Education Perspectives, 21*(1), 7-20.

Cavanaugh, T. W. (2000). *Assistive technology and inclusion*. Retrieved from: http://www.unf.edu/~tcavanau/presentations/SITE/ATandInclusionFull.htm

Center for Universal Design. (1997). *The principles of universal design, version 2.0*. Retrieved from: http://www.ncsu.edu/www/ncsu/design/sod5/cud/about_ud/udprinciplestext.htm.

Charema, J., & Peresuh, M. (1996). *Support services for special educational needs: Proposed models for countries south of the Sahara*. Kampala: Makerere University.

Chavuta, A., Phiri, A. N. I., Chiwaya, S., Sikero, N. & Alindiamao, G. (2008a). *Inclusive education project baseline study report*. Blantyre: Montfort Special Needs Education College and Leonard Cheshire Disability International.

Chavuta, A., Phiri, A. N. I., Chiwaya, S., Sikero, N. & Alindiamao, G. (2008b). *Inclusive education project: Baseline study report.* Retrieved from: http://www.eenet.org.uk/resources/docs/Malawi%20baseline%20study.pdf

Chilemba, M. E. (2013). The right to primary education of children with disabilities in Malawi: A diagnosis of the conceptual approach and implementation. *African Disability Rights Yearbook, 1*(2), 3–26.

Christensen, L. & Johnson, B. (2008). *Educational research: Quantitative, qualitative and mixed approaches*. Thousand Oaks, CA: SAGE.

Christensen, L. & Johnson, B. (2012). *Educational research: Quantitative, qualitative and mixed approaches* (4th ed.). [USA]: SAGE.

Christensen, L. & Johnson, B. (2014). *Educational research: Quantitative, qualitative and mixed approaches* (5th ed.). Thousand Oaks, California: SAGE.

Coates, J. & Vickerman, P. (2010). Empowering children with special educational needs to speak up: experiences of inclusive physical education. *Disability & Rehabilitation, 32*(18), 1517–1526.

Cohen, D. & Crabtree, B. (2006). *Qualitative research guidelines proj*ect. Retrieved from: http://www.qualres.org/HomeTria-3692.html

Cologon, K. (2012). Confidence in their own ability: Postgraduate early childhood students examining their attitudes towards inclusive education. *International Journal of Inclusive Education, 16*(11), 1155–1173.

Cologon, K. (2013). *Inclusion in education towards equality for students with disability.* Retrieved from: http://www.scribd.com/doc/280367068/Australia-Inclusion

Committee for Children. (2012). *Key factors in creating a positive classroom climate.* Retrieved from: http://www.cfchildren.org/about-us/enewsletter/key-factors-in-creating-a-positive-classroom-climate

Conn-Powers, M., Cross, A. F., Traub, E. K. & Hutter-Pishgahi, L. (2006). *The universal design of early education: Moving forward for all children. Beyond the journal: Young children on the web*. Bloomington: Indiana University.

Connor, D. & Goldmansour, K. (2012). Doing the civil right thing: Supporting children with disabilities in inclusive classes. *Bankstreet Occasional Papers, 28.* Retrieved from: https://www.bankstreet.edu/occasional-papers/occasional-papers-28/doing-the-civil-right-thing/

Corley, A. M. (2005). Differentiated instruction: Adjusting to the needs of all learners. *Focus on Basics, 7*(c), 13-16.

Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.

Curcic, S. (2009). Inclusion in PK-12: An international perspective. *International Journal of Inclusive Education*, *13*(5), 517-538.

Dabo, J. I. (2015). The effect of teacher-pupil ratio on teaching-learning process in Bauchi State Primary School. *International Journal of Science, Environment and Technology*, *4*, (4), 1218 – 1225.

Davis, K. A. (1992). Validity and reliability in qualitative research on second language acquisition and teaching: another researcher comments. *Tesol Quartery*, *26*(3), 605-608.

Department of Basic Education. (2010). *Education white paper 6: Guidelines for full-service/inclusive schools.* Retrieved from: http://www.education.gov.za/LinkClick.aspx?fileticket=WbxRkIOFaok%3D&tabid=617&mid=2372

Department of Education. (2001). *Education white paper 6: Special needs education, building an inclusive education and training system*. Pretoria: Department of Education.

Department of Education Employment and Workplace Relations (DEEWR). (2012). *Report on the Review of Disability Standards for Education 2005*. Canberra: Commonwealth of Australia.

Direct Access Consultancy. *School access audit checklist.* Retrieved from: http://www.accessaudits.com/wp-content/uploads/2014/06/FREE-SCHOOL-ACCESS-AUDIT-CHECKLIST.pdf

Dunn, R., Beaudry, J. & Klavas, A. (1989). Survey of research on learning styles. *Educational Leadership March*, 50-58.

DuPree, F. Z. (2012). *Valanced voices: Student experiences with learning disabilities & differences* (Master of Arts thesis), University of South Florida, Graduate School. Retrieved from: http://www.scholarcommons.usf.edu/etd/4038

Ehrlich, N. & Carlson, D. (2005). *Assistive technology and information technology use and need by persons with disabilities in the United States, 2001*. Washington, D.C: Department of Education, National Institute on Disability and Rehabilitation Research.

European Agency for Development in Special Needs Education. (2011). *Key Principles for promoting quality in inclusive education– recommendations for practice.* Retrieved from: https://www.european-agency.org/sites/default/files/Key-Principles-2011-EN.pdf

Field, P. A. & Morse, J. M. (1985). *Nursing research. The application of qualitative approaches*. Beckenham Kent: Croom Hehn.

Finke, E. H., McNaughton, D. B. & Drager, K. D. R. (2009). "All children can and should have the opportunity to learn": General education teachers' perspectives on including children with austism spectrum disorder who require AAC. *Augmentative and Alternative Communication, 25*(2), 110–122.

Florian, L. & Linklater, H. (2010). Preparing teachers for inclusive education: using inclusive pedagogy to enhance teaching and learning for all. *Cambridge Journal of Education, 40*(4), 369–386.

Ford, J. (2013). Educating students with learning disabilities in inclusive classrooms. *Electronic Journal for Inclusive Education, 3*(1).

Forlin, C., Cedillo, I. G., Romero-Contreras, S., Fletcher, T. & Hernández, H. J. R. (2010). Inclusion in Mexico: Ensuring supportive attitudes by newly graduated teachers. *International Journal of Inclusive Education, 14*(7), 723–739.

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, B. J. (1998). Classroom environment instruments: Development, validity, and applications. *Learning Environments Research, 1*, 7-33.

Freiberg, H. J. (1999). *School climate: Measuring, improving, and sustaining healthy learning environments*. London: Falmer Press.

Fuchs, L. S., Fuchs, D. & Mathes, P. G. (1996). *Peabody Peer-Assisted Learning Strategies (PALS): Reading methods* (Rev. ed.). Nashville: Vanderbilt University, Peabody College.

Gartrell, D. (2006). The beauty of class meetings. *Young Children, 61*(6), 54-55.

Gill, J. (2008). Social inclusion for South Australian schooling? Trying to reconcile the promise and the curriculum. *Journal of Education Policy, 23* (5), 453-467. doi: 10.1080/02680930802054404

Giorgi, A. & Giorgi, B. (2003). Phenomenology. In J. A. Smith (Ed.), *Qualitative psychology: A practical guide to research methods*. London: SAGE.

Glaser, B. G. & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research*. Piscataway, New Jersey: Transaction.

Greenwood, C. R., Delquadri, J. C. & Carta, J. J. (1999). *Classwide Peer Tutoring (CWPT) for teachers*. Longmont: Sopris West.

Grenier, M. (2010). Moving to inclusion: A socio-cultural analysis of practice. *International Journal of Inclusive Education, 14*(4), 387–400.

Hall, L. A. (2007). Understanding the silence: Struggling readers discuss decisions about reading expository text. *The Journal of Educational Research, 100*(3), 132-142.

Hamraie, A. (2013). Designing collective access: A feminist disability theory of universal design. *Center for Medicine Health and Society, 33*(4), 87–99.

Hannah, R. (2013). *The effect of classroom environment on student learning* (Honors Theses), Western Michigan University, Michigan. (Paper 2375)

Hansen, K. (2013). *College instructors' preparedness to teach students with learning disabilities.* University of Western Ontario, London. Retrieved from: http://ir.lib.uwo.ca/etd

Hauya, J. (1993). *Basic education in Malawi: Objectives, problems and perspectives* (1st ed.). Blantyre: Dzuka Publishing Company Ltd.

Hehir, T. (2002). Eliminating ableism in education. *Harvard Educational Review, 72*(1), 1-32.

Hemmings, B. & Woodcock, S. (2011). Preservice teachers' views of inclusive education: A content analysis. *Australasian Journal of Special Education, 35*(2), 103–116.

Huberman, A. M. & Miles, M. B. (1984). *Qualitative data analysis: A sourcebook of new methods*. Beverly Hills CA: Sage.

Hughes, J. N. & Chen, Q. (2011). Reciprocal effects of student–teacher and student–peer relatedness: Effects on academic self efficacy'. *Journal of Applied Developmental Psychology, 32*(5), 278–287.

Ijaiya, Y. (1997). Effect of overcrowded classroom on teacher-student interaction. *Ilorin Journal of Education, 19*(1), 1–11.

IMF. (2012). *Malawi Growth and Development Strategy II, 2011-2016.* Washington, DC: Author.

Instituto Universitario de Integración en la Comunidad. (2009). *Better education for all:When we're included too*. Retrieved from: https://www.scribd.com/document/77683506/Better-Education-for-All-Global-Report-October-2009

International Labour Office. (2007). *People with disabilities: Pathways to decent work: Report of a tripartite workshop, Malawi, Lilongwe*. Geneva: ILO.

Ismail, S. A. M. M. (2013). *Triangulation*. Retrieved from: http://www.slideshare.net

Johnson, R. & Johnson, D. (1999). *Learning together and alone*. Englewood Cliffs, NJ: Prentice-Hall.

Johnstone, C. J. & Chapman, D. W. (2009). Contributions and constraints to the implementation of inclusive education in Lesotho. *International Journal of Disability, Development and Education, 56*(2), 131-148.

Jones, M. (2006). Teaching self determination. *Teaching Exceptional Children, 39*(1), 12-17.

Jordan, A., Glenn, C. & McGhie-Richmond, D. (2010). The Supporting Effective Teaching (SET) project: The relationship of inclusive teaching practices to teachers' beliefs about disability and ability, and about their roles as teachers. *Teaching and Teacher Education, 26*(2), 259-266.

Kachaje, R. (2014). *The barriers hindering inclusion in education: Experiences from Malawi.* Paper presented at the Equal rights, equal opportunities, education and disability, House of Literature in Oslo, Norway.

Kafia, E. (2014). Teachers and parents awareness– A key factor to success of inclusive education. *European Scientific Journal, 10*(28), 327-335.

Kalfus, G. R. (1984). Peer-mediated instruction: A critical review. *Child Development and Family Behavior Therapy, 6*, 17-43.

Kamchedzera, E. T. (2008). Special needs teacher education (SNTE) in Malawi: Present status and trends. *International Journal of Knowledge, Culture and Change Management, 8*(1), 247-252.

Kamchedzera, E. T. (2010). *Education of pupils with disabilities in malawi's inclusive secondary schools: Policy, practice and experience.* (PhD thesis), University of Warwick, United kingdom.

Kamchedzera, E. T. & Aubrey, C. A. (2010). *Implementation of inclusion policy in Malawian Secondary Schools*. Paper presented at the Bera Comference, University of Warwick, United Kingdom. Retrieved from: http://www.beraconference.co.uk/2010/downloads/abstracts/pdf/BERA2010_0705.pdf

Kasa-Hendrickson, C., & Kluth, P. (2005). "We have to start with inclusion and work it out as we go": Purposeful inclusion for non-verbal students with autism. *International Journal of Whole Schooling, 2*(1), 2-14.

Kaur, J. & Arora, B. (2014). Inclusive education – An integrated approach. *IMPACT: International Journal of Research in Humanities, Arts and Literature (IMPACT: IJRHAL), 2*(2), 59-64.

Kenyan Republic. (1999). *Report of the Commission of Inquiry into Education System of Kenya. Totally Integrated Quality Education and Training*. Nairobi: Government Printer.

Kimmel, A. J. (1996). *Ethical issues in behavioural research*. Cambridge: Blackwell.

Kirk, A. S. & Anastasiow, N. J. (2003). *Teaching exceptional children* (10th ed.). Houghton.

Koutrouba, K., Vamvakari, M., & Steliou, M. (2006). Factors correlated with teachers' attitudes towards the inclusion of students with special educational needs in Cyprus. *European Journal of Special Needs Education, 21*(4), 381–394.

Kuyini, B. A. & Mangope, B. (2011). Student teachers' attitudes and concerns about inclusive education in Ghana and Botswana.

Ladd, G. W. & Burgess, K. B. (2001). Do relational risks and protective factors moderate the linkages between childhood aggression and early psychological and school adjustment? *Child Development, 72*, 1579–1601.

Lalvani, P. (2013). Privilege, compromise, or social justice: Teachers' conceptualizations of inclusive education. *Disability & Society, 28*(1), 14–27.

Le Comple, M. D., & Goetz, J. P. (1992). Problems of reliability and validity in ethnographic research. *Review of Educational Research, 52*(1), 31-60.

Liberante, L. (2012). The importance of teacher–student relationships, as explored through the lens of the NSW Quality Teaching Model. *Journal of Student Engagement: Education Matters, 2*(1), 2–9.

Likoko, S., Mutsotso, S. & Nasongo, J. (2013). The adequacy of instructional materials and physical facilities and their effects on quality of teacher preparation in emerging private

primary teacher training colleges in Bungoma County, Kenya. *International Journal of Science and Research, 2*(1), 403-408.

Lindsay, G. (2007). Educational psychology and the effectiveness of inclusive education/mainstreaming. *British Journal of Educational Psychology, 77,* 1-24.

Lundeberg, M. A., Emmett, J., Osland, P. A. & Lindquist, N. (1997). Down with put-downs! *Educational Leadership, 55*, 36-37.

Macartney, B. & Morton, M. (2011). Kinds of participation: Teacher and special education perceptions and practices of 'inclusion' in early childhood and primary school settings. *International Journal of Inclusive Education, 11* (2), 1-17. doi: 10.1080/13603116.2011.602529

Maheady, L., Harper, G. F. & Mallette, B. (1991). Peer-mediated instruction: A review of potential application for special education. *Reading, Writing, and Learning Disabilities International, 7*, 75-103.

Marshall, C. & Rossman, G. B. (1989). *Designing qualitative research*. Newbury Park, CA: Sage.

Mayer, D. (2009). Disibility and inclusion: Changing attitudes - changing policy. *Our Schools/Our Selves, (Spring 2009),* 159–168.

McLean, M. A. (2008). Teaching about disability: An ethical responsibility? *International Journal of Inclusive Education 12*(5), 605–519.

McMillan, J. & Schumacher, S. (2014). *Research in education: Evidence-based inquiry* (7th ed.). USA: Pearson.

Merriam, S. B. (1998). *Qualitative research and case study applications in education.* San Fransisco: Jossey-Bass.

MEXT. (2014). *Special needs education*. Retrieved from: http://www.mext.go.jp/english/elsec/1303763.htm

Miles, S. (2000). *Enabling inclusive education: Challenges and dilemmas*. Retrieved from: http://www.eenet.org.uk/resources/docs/bonn_2.php

Miles, S. & Singal, N. (2010). The education for All and inclusive education debate: conflict, contradiction or opportunity? *International Journal of Inclusive Education, 14*(1), 1—15, . doi: 10.1080/13603110802265125

Miller, F. (2007). Inclusive education in the Pacific. *Journal of Educational Studies, 29*(1 & 2).

Ministry of Education. (1972). *Education Plan 1972-1980*. Lilongwe: Author.

Ministry of Education. (2004). *Education for All national action plan*. Malawi: Author.

Ministry of Education and Vocational Training. (2008). *National Education Sector Plan 2008-2017*. Lilongwe, Malawi: Author.

Ministry of Labour. (2013). *Technical, Entrepreneurial and Vocational Education and Training (TEVET) Policy*. Lilongwe: Government print.

Mitiku, W., Alemu, Y. & Mengsitu, S. (2014). Challenges and opportunities to implement inclusive education. *Asian Journal of Humanity, Art and Literature, 1*(2), 118-136.

MOEST. (2012). *Education bill*. Lilongwe: Government of Malawi.

Mogharreban, C. & Bruns, D. (2009). Moving to inclusive pre-kindergarten classrooms: Lessons from the field. *Early Childhood Education Journal, 36*(5), 407–414.

Moraa, O. T. (2013). *School based factors influencing integration of special needs education in public primary schools in Masaba north district, Kenya.* (Master of Education Degree in Curriculum Studies), University of Nairobi, Kenya.

Morris, C. & Sharma, U. (2011). Facilitating the inclusion of children with vision impairment: Perspectives of itinerant support teachers. *Australasian Journal of Special Education, 35*(2), 191–203.

Mukhopadhyay, S. (2013). Voices of experience: Botswana primary schools teachers on inclusive education. *European Journal of Educational Studies, 5*(1), 73-85.

Mukhopadhyay, S., Johnson, N. H. & Abosi, O. (2012). Inclusive education for learners with disabilities in Botswana primary schools. *SAGE Open*, *4*(1), 1-9. doi: 10.1177/2158244012451584

National Committee on Education Support Services. (1997). *Quality education for all: Overcoming barriers to learning and development*. Pretoria: Department of Education.

Nwazuoke, I. A. (2004). Challenges of inclusive educational practices in Nigeria. *TheJournal of Advocacy and rehabilitation in Special Education (JARSE), 2*, 5-12.

Obiakor, F. E., Harris, M., Mutua, K., Rotatori, A. & Algozzine, B. (2012). Making inclusion work in general education classrooms. *Education and Treatment of Children, 35*, 477-490.

Offredy, M. & Vickers, P. (2010). *Developing a healthcare research proposal: An interactive student guide*. Retrieved from: https://books.google.com.

Pacer Center. (2015). *School accommodation and modification ideas for students who receive special education services*. Retrieved from: http://www.pacer.org/parent/php/PHP-c49a.pdf

Palmer, S. & Wehmeyer, M. L. (2003). Promoting self-determination in early elementary school: Teaching self-regulated problem solving and goal setting skills. *Remedial and Special Education, 24*(2), 115-126.

Peters, S. (2003). *Education for all: Including children with disabilities.* Washington, DC: World Bank.

Peters, S. (2004). *Inclusive education: An EFA strategy for all children*. Retrieved from: http://www.worldbank.org

Petriwskyj, A. (2010a). Diversity and inclusion in the early years. *International Journal of Inclusive Education, 14*(2), 195–212.

Petriwskyj, A. (2010b). Who has rights to what? Inclusion in Australian early childhood programs. *Contemporary Issues in Early Childhood, 11*(4), 342–352.

Pivik, J., McComas, J. & Laflamme, M. (2002). Barriers and facilitators to inclusive education. *Exceptional Children, 69*(1), 97-107.

Porter, L. (1999). *Young children's behavior: Practical approaches for caregivers and teachers*. Philadelphia, PA: MacLennan & Petty.

Purdue, K. (2009). Barriers to and facilitators of inclusion for children with disabilities in early childhood education. *Contemporary Issues in Early Childhood, 10*(2), 133–143.

Rajeshwari, S. & Chander, S. (2014). Student teacher's perception and preparedness towards inclusive education of learners with intellectual disability. *International Journal of Research in Applied, Natural and Social Sciences, 2*(3), 1-6.

Roorda, D. L., Koomen, H. M. Y., Spilt, J. L. & Oort, F. J. (2011). The influence of affective teacher–student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research, 81*(4), 493–529.

Rose, D. H. & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning*. Alexandria, VA: ASCD.

Sakiz, H. & Woods, C. (2014). From thinking to practice: school staff views on disability inclusion in Turkey. *European Journal of Special Needs Education, 29*(2), 135–152. doi: 10.1080/08856257.2014.882058

Samuels, C. A. (2007). Universal design concept pushed for education. *Education Week, 27*(10), 1-12.

Sapon-Shevin, M. (2005). Ability differences in the classroom: Teaching and learning in inclusive classrooms. In D. Byrnes & G. Kiger (Eds.), *Common bonds: Anti-bias teaching in a diverse society* (3rd ed., pp. 37-40). Wheaton, MD: Association for Childhood Education International.

Save the Children. (2006). *Inclusive education. A policy statement.* Retrieved from: http://www.eenet.org.uk/resources/docs/SC%20UK%20IE%20policy%20English.pdf

Scruggs, T. E., Mastropieri, M. A. & Marshak, L. (2012). Peer-mediated instruction in inclusive secondary social studies learning: Direct and indirect learning effects. *Learning Disabilities Research & Practice, 27*, 12-20.

Shaeffer, S. (2002). *The Dakar Framework for Action - Education for All: Meeting our collective commitments by focusing on education for rural people.* Retrieved from: http://www.fao.org/fileadmin/templates/ERP/2013/link_Virtual_pub/pub_48.pdf

Sharma, U., Forlin, C. & Loreman, T. (2008). Impact of training on pre-service teachers' attitudes and concerns about inclusive education and sentiments about persons with disabilities. *Disability & Society, 23*(7), 773–785.

Sharma, U., Moore, D. & Sonawane, S. (2009). Attitudes and concerns of pre-service teachers regarding inclusion of students with disabilities into regular schools in Pune, India. *Asia-Pacific Journal of Teacher Education, 37*(3), 319-331.

Simonnet, G. D. & Modrick, J. E. (2010). Advancing inclusive education and 21st century learning skills through the arts. *UNESCO Observatory, Faculty of Architecture, Building and Planning, the University of Melbourne refereed e-journal, 1*(5) , 1-16.

Singal, N. (2005). Mapping the field of inclusive education: a review of Indian literature. *International Journal of Inclusive Education, 9*, 331-350.

Slevin, E. (2002). Enhancing the truthfulness, consistency and transferability of a qualitative study: using a manifold of two approaches. *Nurse Researcher, 7*, 79-197.

Sokolowski, R. (2000). *Introduction to phenomenology*. New York: Cambridge University Press.

Solis, M., Vaughn, S., Swanson, E. & McCulley, L. (2012). Collaborative models of instruction: The empirical foundation of inclusion and co-teaching. *Psychology in the Schools, 49*, 498-510.

Spilt, J., Koomen, H. M. & Thijs, J. (2011). Teacher wellbeing: The importance of teacher–student relationships. *Educational Psychology Review, 23*(4), 457–477.

Stronge, J. H. (2002). *Qualities of effective teachers*. Alexandria, VA: Association for Supervision and Curriculum Development.

Theodorou, F., & Nind, M. (2010). Inclusion in play: A case study of a child with autism in an inclusive nursery. *Journal of Research in Special Educational Needs, 10*(2), 99–106.

Thompson, S. J., Johnstone, C. J. & Thurlow, M. L. (2002). Universal design applied to large scale assessments (Synthesis Report 44). Minneapolis: University of Minnesota, National Center on Educational Outcomes.

Tomlinson, C. A. (2001). *How to differentiate instruction in mixed-ability classrooms* (2nd ed.). Alexandria: Association for Supervision and Curriculum Development.

Trepanier-Street, M. (2010). Education and medical professionals collaborating to prepare early childhood teachers for inclusive settings. *Journal of Early Childhood Teacher Education, 31*(1), 63–70. .

UNESCO. (1994). *The Salamanca World Conference on Special Needs Education: Access and Quality*. Paris: UNESCO.

UNESCO. (2003). *Overcoming exclusion through inclusive approaches in education*. Retrieved from: http://www.addc.org.au/documents/resources/031101-overcoming-exclusion-through-inclusive-approaches-in-education_1185.doc

UNESCO. (2008). *Inclusive education: The way of the future*. Paper presented at the International Conference on Education, International Conference Centre, Geneva.

UNESCO. (2009a). *Policy guidelines on inclusion in education.* Retrieved from: http://unesdoc.unesco.org/images/0017/001778/177849e.pdf

UNESCO. (2009b). *Towards inclusive education for children with disabilities: A guideline.* Retrieved from: http://www.uis.unesco.org/Library/Documents/disabchild09-en.pdf

UNESCO. (2014). *Moving towards inclusive approaches to learning.* Retrieved from: http://www.ibe.unesco.org/en/themes/curricular-themes/inclusive-education/single-view/news/moving-towards-inclusive-approaches-to-learning.html

United Nations. (2006). *Convention on the Rights of Persons with Disabilities*. Retrieved from: http://www.un.org/disabilities/default.asp?id=150

Vaughn, S., Schumm, J. S. & Arguelles, M. E. (1997). The ABCDE's of co-teaching. *Teaching Exceptional Children, 24*, 67-74.

Vaughn, S., Shay, Schumm, J. & Sinagub, J. (1996). *Focus group interviews in education and psychology*. Thousand Oaks, CA: Sage Publications, Inc.

Villa, R. A., Thousand, J. S. & Nevin, A. I. (2008). *A guide to co-teaching: Practical tips for facilitating student learning*. Retrieved from: http://www.slideshare.net/tina.meyer1/a-guide-to-co-teaching

Wachira, S. W. (2012). *School based factors influencing effective implementation of inclusive education in public primary schools in Kikuyu district, Kenya.* (Master of Education Degree in Curriculum Studies), University of Nairobi, Kenya.

Wagner, M., Newman, L., Cameto, R., Levine, P. & Garza, N. (2006). *An overview of findings from Wave 2 of the National Longitudinal Transition Study-2 (NLTS2).* Retrieved from: http://files.eric.ed.gov/fulltext/ED495660.pdf

Walker, L. & Logan, A. (2009). *Using digital technologies to promote inclusive practices in education.* Retrieved from: http://www.futurelab.org.uk

Weber, A. S. (2012). Inclusive education in the Gulf Cooperation Council. *Journal of Educational and Instructional Studies in the World, 2*(2).

Wendell, S. (Ed.). (1996). *The rejected body: Feminist philosophical reflections on disability.* New York: Routledge.

Winzer, M. A. & Mazurek, K. (2011). International practices in special education: Debates and challenges. Retrieved from: https://www.scribd.com/document/264239933/International-Practices-in-Special-Education

World Bank. (2003). Education for all: Including children with disabilities. Washington, DC: Author.

World Education Forum. (2000). *The Dakar Framework for Action: Education for All – Meeting our collective commitments*. Paris: UNESCO. (ED-2000/WS/27).

Yasmin, F., Akbar, A. & Hussain, B. (2016). The impact of perceptual learning styles on academic performance of Masters' level education students. *Sci.Int. (Lahore), 28*(3), 2953-2958.

Yin, R. K. (2003). *Case study research: Design and methods* (3rd ed.). Thousand Oaks, CA: Sage.

APPENDICES

Appendix 1: Request to Interview the Principal, Instructors and Students

The Principal

Soche Technical College

P/Bag 515

Blantyre

25 January, 2016

Dear Sir/Madam

REFERENCE: REQUEST TO INTERVIEW THE PRINCIPAL, EDUCATORS AND STUDENTS.

I am a student at the Malawi Polytechnic. I am doing Master of Technical and Vocational Education. I am conducting a research study titled "Investigating the Practices of Inclusive Education in Public Technical Colleges in Malawi: A Case of Soche Technical College", in partial fulfillment of the requirements of a Master's degree.

I would like to ask for permission to have an interview with you, your instructors and the students on 1 February, 2016. I will also need to have an observation on how instructors teach in an inclusive classroom.

Your consideration shall be greatly appreciated.

Yours faithfully,

Kenneth Scott Phiri

Appendix 2: Instructor Consent Form

Study title: Investigating the Practices of Inclusive Education in Public Technical Colleges in Malawi: A Case of Soche Technical College.

Dear instructor,

I am a student at the Malawi Polytechnic. I am doing Master of Technical and Vocational Education. I am conducting a research study titled "Investigating the Practices of Inclusive Education in Public Technical Colleges in Malawi: A Case of Soche Technical College", in partial fulfillment of the requirements of a Master's degree.

The purpose of this study is to investigate the practices of inclusive education in public technical colleges in Malawi. The study will attempt to unveil the successes and challenges in the implementation of Inclusive Education in the technical colleges and also establish the possible solutions to the challenges to ensure effective Inclusive Education.

Your participation involves interview. You will be interviewed by me about inclusive practices at your college. The interview will take place at your college on 1 February, 2015. The interview will take about 30 minutes. In addition, I will be visiting your classes to observe the inclusive practices. You may not benefit personally by this study; however, your participation may provide a long-term benefit on improving the practice of inclusive education in public technical colleges. There are no costs for participating in this study other than time you will spend during the interview.

Your response to the interview questions will be strictly confidential. I will not tell anyone the responses that you will give me. The findings from this study may be presented at meetings or published in papers, but your name will never be used in these presentations or papers. Further, only summary results of the study will be reported.

If this consent form contains language that is unclear, please ask me to answer any questions or address any concerns you may have about the consent process and/study in general. If you consent to participate in the study, please sign and return this form.

You are not forced to participate in this study. If you choose to participate, you may stop at any time without any penalty. You may also choose not to answer particular questions that are asked in the survey. You may withdraw from the study at any time, for any reason, without any consequence from me.

In future, if you have questions about your participation in this study, contact:

Kenneth Scott Phiri
Cell: 0999 657 125/0884 361 955
Email: kennethphiri82@yahoo.com

CONSENT

I have been given the chance to read this consent form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature says that I am willing to participate in this study.

_____ _____ _____

Participant printed name Signature Date

_____

Name of person conducting informed consent

_____ _____

Signature of person conducting informed consent Date

Appendix 3: Principal Consent Form

Study title: Investigating the Practices of Inclusive Education in Public Technical Colleges in Malawi: A Case of Soche Technical College.

Dear principal,

I am a student at the Malawi Polytechnic. I am doing Master of Technical and Vocational Education. I am conducting a research study titled "Investigating the practices of Inclusive Education in public technical colleges in Malawi: A case of Soche Technical College", in partial fulfillment of the requirements of a Master's degree.

The purpose of this study is to investigate the practices of inclusive education in public technical colleges in Malawi. The study will attempt to unveil the successes and challenges in the implementation of Inclusive Education in the technical colleges and also establish the possible solutions to the challenges to ensure effective Inclusive Education.

Your participation involves interview. You will be interviewed by me about inclusive practices at your college. The interview will take place at your college on 1 February, 2016. The interview will take about 30 minutes. You may not benefit personally by this study; however, your participation may provide a long-term benefit on improving the practice of inclusive education in public technical colleges. There are no costs for participating in this study other than time you will spend during the interview.

Your response to the interview questions will be strictly confidential. I will not tell anyone the responses that you will give me. The findings from this study may be presented at meetings or published in papers, but your name will never be used in these presentations or papers. Further, only summary results of the study will be reported.

If this consent form contains language that is unclear, please ask me to answer any questions or address any concerns you may have about the consent process and/study in general. If you consent to participate in the study, please sign and return this form.

You are not forced to participate in this study. If you choose to participate, you may stop at any time without any penalty. You may also choose not to answer particular questions that are asked in the survey. You may withdraw from the study at any time, for any reason, without any consequence from me.

In future, if you have questions about your participation in this study, contact:

Kenneth Scott Phiri
Cell: 0999 657 125/0884 361 955
Email: kennethphiri82@yahoo,com

CONSENT

I have been given the chance to read this consent form. I understand the information about this study. Questions that I wanted to ask about the study have been answered. My signature says that I am willing to participate in this study.

_____ _____ _____

Participant printed name Signature Date

_____

Name of person conducting informed consent

_____ _____

Signature of person conducting informed consent Date

Appendix 4: Student Consent Form

Study title: Investigating the Practices of Inclusive Education in Public Technical Colleges in Malawi: A Case of Soche Technical College.

Dear Student,

I am a student at the Malawi Polytechnic. I am doing Master of Technical and Vocational Education. I am conducting a research study titled "Investigating the practices of Inclusive Education in Public Technical Colleges in Malawi: A case of Soche Technical College", in partial fulfillment of the requirements of a Master's degree.

The purpose of this study is to investigate the practices of inclusive education in public technical colleges in Malawi. The study will attempt to unveil the successes and challenges in the implementation of Inclusive Education in the technical colleges and also establish the possible solutions to the challenges to ensure effective Inclusive Education.

Your participation involves focus group interview. You will be interviewed in a group of students by me about inclusive practices at your college. The interview will take place at your college on 2 February, 2016. The interview will take about 30 minutes. You may not benefit personally by this study; however, your participation may provide a long-term benefit on improving the practice of inclusive education in public technical colleges. There are no costs for participating in this study other than time you will spend during the interview.

Your response to the interview questions will be strictly confidential. I will not tell anyone the responses that you will give me. The findings from this study may be presented at meetings or published in papers, but your name will never be used in these presentations or papers.

If this consent form contains language that is unclear, please ask me to answer any questions or address any concerns you may have about the consent process and/study in general. If you consent to participate in the study, please sign and return this form.

You are not forced to participate in this study. If you choose to participate, you may stop at any time without any penalty. You may also choose not to answer particular questions that are asked in the survey. You may withdraw from the study at any time, for any reason, without any consequence from me.

In future, if you have questions about your participation in this study, contact:

Kenneth Scott Phiri
Cell: 0999 657 125/0884 361 955
Email: kennethphiri82@yahoo,com

CONSENT

I have read this form. I understand the information about this study. I am willing to participate in this study.

_____ _____ _____

Participant printed name Signature Date

_____

Name of person conducting informed consent

_____ _____

Signature of person conducting informed consent Date

Appendix 5: Interview Guide for Teachers

The interview guide is divided into sections.

Section 1: Physical facilities

1. Does your college have classes specifically designed to accommodate all students including those with special needs?
2. Are the pupils able to access the classrooms with ease?
3. Has the college provided desks specifically designed for use by all students including those with special needs?
4. Have the toilets been renovated to cater for all students including those with special needs?

Section 2: Teaching and learning materials

5. Does the college provide teaching materials specifically designed for students with special needs?
6. Does the college have enough teaching and learning materials for students with special needs?
7. Explain the challenges you face in relation to teaching and learning materials for students with special needs?
8. What teaching and learning resources are not available, but you feel there is a need to have them at your college?
9. Does the college library have a variety of textbooks and specialized learning materials suitable for all students?

Section 3: Teachers' qualifications and training needs

10. Are you trained in special needs education?
11. What professional qualifications do you possess in relation to special needs education?
12. Do you have comprehensive and ongoing system for staff development in inclusive education?
13. What areas of special needs education do you feel need to be trained in?

Section 4: Support services

14. What kind of support do you get from the College Management Team (CMT) with regards to teaching students with special needs in an inclusive classroom?
15. What kind of support do you get from parents?

16. What kind of support do you get from the nearby special schools?
17. Which employees from other departments do you work closely with in order to help students with special needs at this college?
18. Is there teamwork among teachers and other professionals?
19. Does your college collaborate with health authorities who organize periodic health examinations for students?

Section 5: Teaching and learning strategies

20. Do you use and adapt teaching methods that meet the needs of diverse learners in the classroom?
21. Do you respect and celebrate students' individual differences and abilities?
22. Do you give equal opportunities for students to learn in the classroom irrespective of their special needs?
23. Do you use multi-sensory ways to support different styles of learning when presenting information and content?
24. Do you use a variety of teaching aids that are multisensory in teaching?
25. Do you facilitate collaborative problem-solving between students?
26. Which teaching strategies do you use when teaching in an inclusive classroom?

Section 6: Suggestions on implementation of inclusive education

27. Suggest ways through which inclusive education can be enhanced in technical colleges.

Appendix 6: Interview Guide for Principal

The interview guide is divided into sections.

Section 1: Physical facilities

1. Does your college have enough classes to cater for all the enrolled students?
2. Have the classrooms and other buildings been designed for easy access by all learners including those with special educational needs?
3. Have desks been designed for use by all learners including those with special educational needs?
4. Are there toilets specifically designed for all learners including those with special educational needs?
5. Is the lay-out of buildings user-friendly for students with disabilities e.g. students on wheelchair?

Section 2: Teaching and learning materials

6. Are there enough teaching/learning materials for use by teachers for the provision of special education?
7. Has your college provided reading materials to those learners with special educational needs?
8. What measures do you suggest should be put in place to ensure that those students with special needs access learning materials with ease?

Section 3: Personnel development

9. Have you ever been trained to manage an inclusive college?
10. Do you have professional development programmes to assist educators in order for them to be able to implement inclusive education at this college?
11. Does this college have budget set aside to cater for staff (professional & support) development for inclusive purposes?

Section 4: Instructors' qualifications

12. Have the instructors been trained in handling students with special needs?
13. Have you ever requested for instructors trained in special needs education?
14. How many of the instructors in your college are trained in special education?

Section 5: Suggestions on the implementation of inclusive education in technical colleges

15. What suggestions do you have in relation to:
    a. Facilities for inclusive education?
    b. Teaching and learning materials for inclusive education?
16. What support services do you suggest would be provided to ease the implementation of inclusive education by the Ministry of Labour?
17. What support services do you suggest would be provided to ease the implementation of inclusive education by the community?
18. What support services do you suggest would be provided to ease the implementation of inclusive education by the teacher?
19. What do you regard as main threats to the successful implementation of inclusive education at this college?
20. What do you regard as main opportunities in successfully implementing inclusive education in technical colleges?

Appendix 7: Interview Guide for Students

1. Are you able to access all the physical facilities at this college with ease? E.g. classrooms, toilets and recreation hall.
2. Which areas of the college are you not able to access or you access them but with difficulties?
3. Are you able to learn effectively in an inclusive classroom without difficulties? If no, what difficulties do you meet when learning?
4. Do you receive adequate support from teachers?
5. Do you receive adequate support from peers?
6. Does the college library have a variety of textbooks and specialized learning materials suitable for all students?
7. Do your teachers use a variety of teaching aids that are multisensory in teaching?
8. Do teachers use multi-sensory ways to support different styles of learning when presenting information and content?
9. Do your teachers sometimes alter classroom seating arrangements to suit a particular learning need?
10. Are you active participants in the learning process?
11. Do teachers use and adapt teaching methods that meet the needs of diverse learners in the class?
12. Do teachers respect and celebrate your individual differences and abilities?
13. Are you given equal opportunities to learn in the classroom irrespective of education special need?
14. Do you receive positive feedback from friends and teachers?
15. Are you made to feel confident and comfortable in the class?
16. Do teachers support peer social relationships?
17. Do teachers facilitate collaborative problem-solving between students?
18. What problems do you encounter at this college?
19. Suggest ways through which these problems can be solved to enhance inclusive education in technical colleges?

Appendix 8: Observation Checklist

Question	Yes/on	Detail
Checklist 1 – Ramps		
1.1 Wide enough and suitably graded? Is there colour contrast to the surface of the ramp?		
1.2 Suitable handrails on each side?		
1.3 Surface slip-resistant, firmly fixed and easy to maintain?		
1.4 Edges protected to prevent accidents?		
1.5 Are all ramps at acceptable gradients		
Checklist 2 – Steps		
2.1 Visual and tactile warnings at the top and bottom of steps?		
2.2 Suitable handrails on each side? Are handrails suitably colour contrasted to aid people with impaired vision?		
2.3 Lighting adequate and well positioned? Are steps appropriately illuminated during dark hours?		
Checklist 3 – Entrances		
3.1 Door opening wide enough for all users? Enough space alongside leading edge for a wheel chair user to open the door while clear of the door swing?		
3.2 If there are steps at the main entrance, is there signage indicating where the accessible entrance is located?		
3.3 Can people each side of the door, either standing or seated, see each other and be seen? If the entrance is solid, is this due to security concerns?		
3.4 Door control at a suitable height for both		

standing and seated users? Are door handles clearly located, easy to use and grip?		
3.5 Door closer of appropriate type? Can the door be easily opened single handedly?		
Checklist 4-Corridors and Internal Surfaces		
4.1 Corridor wide enough for a wheel chair user to manoeuvre and for other people to pass? Turning space for wheel chair users?		
4.2 Free from obstruction to wheel chair users and from hazards to people with impaired sight?		
4.3 Are all key facilities within the school accessible for all users? E.g. Sport Hall, Main Hall, Music Room, Changing Room etc. Where there are facilities not available can these be swopped with a standard classroom?		
4.4 Floor surfaces suitable for passage of wheelchairs? Junctions between floor surfaces correctly detailed?		
4.5 Colours, tones and textures varied to help people distinguish between surfaces and fixtures and fittings? Do the floors suitably colour contrast against the walls?		
4.6 Floor surfaces slip-resistant?		
Checklist 5 – Internal Doors		
5.1 Glass door: clearly visible when closed?		
5.2 Can people each side of the door, either standing or seated, see each other and be seen?		
5.3 Clear opening width sufficient for a wheel chair user? Adequate space available alongside leading edge for a wheel chair user to open the door while clear of the door swing?		
5.4 Door control at a height suitable for both standing and seated users? Easily gripped and		

operated? Control clearly distinguishable from the door itself?		
5.4 Door light enough to open easily? Door closers of an appropriate type and with minimum necessary opening pressure?		
Checklist 6 – WC Provision & Changing Areas		
6.1 Lobby door light enough to open easily? Lobby of sufficient size for easy access?		
6.2 Slip-resistant floors throughout?		
6.3 Compartment door controls all easily gripped and operated? Are cubicle doors suitably colour contrasted against the panels?		
6.4 Are urinals well contrasted and do they have grab rails to assist people with ambulant disabilities?		
6.5 Are lever style taps provided within the WCs to aid people with dexterity impairments?		
6.6 When there is no accessible WC available, is there a facility provided for people with ambulant disabilities?		
6.7 Where there are shower facilities, is a grab rail provided? Is there a level access shower for disabled people?		
Checklist 7 – WCs: Wheelchair Users		
7.1 Compartment large enough to allow manoeuvring into position for frontal, lateral, angled and backward transfer unassisted and with assistance?		
7.2 Sufficient space available outside toilet compartment for manoeuvre? Is the entrance wide enough and does it opens outwards?		
7.3 Door controls, lock and light switch easily reached and operated? Is there a grab rail to the		

inner face of the entrance?		
7.4 Tap appropriate for use by a person with limited dexterity, grip of strength?		
7.5 Suitably designed grab rails fitted in all positions necessary to assist manoeuvring? Are grab rails suitably colour contrasted to aid people with impaired vision?		
Checklist 8 – Service-area Accessibility (Seats and Tables or desks)		
8.1 Are the aisles between chairs or tables at least 1 meter wide?		
8.2 Are the spaces for wheelchair seating distributed throughout?		
8.3 Are the tops of tables or desks between 0.7 and 1 meter high (or adjustable)?		
8.4 Are knee spaces at accessible tables at least 0.7 meters high, 0.8 meters wide and 0.5 meters deep?		
Checklist 9: Signage		
9.1 Are all signage 1.5 meters above the ground?		
9.2 Are signs on doors on the same side as the door knob?		
9.3 Is signage well lit, using uniform lighting (e.g., not spotlights), with illumination coming from behind or beside the text or sign?		
9.4 Is signage in clear contrasting colors (e.g., black and white)?		
9.5 Is signage in Braille?		
Checklist 10: Support services		
10.1 Do teachers, parents and other professionals work together to assess and plan programmes for special needs students?		

10.2 Are there specialised staffs such as counselors, sign language interpreters who can help students with special learning needs?		
Checklist 11: Teaching and learning strategies		
11.1 Do teachers use and adapt teaching methods that meet the needs of diverse learners in the class? 11.2 Do teachers use multi-sensory ways to support different styles of learning when presenting information and content? 11.3 Which teaching strategies are used when teaching in an inclusive classroom? 11.4 Do teachers support peer social relationships?		

Appendix 9: Classroom Observation Schedule

WHAT TO BE OBSERVED	OBSERVATION
Interactions between instructors and learners	
Interaction among learners	
Pedagogical practice	
Classroom accommodation	
Lesson content	
Teaching and learning materials used	
Language of instruction	
Classroom management strategies	
Classroom environment	

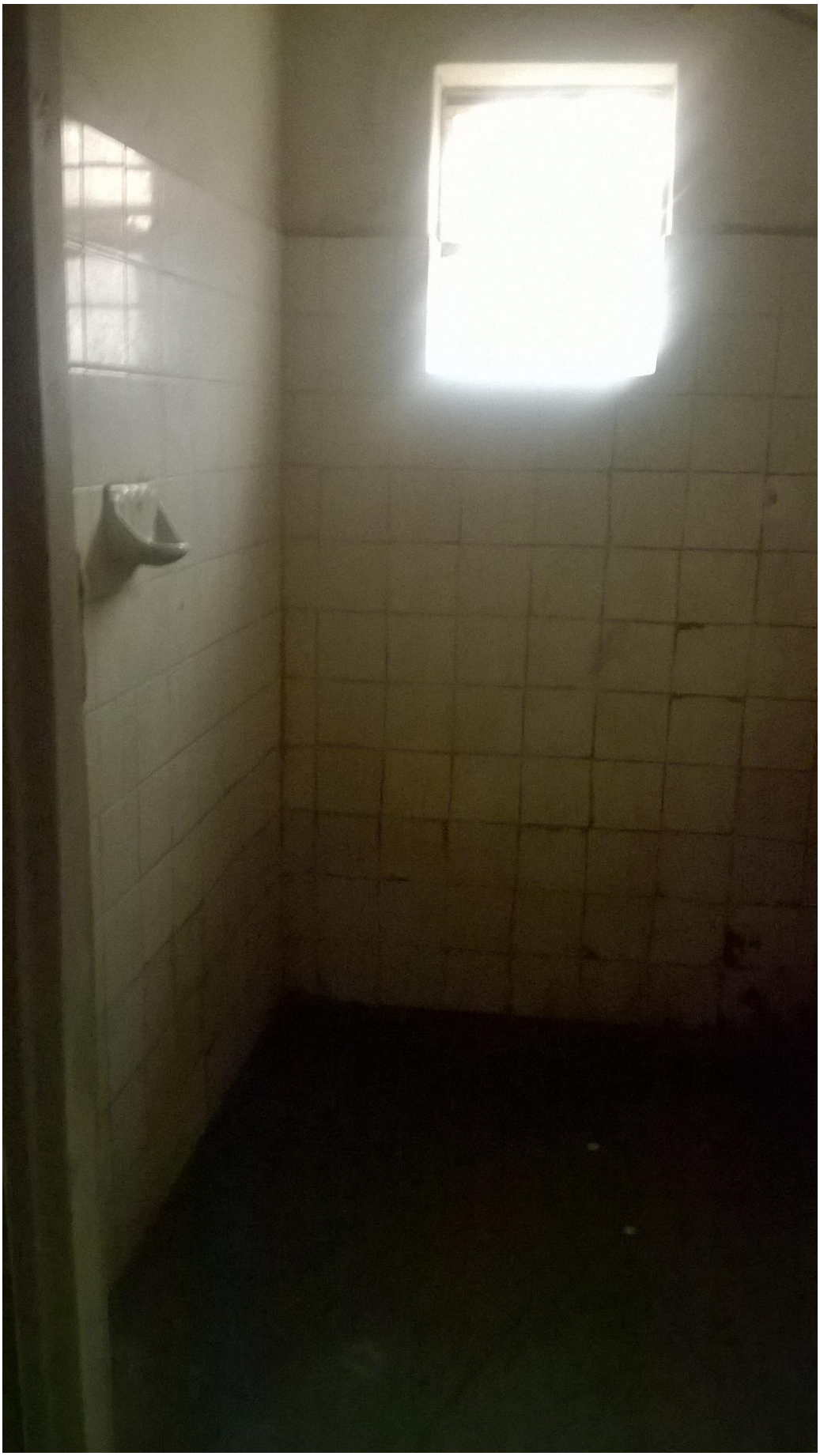
Appendix 10: Office with steps only

Appendix 11: Ramp on hostel

Appendix 12: Bottom of steps without visual and tactile warnings

Appendix 13: Urinal block with non-slip resistant floor

Appendix 14: Toilet and shower room without grab rails



Appendix 15: Signage

Appendix 16: Classroom with inadequate and inappropriate furniture