



University of Fort Hare
Together in Excellence

**An assessment of the strategies for implementing inclusive education in
Teacher Education in Zimbabwe**

**A thesis submitted in fulfilment of the requirements for the Doctor of
Philosophy Degree**

University of Fort Hare

Ellen Makiwa

Student No. 201506891

Supervisor: Prof T. D. Mushoriwa

ABSTRACT

Inclusive education has become a global trend in the 21st century and is seen as a way of addressing barriers to learning for children with diverse backgrounds, needs, abilities and learning styles. The key to the success of the implementation of inclusive education lies in teacher education as this is where teachers are trained. Teacher education is thus expected to equip pre-service teacher trainees with relevant and effective strategies to enable them to implement inclusive education effectively in the schools in response to learner diversity. This study therefore focused on assessing the strategies for implementing inclusive education that teacher educators equip their pre-service trainees with in the primary teacher training colleges in Zimbabwe.

The research was grounded in the pragmatist paradigm and the mixed method approach was employed. Data were collected from two primary teacher training colleges in Zimbabwe and in primary schools in the Harare Metropolitan Province. The participants were lecturers (teacher educators), pre-service trainees in the final phase of the course and qualified teachers who trained with the two colleges and are teaching in the Mbare-Hatfield District of the Harare Metropolitan Province.

The study found out that most of the lecturers, pre-service teacher trainees and qualified teachers knew about inclusive education although some had a narrow view of the extent to which learner diversity entails. Therefore, this could affect the way these educators perceive inclusive teaching strategies in the implementation of inclusive education. The main finding was that the teaching strategies that pre-service trainees were equipped with were not quite effective for inclusive classrooms.

The study also unveiled that lecturers in the primary teacher training colleges were aware of different teaching strategies with which pre-service trainees can be equipped and exposed to in order for effective teaching and learning to take place. They, however, did not differentiate between those strategies for regular classes and those for inclusive ones. Although the lecturers were aware of inclusive teaching strategies, they did not do much to equip their trainees with these due to challenges which include lack of coordinated programmes in lecturing in the different subject areas; lack of integration in topics taught in the different subject areas; loaded

timetables in the teacher education curriculum; the nature of the teacher education curriculum which is not flexible as it focuses on examinations; inadequate resources and high lecturer-student ratio in the colleges; and high teacher-pupil ratio in the primary schools where the pre-service trainees do their teaching practice.

The researcher made some recommendations from the conclusions drawn from the research findings. The recommendations included that there is need for adequate teacher preparation and training to enable teachers to be flexible, accommodative and reflective in their practice in terms of employing teaching strategies. The researcher also recommended a review of the primary teacher education curriculum in its entirety to accommodate fully the teaching of inclusive education.

Key words: Inclusive education, inclusion, teacher education, strategies

ACKNOWLEDGEMENTS

I wish to direct my sincere gratitude to my supervisor Professor T.D. Mushoriwa for his patience and support throughout the period of my study. I also appreciate the efforts of my dear sister and friend Dr. Jenny Mavurayi Shumba for pushing me on when it was tough, my fellow doctoral students at the University of Fort Hare who supported me throughout my study and Professor S. Rembe for the encouragement.

I especially express my appreciation to my friends Admire Kativu and Munyaradzi Mutebuka for the patience they exercised when I needed assistance in ICT-related issues as I was producing the thesis document. I am grateful to my workmates at Morgan Zintec College for the support and encouragement to continue soldiering on even in difficult times.

To my mother, I say thank you for the prayers during difficult times. I also thank my husband Tranos Makiwa for exercising patience and for the financial support; my children Tracey Tarisai, Trish Tafadzwa and Travis Takudzwa for the moral support my sisters Joan and Cynthia for the encouragement; and, my brother Bernard for the guidance and support he provided.

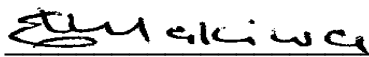
Finally, I remain indebted to the Ministries of Primary and Secondary Education and Higher and Tertiary Education Science and Development in Zimbabwe for allowing me to carry out my study in the primary schools and teacher training colleges.

DEDICATION

This work is dedicated to my mother Sharlate Musesengwe, my husband Tranos Makiwa and my children Tracey, Trish and Travis.

DECLARATION

I declare that “An assessment of the strategies for implementing inclusive education in Teacher Education in Zimbabwe” is my own work and all the sources used have been acknowledged.



Signature

06-08-2017

Date

Table of Contents

ABSTRACT	i
ACKNOWLEDGEMENTS.....	iii
DEDICATION	iv
DECLARATION	v
LIST OF FIGURES.....	xiii
LIST OF TABLES	xiv
ACRONYMS	xv
1 THE PROBLEM AND ITS SETTING	1
1.1 Introduction.....	1
1.2 Background of the study	2
1.2.1 The situation in Zimbabwe	5
1.2.2 Teacher education	7
1.3 Statement of the problem	11
1.4 Research questions	12
1.4.1 Main research question	12
1.4.2 Sub questions.....	12
1.5 Objectives of the study	12
1.6 Purpose of the study.....	12
1.7 Significance of the study.....	13
1.8 Delimitation of the study	13
1.9 Definition of terms.....	14
1.10 Chapter outline	15
1.11 Summary	16
2 LITERATURE REVIEW.....	17

2.1	Introduction.....	17
2.2	Theoretical framework	17
2.2.1	Howard Gardner’s theory of multiple intelligences.....	18
2.2.1.1	Verbal linguistic intelligence.....	19
2.2.1.2	Logical-mathematical intelligence.....	20
2.2.1.3	Spatial intelligence.....	20
2.2.1.4	Bodily-kinesthetic intelligence.....	21
2.2.1.5	Musical intelligence	21
2.2.1.6	Interpersonal intelligence.....	21
2.2.1.7	Intrapersonal intelligence.....	22
2.2.1.8	Naturalistic intelligence	22
2.2.1.9	Existential intelligence	22
2.2.2	Vygotsky’s socio-cultural theory	23
2.2.2.1	The Zone of Proximal development (ZPD)	24
2.2.2.2	The more knowledgeable other (MKO).....	26
2.2.2.2.1	Link between multiple intelligences and Vygotsky’s theory	27
2.3	Conceptual framework.....	27
2.3.1	Teaching strategies	27
2.3.1.1	Traditional teaching strategies.....	29
2.3.1.2	Lecturing/telling/exposition	29
2.3.1.3	The demonstration method.....	30
2.3.1.4	The story-telling method	31
2.3.1.5	Drilling/drill and practice	32
2.3.2	Modern teaching strategies/progressive teaching methods.....	33
2.3.2.1	Discovery method.....	34
2.3.2.2	Problem-based learning	35
2.3.2.3	Project-based learning.....	36
2.3.2.4	Group work	37
2.3.2.5	Question and answer.....	37
2.3.2.6	Role play.....	38
2.3.2.7	Discussion	38
2.4	Inclusive education	39
2.4.1	Rationale for inclusive education	42

2.4.2	Benefits of inclusive education	43
2.4.3	Goals of inclusive teacher education	46
2.4.3.1	Preparing trainees to enter a profession which accepts individual and collective responsibility for improving the learning and participation of all children	47
2.4.3.2	Equipping trainee teachers with the knowledge, attitudes classroom techniques and curriculum strategies for inclusive school practice.....	47
2.4.3.3	To help trainee teachers develop a wider perspective to educational difficulties and approaches to teaching in inclusive classroom (Mariga et al., 2014)	47
2.4.3.4	To produce teachers who are capable of addressing and integrating diversity in the classroom	48
2.5	Strategies for implementing inclusive education.....	48
2.5.1	Differentiation	49
2.5.2	Co-teaching	51
2.5.2.1	One teaches, one assists	52
2.5.2.2	Station teaching	52
2.5.2.3	Parallel teaching	52
2.5.2.4	Alternative teaching	52
2.5.2.5	Team teaching	52
2.6	Profile of inclusive teachers.....	52
2.6.1	Pedagogical skills	53
2.6.1.1	Provision of multiple means of representation	54
2.6.1.2	Provision of multiple means of action and expression	54
2.6.1.3	Provision of multiple means of engagement.....	55
2.6.1.4	Collaborative skills.....	55
2.6.2	Inclusive teacher competencies.....	56
2.7	Inclusive teacher education training techniques	59
2.8	Indicators of inclusive teaching and learning	60
2.9	Techniques for assessing inclusive teacher practice	62
2.10	Empirical studies	63
2.11	Summary	65

3	RESEARCH METHODOLOGY	67
3.1	Introduction.....	67
3.2	Research paradigm	67
3.3	Research approach	72
3.3.1	Quantitative research approaches.....	74
3.3.2	Qualitative research.....	75
3.3.3	Mixed methods research	75
3.3.3.1	Strengths of mixed methods approach	77
3.3.3.2	Weaknesses of mixed methods approach	78
3.3.4	Rationale for conducting the mixed methods research	78
3.3.4.1	Triangulation.....	78
3.3.4.2	Complementarity	79
3.3.4.3	Development	79
3.3.4.4	Initiation	79
3.3.4.5	Expansion.....	79
3.3.5	Convergent parallel mixed methods design.....	80
3.3.6	Explanatory sequential designs	82
3.3.7	Exploratory sequential mixed method design	83
3.3.8	Embedded mixed methods design	84
3.3.9	Concurrent triangulation mixed methods design.....	85
3.3.10	Concurrent transformative mixed methods design	86
3.3.11	Multiphase mixed methods design	88
3.4	Research design.....	88
3.4.1	Convergent parallel design	89
3.4.2	Exploratory sequential design.....	89
3.4.3	Exploratory sequential design.....	89
3.4.4	Embedded design.....	89
3.4.5	Concurrent triangulation design.....	90
3.5	Population.....	92
3.6	Sample and sampling procedures	93
3.7	Data collecting instruments.....	95
3.7.1	The questionnaire	95

3.7.2	Face-to-face semi-structured interviews	97
3.7.3	Focus group discussions	98
3.7.4	Document analysis	100
3.8	Validity, reliability and trustworthiness	101
3.8.1	Validity and reliability	101
3.8.2	Trustworthiness	102
3.8.3	Credibility	102
3.8.4	Transferability	102
3.8.5	Dependability	102
3.8.6	Confirmability	103
3.9	Data collection	103
3.10	Data analysis	103
3.11	Ethical considerations	104
3.11.1	Anonymity and confidentiality	105
3.11.2	Voluntary participation	105
3.11.3	Informed consent	105
3.11.4	Deception	106
3.12	Summary	106
4	DATA PRESENTATION AND ANALYSIS AND DISCUSSION.....	108
4.1	Introduction	108
4.2	Results and analysis/discussion	109
4.2.1	PART 1: Findings from lecturers (n=40)	109
4.2.1.1	Biographic information	109
4.2.2	Analysis/discussion based on research questions.....	112
4.2.2.1	How the curriculum for initial teacher education equips pre-service trainees with strategies for implementing inclusive education	112
4.2.2.2	Strengths and weakness in the strategies with which lecturers equip pre-service trainees	124
4.2.2.3	Strengths and limitations of the strategies with which lecturers equip pre-service trainees	126

4.2.2.4	How teacher education can develop effective strategies for the successful implementation of inclusive education	138
4.3	PART 2: Findings from pre-service teacher trainees (n=40).....	149
4.3.1	Biographic information	149
4.3.2	Pre-service trainees' knowledge on inclusive education.....	150
4.3.3	Teaching strategies pre-service trainees were equipped with	154
4.4	Part 3: Findings from former students of the 2 colleges (n=40)	175
4.4.1	Biographic information	175
4.4.2	Knowledge on inclusive education.....	177
4.4.3	Teaching strategies teachers were equipped with in college.....	179
4.4.4	Exposure to assistive devices.....	185
4.4.5	Teacher competencies	191
4.5	Summary	194
5	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS	196
5.1	Introduction.....	196
5.2	Summary of key ideas from each chapter	196
5.3	Summary of findings	199
5.3.1	Inadequate resources	200
5.3.2	High lecturer-student ratio	201
5.3.3	Nature of the teacher education curriculum and the loaded timetable	201
5.3.4	Lack of adequate time for teaching inclusive education	202
5.3.5	Lack of knowledge and inadequate inclusive skills among lecturers	202
5.4	Conclusions	205
5.5	Recommendations based on the findings of the study	206
5.6	Recommendations for future research	207
	REFERENCES.....	208
	List of Appendices	228
	Appendix A: Ethical Clearance certificate	228

Appendix B: Permission to carry out research	230
Appendix C: Request of authority to carry out research.....	231
Appendix D: Information letter for participants.....	232
Appendix E: Consent by participants.....	233
Appendix F: Questionnaire for lecturers.....	234
Appendix G: Questionnaire for pre-service teacher trainees.....	241
Appendix H: Questionnaire for teachers (Former students of the two colleges under study)	247
Appendix I: Interview guide for lecturers.....	253
Appendix J: Interview guide for pre-service teacher trainees	254
Appendix L: Focus group discussions (Lecturers).....	255
Appendix M: Focus Group discussions (Pre-service trainees)	256
Appendix N: Theory of education Syllabus	257
Appendix O: Pre-Service teacher trainee schemes of work.....	284
Appendix P: Editor’s Certificate.....	286

LIST OF FIGURES

Figure 2-1: Talk-and-Chalk method of teaching	30
Figure 2-2: Rouse's Inclusive teacher competencies	57
Figure 3-1: Ontological, epistemological and methodological aspects of research paradigms	69
Figure 3-2: Research paradigms	70
Figure 3-3: The inter connection of worldviews (paradigms), design and research methods	73
Figure 3-4: Procedures in the convergent parallel design	81
Figure 3-5: Research process in the explanatory sequential design	83
Figure 3-6: Exploratory sequential design	84
Figure 3-7: Embedded mixed methods design	85
Figure 3-8: Concurrent triangulation design	86
Figure 3-9: Concurrent transformative design	87
Figure 3-10: Multiphase mixed methods design	88
Figure 3-11: Triangulation in concurrent triangulation design.....	92

LIST OF TABLES

Table 4-1: Participants by gender (n=40)	110
Table 4-2: Participants by age (n=40)	110
Table 4-3: Participants by experience (n=40)	111
Table 4-4: Participants by qualifications (n=40)	111
Table 4-5: Lecturers' understanding of inclusive teaching strategies	121
Table 4-6: Rating of teaching strategies (n=40)	130
Table 4-7: Availability of assistive technology in colleges (n=40)	131
Table 4-8: Pre-service trainees' exposure assistive technology in college	133
Table 4-9: Assessment as setting specific and realistic targets for improvement in learning	135
Table 4-10: Participants by gender (n=40)	149
Table 4-11: Participants by age (n=40)	150
Table 4-12: Sensitisation to use of assistive devices	159
Table 4-13: Competence in teaching classes characterised by learner diversity ...	167
Table 4-14: Participants by gender (n=40)	175
Table 4-15: Participants by age (n=40)	176
Table 4-16: participants by teaching experience (n=40)	176
Table 4-17: Learning assessment as an integral part of teaching strategies	189

ACRONYMS

UNESCO United Nations education Science and Cultural Organisation

HIV Human Immune Virus

AIDS Acquire Immune Deficiency Syndrome

NCLB No Child left Behind Act

IDEA Individuals with Disabilities Education Act

PWD Persons with disabilities

BEAM Basic Education Assistance Module

DTE Department of Teacher Education

UNICEF United Nations Children's Fund

ZPD Zone of proximal development

MKO More knowledgeable other

PSA Professional Studies Syllabus A

PSB Professional Studies Syllabus B

ICT Information and communication technology

ECD Early childhood development

TP Teaching practice

DSTV Digital Satellite Television

CHAPTER ONE

THE PROBLEM AND ITS SETTING

1.1 Introduction

This study assessed the strategies for implementing inclusive education in teacher education in Zimbabwe. The study was necessary in that unless teacher training institutions produce effective inclusive teachers, inclusive education may not yield the desired results. Inclusive education is a critical component in the development of the whole child. UNESCO (1994) states that inclusion promotes quality and equity in education for all. A key factor in the success of inclusive education is the teachers' professional competence to work with children from diverse backgrounds and with diverse needs and abilities. Given that the teacher is one of the key elements in the success of inclusive education, there is need to prepare teachers to be able to handle diverse student populations as they will be increasingly required to teach in inclusive classrooms (Forlin, Loreman, Sharma & Earle, 2009).

It cannot be disputed that education is a right to every child. Therefore, all children including those with disabilities, those from poor backgrounds, those who are disadvantaged, the gifted, ethnic and linguistic minorities, etc. are no exception in accessing this basic human right. To this end, inclusion has been embraced as the best concept that benefits all children in their diversity. Teachers who are key elements in the teaching and learning of children need to be trained to be flexible in their teaching of children in their diversity through appropriate teaching strategies. As Vygotsky (1978) observes, teachers need to work with all children at the instructional levels. This means that individual children need to be taught not as a class but as individuals. Therefore, teachers need to be trained to be able to handle learners from diverse backgrounds and with diverse needs, learning styles and abilities. Hence the need to assess the strategies with which teacher educators equip their pre-service trainees as a way of preparing them to handle inclusive classes.

This chapter serves to contextualise the problem under study. The chapter focuses on the problem, research questions, objectives of the study, purpose of the study, significance of the study, delimitation of the study and definition of terms. The

chapter ends with a summary of the structure of the thesis in terms of chapter outline.

1.2 Background of the study

Inclusive education is an issue of human rights and social justice. It has its roots in the World Declaration on Education for All adopted in Jomtien, Thailand in 1990, which set out an overall vision of universalising access to education for all children, youths and adults, and thus promoting equity (UNESCO, 2009). Inclusive education was seen as a way of achieving education for all and as a foundation of a more just and equal society. This was reinforced at the World Conference on Special Needs Education held in Salamanca, Spain in June 1994. The Salamanca Statement which emerged from the conference focused on inclusive education and recommended that schools should accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions (UNESCO, 1994). The World Education Forum meeting which was held in Dakar in April 2000 reaffirmed the vision of inclusive education. According to UNESCO (2009), this forum declared that education for all must take cognisance of the needs of the poor, the disadvantaged, ethnic and linguistic minorities, children, young people and adults affected by conflict, HIV and AIDS, hunger and poor health, and those with disabilities or special learning needs. The forum also emphasised that special focus was to be put on girls and women.

There is a growing impetus towards inclusive education the world over, Zimbabwe included. Muyungu (2015) observes that there is considerable change and movement towards inclusive education worldwide, where many countries are currently reviewing and adjusting special education policies to suit the current changes inclusive education. Inclusive education has been endorsed internationally by UNESCO's Salamanca Framework for Action (1994) which reflects the United Nations' global strategy of Education for All (Farrell & Ainscow, 2002). Inclusive education is now being viewed as central to human rights. It has its roots on fundamental human rights which advocate that everyone must be treated equally and according to need (Winter & O'Raw, 2010). Education is a fundamental human right as is reflected in the Universal Declaration of Human Rights (United Nations, 1948).

Many countries, including those in Africa, were signatories to these declarations, and this was proof that they had agreed to implement inclusive education. The Republic of Ireland is one such country. Provision of education for pupils with special educational needs has made significant advances in Ireland. This is evidenced by policy shift from parallel systems of special and mainstream education towards “provision underpinned by legislation with a presumption for inclusion” (Shevlin, Winter & Flynn, 2013). There was rapid development in the provision of education for pupils with special educational needs as a result of the Special Education Review Committee Report of 1993 and this was reinforced through the Education of Persons with Special Needs Act of 2004. This act mandated the establishment of inclusive learning environments and provided detailed guidance in relation to systematic responsibility for ensuring that assessments were carried out in a timely manner (Shevlin et. al., 2013).

The United States of America being a country characterised by social, ethnic and linguistic diversity has made headway in terms of practices in inclusive education. According to the U.S. Department of Education (2008), the No Child left Behind Act (NCLB) was passed in 2001 and was a landmark in education reform. The NCLB was designed to improve student achievement and to change the culture of U.S. schools. The NCLB was signed into law by President George W. Bush on January 8, 2002 (U.S. Department of Education, 2008). The NCLB affirmed that all students need to have access to the general education classroom setting with a common curriculum if they are to be successful in meeting educational standards. Furthermore, each and every student should be actively involved in the curricular and co-curricular activities and be included in district and state wide assessment along with their peers (Linn, Baker & Betebenner in Hossain & Shahidullah 2012). In addition, in 2004 the United States of America re-authorised the individuals with Disabilities Education Act (IDEA) of 1990. IDEA was meant to expand the opportunities for educating children with disabilities in the least restrictive environment (U.S. department of Education, 2008) IDEA affirmed that children living with disabilities be educated alongside their peers who are not disabled. According to the U.S. Department of Education (2008), IDEA supported the provision of culturally relevant instruction principles in education one of which is to “create classroom environments that reflect different cultural heritages and accommodate

different styles of communication and learning” (U.S. Department of Education, 2008, p. 41).

India also took on board the need to implement inclusive education. This was evidenced by the passing of the landmark legislation referred to as The Persons with Disabilities (PWD) Act of 1995. The PWD Act emphasised the inclusion and full participation of students with disabilities in regular schools (Das, Kuyini & Desai, 2013). The PWD Act further guaranteed non-discrimination and removal of barriers to facilitate the inclusion of students with special needs into regular schools. Policy-makers, educators, parents and other stakeholders were urged, through the PWD Act, to view special education as an integral part of regular education. Das et al. (2013) state that this legislation advocated research-based knowledge of special education and the systematic application of sound instructional practices for the education of students with special needs who are included in the regular classroom.

To show their commitment to inclusive education in India, stakeholders advocated for reforms to be made to the PWD Act of 1995 (Das et al., 2013). The Centre for Disability Studies of the University of Hyderabad prepared a working draft of this legislation. According to Das et al. (2013), changes made to the PWD Act took on board provision for inclusive education; it was observed that action demanded by the PWD Act of 1995 were still inadequate and this included providing education for children with disabilities, and teacher training for inclusive education provisions for all students (Bindal & Sharma, 2010). There was also a lack of clarity about the conditions under which some services could be provided and this led to confusion about inclusion and what it entails (Das et al., 2013). Das et al. (2013) observe that regular school teachers were concerned that inclusion might interfere with their traditional way of teaching. It was not only teachers who expressed their concern, but the parents of children without disabilities also felt their children may be negatively affected by taking up inclusion into the mainstream education. This meant that the regular classroom teachers needed training that would enable them to possess the appropriate attitudes, knowledge and skills in order for them to be able to fulfil their new roles and responsibilities in inclusive education.

African countries have not been left out in the battle for inclusive education. They also followed international trends in accordance with social rights discourse and

supported the idea of inclusive education. In South Africa, for example, the government put in place the White Paper 6 in 2001 which provided guidelines for implementing inclusive education in regular or mainstream schools (Makoelle & Malindi, 2015). The White Paper 6 outlined the new policies established by government which advocated a single undivided education system for all learners, including those with disabilities (Donhue & Bornman, 2014). The White Paper 6 was meant to redress the segregatory practices in education which had existed during the apartheid era in South Africa. It was hoped that through implementing policies in the White Paper 6, the South African education system would focus on building an integrated system for all learners, taking into cognisance the needs and abilities of learners (Donohue & Bernman, 2014).

Kenya has not been left out of the growing consensus throughout the world that all children have the right to be educated together with their peers. According to Mutisya (2010), in Kenya, policies stated in the Sessional Paper No. 5 of 1968 and No. 6 of 1988 guided the implementation and practice of special education programmes. The policies stated that the needs of the children with special needs should be catered for in special schools. The Special Needs Education Policy was then put in place in March 2010 and it made clear the need to implement inclusive education as a strategy for achieving the Education for All Goals (Mutisya, 2010).

1.2.1 The situation in Zimbabwe

In Zimbabwe, the move towards inclusive education started as early as the 1980s when the education system adopted the principle of integration. This was done as a way of addressing the needs of all learners (Leonard Cheshire, 2011). Mafa (2012) states that attempts have been made in Zimbabwe to move towards inclusive education though research has revealed that this has mainly been theoretical. However, the Nziramasanga Commission of Education and Training of 1998 recommended that there was need for the education system to adopt a real and serious inclusive type of education at all levels in Zimbabwe. Through its government, the Zimbabwean education system has adopted the idea of inclusion by signing the United Nations General Assembly Resolution of 1994 and the UNESCO Dakar Framework of Action of 2000 which advocate inclusion in education (Mafa, 2012; Samkange, 2013).

Currently, there does not seem to be any specific policy or legislation in place to deal with inclusive education in Zimbabwe (Deluca, Tramontano & Kett, 2014; Mpofu, Mutepefa & Chataika, 2007). Seemingly, there is scepticism and ambivalence towards the implementation of inclusive education (Mafa, 2012) at all levels of the Zimbabwean education system. Nevertheless, there are some policy circulars that give guidance on inclusive education in the Zimbabwean education system. The following policies support and promote inclusion in education:

- The Zimbabwean Disabled Person Act of 1996: This policy addresses the right of people with disabilities in all sectors including education.
- The Secretary's Circular Number P36 of 1990: It provides guidelines to placement procedures for special classes, resource unit and institutions.
- Secretary's Circular Number 2 of 2000: Inclusion of learners with albinism.
- Director's Circular Number 7 of 2005: This offers guidelines for the inclusion of learners with disabilities in all school competitions (Deluca et al., 2014).

In addition to the above policies, Zimbabwe has signed several of the inclusive education-related international charters and conventions which include the Salamanca Statement and Framework for Action on Special Needs Education of 1994. Zimbabwe, however, only ratified the United Nations Convention on the Right of Persons with Disabilities in 2013 (Deluca et al., 2014). Furthermore, the government of Zimbabwe introduced the Basic Education Assistance Module (BEAM) fund through the Circular Minute Number 1 of 2003 in which the Zimbabwean government provides tuition fees, levy and examination fees to vulnerable groups of school children (Chidindi, 2007, Deluca et al., 2014). BEAM was meant to cater for all children who had never been to school, those who had dropped out of school and those who were at risk of doing so as a result of poverty (Deluca et al., 2014).

Of late, the Zimbabwean education system has also embarked on awareness programmes which focus on the creation of child-friendly schools (Leonard Cheshire, 2011). In November 2009, the Leonard Cheshire Zimbabwe Trust signed a memorandum of understanding with the Ministry of Education, Sport, Art and Culture in which they partnered to introduce a special pilot programme which focused on inclusive education at 21 schools in specific provinces under special districts

(Leonard Cheshire, 2011). To further strengthen their commitment, an all-stakeholders' workshop was held on 21 January 2010 in Mount Pleasant, Harare, at which the inclusive education implementation plan was adopted and unanimously agreed upon (Leonard Cheshire, 2011).

1.2.2 Teacher education

Teacher education is the key to the effective implementation of inclusive education as its success is largely dependent on the attitudes and skills of teachers (Mariga, McConkey & Myezwa, 2014). Therefore, the purpose of any teacher education should be to nurture pre-service teachers who are pragmatic and effective in developing the education system of its country. Teachers, who are products of such teacher education, must be able to function in the 21st century classrooms which are characterised by learners of diverse social and cultural backgrounds (Peebles & Mendaglio, 2014). Such classrooms call for teachers who are inclusive and knowledgeable about what inclusion entails if they are to successfully implement the practice. Thus, there has been demand for teacher education for inclusion.

Seemingly in Zimbabwe, there is no vibrant inclusive education practice in teacher education and this may be a serious gap which can lead to so many challenges in the implementation of inclusive education in schools (Chikwature, Oyedele & Ntini, 2016). However, if teachers are properly trained in inclusive education practice, they will have the skills, knowledge and competence to enable them to effectively implement inclusive education in the mainstream education system (Chireshe, 2013). Inclusive education is critical in teacher education as a practice that will help in the modification of teaching and learning strategies with which pre-service trainees are equipped in order for them to be able to handle the 21st century classrooms which are characterised by learner diversity in terms of background, needs and abilities.

The way teachers teach "is of critical importance in any reform designed to improve inclusion" and it is the teacher who has the prerogative to ensure that each learner understands the instructions and expected working modalities (UNESCO, 2009, p. 20). The introduction of inclusion as a guiding principle to fulfil the Education for All Goals and the Millennium Development Goals has implications for teacher training, teacher practices and attitudes towards learners characterised by diverse

backgrounds, needs and abilities. Teacher education is thus expected to shift its attention and be able to produce teachers who are capable of handling learner diversity in terms of teaching strategies. Mafa and Makuba (2013) conducted a study in which they found out that teacher trainees need to be exposed to a variety of teaching methods and concluded that the curriculum on teaching strategies should include pupils' styles of learning as these have an influence on the teacher's choice of what teaching methods to use. They concluded that the curriculum must include multi-sensory approach so that readers can make use of available pupils' senses in their teaching. It should also include task analysis to ensure mastery of complex concepts, remediation compaction and scaffolding in order to deal with pupils' different rates of learning and assessment of diverse pupils' work (Mafa & Makuba, 2013).

It has been generally assumed that a regular classroom teacher has certain knowledge and understanding about the needs of learners in their diversity. Thus, it is expected that teacher education should prepare teachers who can enter a profession which accepts individual and collective responsibility for improving the learning and participation of all children (Florian & Rouse, 2009). The products of such teacher education must be both competent and confident in their teaching ability (Winter & O'Raw, 2010). Their beliefs and attitudes influence their practice. The way they are trained is of paramount importance in the development of the skills necessary to teach effectively in inclusive classrooms. Their training contributes much to their ability to teach children of diverse needs. This is in line with Sakarneh (2009, p. 323) who states:

Effective teaching in inclusive classrooms takes on a different meaning, and requires more specialised teaching skills and teacher characteristics than what is required in a general education classroom.

Sakarneh (2009) further points out that teachers who are involved in inclusive classrooms should have skills and knowledge of applying teaching strategies. They need to create a caring and supportive learning environment. If, however, teachers have a negative attitude towards teaching in an inclusive classroom, it will negatively impact on the way they teach. Kuyini and Desai (2007) express the same view when

they say that the attitudes of teachers towards inclusion and their knowledge have been found to influence effective teaching practices in the classroom. Teacher education therefore has a role in preparing teachers to teach in inclusive classrooms. This should be taken as a critical component in their curriculum to ensure success in inclusive education (Romi & Leyser, 2006). This means that teacher education should produce high quality teachers equipped to meet the needs of all learners in their diversity. Reynolds (2009) observes that it is the knowledge, beliefs and values of the teacher that are brought to bear in creating an effective learning environment for pupils. This makes the teacher a critical influence in inclusive education. Thus, teacher education should be re-visited and designed to support inclusion. It is also important that educators and other stakeholders look into the nature and scope of inclusive education, especially in teacher education where it appears more difficult to implement due to a host of challenges. The challenges include, among others, lack of funds to create infrastructure that is user-friendly for those who are physically challenged, lack of trained personnel to train the pre-service teachers to be able to handle inclusive classrooms and negative attitudes.

It is critical that strategies for implementing inclusive education in initial teacher education be looked into as they appear to be the key to the successful implementation of inclusive education in schools. According to Loreman, Deppeler and Harvey (2005), initial teacher training is the best point at which to try and influence positive attitudes towards inclusive education. If this is to be successful, the strategies for implementing inclusive education should be effective. Flexible teaching-learning methodologies should be affirmed in teacher education as a way of necessitating the shifting away from long theoretical pre-service based teacher training to continuous in-service development of teachers (UNESCO, 2009). However, to the knowledge of the present researcher, not much has been done in initial teacher education in Zimbabwe to foster inclusive strategies for implementing inclusive education. At present, teachers trained in the mainstream are equipped with traditional and progressive methods or strategies of teaching which include: lecture methods, demonstration, discovery, project, excursion, question and answer, drama, to mention a few (Chikuni, 2003).

Simui (2009) states that teacher education needs to be at the centre of inclusive education reform. In the same vein, Florian and Rouse (2009) argue that it is critical

for pre-service teacher education programmes to equip teachers with pre-service skills and attitudes in order to enable them to teach learners in inclusive settings. To this end, there is need to prepare teachers for inclusive education focusing on the strategies that are aimed at transforming teachers' practices which are largely influenced by their attitudes, attributes, beliefs and values (Chireshe, 2011). Despite awareness and availability of policy framework for the implementation of inclusive education, challenges in the application of effective strategies in implementing it in teacher education still exist. It is therefore critical that educators look deeply into the strategies for implementing inclusive education in initial teacher education or pre-service teacher training in Zimbabwe. The researcher agrees with Subban and Sharma (2006) who posit that educational planners and policy-makers should incorporate practical and effective instructional techniques that would be useful in the inclusive classroom, into teacher preparation programmes and professional development programmes.

The researcher observed that in Zimbabwe, most teachers have not had the benefit of training to teach learners who are from diverse backgrounds and who have diverse needs in their pre-service teacher training. Hence, most regular teachers find it difficult to support these learners. They have trained as mainstream or special school teachers. However, since the introduction of inclusive education, teachers trained in the mainstream have had to teach and accommodate learners of diverse needs and abilities. In their study, Mafa and Makuba (2013), found out that teacher training in Zimbabwe has limitations in that pre-service teacher trainees are only equipped to deal with one type of special needs area. This becomes a limitation as they will not be able to cater for all the children in their diversity. Classroom teachers now need the knowledge, skills and the right attitudes to implement inclusive education. It is therefore necessary that initial teacher education equips teacher trainees with such knowledge and skills so as to make them capable of operating in inclusive classrooms. Thus, teacher educators have been challenged to make changes in programmes to prepare pre-service teachers to educate diverse learners (Kim, 2010). Pre-service teacher trainees need to be exposed to a variety of teaching strategies which they will use to cater for unique needs of learner in their diversity in the schools. The researcher agrees with Mafa and Makuba (2013, p.30) who observe that it is important that pre-service trainees leave training colleges "with

skills that will help them to scheme, plan and teach mainstream classes effectively". These become part of expected teacher competences.

It is against this backdrop that the present study set out to assess the strategies for implementing inclusive education in teacher education in Zimbabwe, focusing on the primary teacher training colleges. There are eleven of these; eight of them are state-owned while the remaining three are owned by church organisations. The colleges function under the Scheme of Association with the University of Zimbabwe's Department of Teacher Education (DTE) which confers primary school teachers with a Diploma in Education after a three-year course (University of Zimbabwe Handbook for Quality Assurance in Associate Teachers' Colleges, 2013).

In light of these ideas, it becomes critical to assess the strategies that are in place for implementing inclusive education in teacher education programmes in Zimbabwe.

1.3 Statement of the problem

Strategies for implementing inclusive education in initial teacher education are critical for the success of inclusive education in schools. As a teacher educator, the present researcher has observed that the curriculum for initial teacher education in Zimbabwe lacks aspects of inclusive education, especially in the applied areas where pre-service trainees should be made aware of, and trained in strategies for teaching in different subject areas. It appears teachers who graduate from the teacher training institutions feel incomplete and lack confidence in their ability to teach pupils with diverse needs in inclusive classroom; yet, it is expected that they should deal effectively with such classes. Many researchers have expressed concern about the extent to which teachers trained in teacher education institutions are prepared to teach pupils with various learning needs (Otukile-Mongwaketse, 2011). This state of affairs is what prompted this researcher to be interested in assessing the strategies for implementing inclusive education that pre-service trainees are equipped with as they enter the teaching profession in which they encounter inclusive settings characterised by diversity of learners.

1.4 Research questions

1.4.1 Main research question

How effective are the strategies currently implemented in teachers' colleges to equip graduate teachers with skills to teach inclusive education in schools?

1.4.2 Sub questions

- How does the curriculum for initial teacher education equip trainees with strategies for implementing inclusive education?
- What are the strengths and limitations of these strategies in implementing inclusive education?
- How can pre-service teacher education develop effective strategies for the successful implementation of inclusive education in schools?
- What framework can be developed from the findings of the study on the strategies for implementing inclusive education in teacher education?

1.5 Objectives of the study

The objectives of the study are to:

- Establish how the curriculum for initial teacher education in Zimbabwe equips teacher trainees with strategies for implementing inclusive education.
- Identify strengths and limitations of the strategies for implementing inclusive education in teacher education.
- Explore how teacher education in Zimbabwe can develop effective strategies for the successful implementation of inclusive education in schools.
- Establish what framework can be developed on the strategies for implementing inclusive teacher education in Zimbabwe

1.6 Purpose of the study

The purpose of the study was to assess the strategies for implementing inclusive education in teacher education in Zimbabwe with the ultimate aim of helping teacher

educators improve teacher preparation programmes for pre-service teacher trainees for them to be able to handle inclusive classes.

1.7 Significance of the study

Implementation of inclusive education in the primary schools in Zimbabwe is faced with a number of challenges; one of which is to do with the strategies for its implementation. This has a bearing on the training of teachers in pre-service teacher training colleges. Thus, it makes it significant to assess strategies being used presently and establish their effectiveness in creating a conducive environment for inclusion in schools.

Although there has been a lot of research done on inclusive education, there has not been much done on teacher preparedness in terms of strategies for implementing inclusion in Zimbabwe. This study, therefore sought to add to the scarce literature on the area of strategies for implementing inclusive education effectively in Zimbabwe in teacher trainee preparation.

The study could add another dimension of inclusive education to the existing literature. The researcher hopes that the study may influence personnel in pre-service teacher training colleges to reflect on the strategies they are currently using in implementing inclusive education and improve on them as a way of ensuring the success of inclusive education in schools.

Furthermore, the study may add to the knowledge base of policy-makers in education on areas that need to be improved in pre-service teacher training colleges such as provision of relevant materials and infrastructure, trained personnel and a change in attitudes which will contribute to the successful implementation of inclusive education thus, drawing closer to the policy of education for all.

The study might also benefit the learners. If effective teaching strategies are used, then learners' needs may be met. Effective teaching strategies enable learners to better understand the concepts being taught.

1.8 Delimitation of the study

The study focused on assessing the strategies for implementing inclusive education in teacher education in Zimbabwe. The study focused on two primary teacher

training colleges in Zimbabwe situated in the Harare Metropolitan Province and primary schools in the Mbare-Hatfield + District of Harare Province.

1.9 Definition of terms

The following terms were defined as used in the study:

- **Inclusion**

Loreman, Deppeler and Harvey (2010, p.2) define inclusion as involving: “the full participation of all students in all aspects of schooling.”

They go further to note that inclusion “involves regular schools and classrooms being responsive, willing to genuinely adopt and change to meet the needs of all students, as well as celebrating and valuing difference” (Loreman, Deppeler and Harvey, 2010, p.2). Additionally, they elaborate that the differences can be based on aspects such as gender, culture, ability, sexual orientation, socio-economic context, religion or any other area in which learning and/or development are impacted. This means that inclusion aims at making schools supportive of all learners through capitalising on their differences. It also means that learners are motivated and developed through multiple strategies. Inclusion also entails that every child has the right to attend school and experience “learning and attain valuable learning outcomes” (UNESCO, 2008)

- **Inclusive education**

Inclusive education is an approach to meeting the learning needs of all pupils within an educational system (UNICEF, 2010). Inclusive education aims to create systems that are flexible and supportive enough to meet the needs of students with diverse backgrounds in general education schools and classrooms. Inclusive education therefore refers to the right of all children to attend school in their home community in regular classes with peers of their own age. All children have a right to quality and meaningful education. Deluca et al. (2014, p.3) further add that inclusive education looks beyond the basic access to schooling by prioritising a quality education which enables all children to enrich their learning and achieve their full potential.” This means that inclusive education, through increasing participation in learning, aims at reducing exclusion within and from education.

- **Teacher education**

UNESCO (1990) defines teacher education as both pre-service and in-service programmes which adopt both formal and/ or non-formal approaches and it is a continuing process which focuses on teacher career development. This means that teacher education takes into cognisance teaching skills, sound pedagogical theory and professional skills. In this present study, teacher education was used to mean the pre-service aspects of teacher career development.

- **Strategies**

Nickols (2012) states that strategy is about means used in the attainment of ends; it is concerned with how you will achieve your aims. Thus, in teaching, strategies are skills or styles that suit the pupils' needs which the teacher uses in order to achieve effective learning (Kasambira, 2004), which is the ultimate aim of teaching. This can be summarised as referring to instructional techniques which help the learners in understanding what they are taught and the teacher to meet the learners' needs. In this study, the term strategies was used to mean instructional techniques which the teachers use to meet the needs of the learners.

- **Assessment**

According to Walvoord (2004:2–3), assessment is “the systematic collection of information about students learning, using the time, knowledge, expertise and resources available, in order to inform decisions about how to improve learning.” In this study, assessment was used to refer to the systematic collection, review and use of information about education programs undertaken for the purpose of improving and development.

1.10 Chapter outline

The research study was organised into five chapters as follows:

Chapter 1: Introduction – The chapter provided the background of the study, statement of the problem, research questions, research objectives, purpose of the study and significance of the study, delimitation of the study and definitions of key terms.

Chapter 2: Literature review – In this chapter, the researcher outlined the conceptual and theoretical frameworks of the study as well as empirical studies that have been carried out so far concerning teacher education and inclusion.

Chapter 3: Research methodology – This chapter focused on the study's methodological aspects which are: research paradigm, research approach, research design, population, sample and sampling procedures and data collecting instruments. The chapter also discusses issues to do with credibility and trustworthiness and ethical considerations.

Chapter 4: Data presentation, analysis/discussion: – The chapter focused on presentation of data collected and the analysis discussion thereof.

Chapter 5: Summary, conclusions and recommendations: – In this chapter, the study is summarised, conclusions are drawn and recommendations made.

1.11 Summary

In this chapter, the researcher focused on providing the background of the study, statement of the problem, research questions and objectives, purpose of the study, significance of the study, delimitations of the study and definitions of key terms. The next chapter focuses on review of literature relating to the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will review of literature related to the topic under study. The purpose of reviewing literature is to determine what has already been done by other researchers and authorities in the area under study. This is supported by Bryman (2012) who posits that the purpose of exploring existing literature is to identify what is already known about the area being investigated and also to establish what concepts and theories are relevant to this area, including finding out if there are any unanswered research questions in the area of study. A lot of research has been and is still being done on inclusive education and inclusion. However, not much has been researched in the area of strategies for implementing inclusive education in pre-service teacher education in Zimbabwe.

This chapter focuses on the following areas: conceptual and theoretical framework of the study; teaching strategies; strategies for implementing inclusive education; benefits of inclusive education; goals for inclusive teacher education; inclusive teacher competences; inclusive teacher education training techniques; indicators of inclusive teaching; techniques for assessing inclusive teacher practices; and, empirical studies on inclusive education in teacher education in Zimbabwe and elsewhere.

2.2 Theoretical framework

Henning, Van Ransburg and Smith (2004) assert that a theoretical framework positions a research study in the discipline or subject in which the researcher is working. This enables the researcher to theorise his or her research and make explicit his or her assumptions about the world. This study focused on two theoretical frameworks, one related to strategies for implementing inclusive education and the other related to learning. This was necessary because strategies for implementing inclusive education are used on learners who have to grasp and benefit from whatever content teachers impart to them. Teachers also need to understand how

children learn so that they use the most effective strategies for each and every learner to benefit by developing his/her full potential. The two theories that were used are Howard Gardner's theory of multiple intelligences (Gardner 1983, 1993, 1999) and Vygotsky's socio-constructivist/cultural theory (Vygotsky, 1978).

2.2.1 Howard Gardner's theory of multiple intelligences

Lunenburg and Lunenburg (2014, p. 1) view the theory of multiple intelligences as:

a theory of intelligence that differentiates it into specific modalities, rather than seeing intelligence as dominated by a single general ability, often called a "g" factor.

Howard Gardner studied both biological and cultural aspects of intelligence and came to the conclusion that students should not be seen as a "struck-standard" child (Murray & Moore, 2012). He focused on a child's set of abilities, talents or mental skills and referred to these as intelligences. Hence, his belief was that students learn and should be taught in a variety of ways (Farnan, 2009). Gardner identified nine different intelligences namely; verbal-linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, naturalist and existential (Murray & Moore, 2012; Lunenburg & Lunenburg, 2014).

Hanafin (2014) states that Gardner proposed this theory as a direct challenge to the classical view of intelligence. Gardner (1993) observed that there exists, in people, the above stated nine autonomous but interconnected intelligences. His argument was that some students may be capable in one area of study, for example, in music, and may have difficulties in another area like technical drawing. Therefore, he believed the human brain was not to be viewed as an instrument having one general ability but as having a whole range of individual capacities working in unison and interacting together in a non-predictable way (Gardner, 2006). Since children in an inclusive classroom have a diverse and unique range of characteristics and abilities, teachers need to cater for these. It is for this reason that it becomes imperative for the teachers to have a sound theoretical base that takes into cognisance the children's unique abilities and in this regard Gardner's theory of multiple intelligences come in handy. This theory reflects on teacher education practice with regard to strategies for implementing inclusive education which should be focused on the

diverse nature of the learners. This theory helped the researcher to assess how effectively teacher education equips its trainees with the relevant strategies for them to be able to operate in inclusive classrooms that characterise the 21st century. It cannot be over emphasised that these trainee teachers will have to face such classrooms during their practicum and also when they are qualified (Zundans-Fraser & Lancaster, 2012). There is need for them to be well-versed with knowledge of the nine intelligences proposed in Gardner's theory and how they apply to the diversity of learners in inclusive classrooms. They also need to select and use teaching strategies that take into cognisance the diverse abilities, interests and needs of the learners in their classes and be sure to use those teaching strategies that benefit every child.

The theory of multiple intelligences proposed the following:

2.2.1.1 Verbal linguistic intelligence

According to Lunenburg and Lunenburg (2014), this type of intelligence refers to an individual's sensitivity to the sounds, rhythms and meanings of words and also to different functions of language. In other words, those who have this intelligence are good with words/language. Children with this intelligence learn best through their senses such as listening, speaking and seeing words (Armstrong, 2009). The trainee teacher who is going to face an inclusive class needs to build on those teaching strategies that entail the inclusion of oral activities such as storytelling, discussing, interviewing, dialogue and debate (Lunenburg & Lunenburg, 2014; Gangadevi & Ravi, 2014). These oral activities need to be done before writing. The strategies that cater for those learners who possess this intelligence could also include reading to get ideas before writing, completing crossword puzzles with vocabulary words and playing word games (Lunenburg & Lunenburg, 2014). These strategies are effective through the use of books, tapes, paper, diaries, writing tools, to mention a few (Gangadevi & Ravi, 2014). The aim of such strategies would be to help learners to learn language. Thus, it is important for the teacher to create classroom environments that are rich in language and to engage the learners in using language in a variety of ways to develop self confidence in the learners.

2.2.1.2 Logical-mathematical intelligence

This intelligence refers to the capacity to analyse problems logically and to discern and carry out mathematical operations. It also refers to the ability to investigate issues scientifically (Mcgee & Hantla, 2012; Lunenburg & Lunenburg, 2014). According to Armstrong (2012), this intelligence includes the ability to use numbers effectively and be able to reason competently. Children who possess this intelligence love experimenting, solving puzzles and asking cosmic questions. They understand numbers, logical concepts and abstract analysis (Lunenburg & Lunenburg, 2014; McGee & Hantla, 2012). Therefore, trainee teachers should be equipped with strategies that enable them to encourage learners to use computer programming languages; to engage in critical thinking activities; to practise linear outlining; to work out logic puzzles; and to explore scientific concepts and manipulate data (Lunenburg & Lunenburg, 2014; Gangadevi & Ravi, 2014). Teachers can strengthen this intelligence by including the following in their strategies: “offering cause and effect and relationship scenarios as prompts for writing, teaching grammar rules and sentence diagramming: designing alphabetic and numeric codes; searching for patterns in the classroom, school, outdoors and home” (Bratcher in Lunenburg & Lunenburg, 2014, p.3). This entails that they use concrete objects to solve problems is replaced by abstract thought and symbols.

2.2.1.3 Spatial intelligence

Spatial intelligence refers to the potential to perceive the patterns of the wide space accurately as well as “the patterns of more confined areas (Gardner, 1993, p.42). This means that children with this intelligence are good in perceiving images, pictures and space. Thus, they have the ability to make mental pictures and transfer these pictures into spatial forms as drawing, sculpting, modelling, dancing and painting (Rief and Heimburge, 2006). Trainee teachers need to use strategies that include use of videos, movies, slides, art, imagination games, mazes, puzzles, illustrated books, photographs, computer graphics software, video conferencing (Gangadevi & Ravi, 2014; Lunenburg & Lunenburg, 2014). The trainee teachers should thus be equipped with the following skills to use: diagrams to teach writing concepts; pictures as prompt for writing; encouraging learners to include drawings

and pictures with their writing; use computer software to draw illustrations in writing (Bratcher, 2012 in Lunenburg & Lunenburg, 2014).

2.2.1.4 Bodily-kinesthetic intelligence

This intelligence refers to the potential to control one's body movements to solve problems and handle objects skilfully (Lunenburg & Lunenburg, 2014; McGee & Hantla, 2012). Those who possess this intelligence have well-developed coordination, balance, strength and agility. (McGee & Hantla, 2012). The trainee teacher needs to be equipped with strategies that enable learners to bring out their ability through their physical movements or activities (Gandadevi & Ravi, 2014). The strategies are those that entail hands-on learning, acting out, role playing, sort and physical games, movement and things to build (Lunenburg & Lunenburg, 2014; Gandadevi & Ravi, 2014). The teacher needs to be equipped with skills to use strategies that include: "acting out stories before writing them"; writing plays that include stage directions; encouraging students to do projects to accompany their writing; building objects using blocks; cubes to represent writing concepts; and, using electronic motion simulation games and hands-on construction kit to teach writing (Bratcher, 2012 in Lunenburg & Lunenburg, 2014 p.4). In addition, the teacher is encouraged to use excursions as a way of physically involving each learner in the learning experiences (Rief & Heimburge, 2006).

2.2.1.5 Musical intelligence

This intelligence is the ability to produce and recognise musical patterns such as rhythm, pitch, and forms of musical timbre (Gandadevi & Ravi, 2014; Murray & Moore, 2012; Lunenburg & Lunenburg, 2014). Those who have this form of intelligence show appreciation of the forms of musical expression. They are sensitive to auditory sounds and patterns, rhythm, pitch and tempo. They learn best through their sense of hearing (Ronin, 2009). Therefore, the trainee teacher needs to be equipped with teaching strategies that entail encouraging learners through using lyrics in lessons, playing music at home and in school and using instruments.

2.2.1.6 Interpersonal intelligence

This form of intelligence entails the ability to interrelate with others by being able to discern and respond appropriately to the moods, temperaments, motions and

desires of other people (Lunenburg & Lunenburg, 2014). In this regard, the teacher educators need to equip trainee teachers with strategies that enable them to use collaboration, group work, peer sharing/peer tutoring and discussions (Pritchard, 2009; Murray & Moore, 2012).

2.2.1.7 Intrapersonal intelligence

According to Gandadevi and Ravi (2014), this intelligence refers to the ability to be introspective and self-reflective. Those who possess this form of intelligence have the potential to “understand oneself, to have an effective working model of oneself including one’s own desire, fears and capacities and to use such information effectively in regulating one’s own life” (Gardner, 1993, p. 42). Consequently, teacher education must equip teacher trainees with strategies that enable the learner to engage in reflective activities and to spend time alone so as to have time and choice.

2.2.1.8 Naturalistic intelligence

According to Lunenburg and Lunenburg (2014, p.6), this form of intelligence shows one’s ability to “categorise, classify, comprehend and explain the things encountered in the world of nature”. In other words, it is the ability to understand the natural world. In view of this, teacher education should equip trainee teachers with strategies that help them to encourage learners to differentiate living things like animals and plants; to show sensitivity to the natural world by studying relationships of the natural world and science issues (Lunenburg & Lunenburg, 2014). They should be equipped with strategies that help them to guide learners to be able to sort and classify natural objects, observe natural surroundings and participate in projects focused on keeping the environment clean, beautification of their surroundings and recycle materials (Lunenburg & Lunenburg, 2014)

2.2.1.9 Existential intelligence

Existential intelligence is the potential “to pose and ponder questions regarding existence including life and death” (Lunenburg & Lunenburg, 2014, p.6). Children who possess this form of intelligence are capable of having a global perspective and historical context of everything. In other words, they philosophise about things. To this end, therefore, teacher education should produce teachers who are able to use

strategies that enable learners to be interrogative about the world and be able to focus on the bigger picture or global perspective of their surroundings.

2.2.2 Vygotsky's socio-cultural theory

Vygotsky's theory focuses on the interaction of individuals within their social and cultural context rather than on an individual and because of this it has made a strong impact in the field of education in general and inclusive education in particular. The theory is based on special education as it is where Vygotsky obtained data to support his general theoretical conceptions (Gindis, 2003). Vygotsky argued that disability is a socio-cultural development phenomenon and it consists of primary and secondary disability (Dixon & Verenikina, 2007). According to Vygotsky (1993), primary disability is caused by biological factors such as stigmatisation. Vygotsky observed that lack of social interaction and poor access to socio-cultural knowledge result in secondary disability. Vygotsky proposed that to prevent or remediate secondary disability, there should be change of social attitudes (Gindis, 2003). Vygotsky observed that disability changes during development and it is sensitive to the influence of remediation programmes and social influence. He viewed principles of child development as being the same for children with disabilities as they are for other children (Dixon & Verenikina, 2007). In Vygotsky's view, if child development is impeded by a disability, that child is not less developed than his/her peers, rather he/she has developed differently (Gindis, 2003).

Consequently, Vygotsky advocated inclusion based on positive differentiation (Gindis, 2003). He was against segregation and mindless inclusion and proposed that there was need to create a very different learning environment where all the staff could concentrate on the individual needs of the child (Gindis, 2003). He argued that it was the methods of teaching that should be changed and not the school setting. Therefore, as much as is possible, the child must be maintained within the mainstream social and cultural environment as a way of preventing or remediating secondary disability (Vygotsky, 1993).

Vygotsky's theory is supportive of the implementation of more inclusive classroom practices (Hunter-Johnson, Newton & Cambridge-Johnson, 2014). It supports that such practices should be carried out through emphasis on the socio-cultural context of the classroom, the role of social activity in learning and the contribution of the

learners to their development. Consequently, as Dixon and Verenikina (2007) observe, teachers need to have a template for how learning should proceed in an inclusive set up, considering the interaction of language, cognition and culture typical of classrooms characterised by learners of diverse needs. Rodina (2007) states that Vygotsky's theory supports the notion that learning is social advancement that involves language, realworld situations, interaction and collaboration among learners. To this end, isolating the child will affect the child's learning. Therefore, the child needs to interact with his/her peers on a regular class.

According to Dahms, Geonnotti, Passalacqua, Schilk, Wetzel and Zulkowsky (2007), Vygotsky's theory stresses the importance of looking at each child as an individual who learns distinctively. Hence, it recognises that every child has the ability to learn. Consequently, the knowledge and skills considered worth learning vary with each individual child and so the teacher in an inclusive set up needs to focus on each individual learner's strengths rather than their weaknesses. The teacher also needs to recognise that instruction should be individualised in order to provide for a positive educational experience (Dixon & Verenikina, 2007).

Dahms et al. (2007) state that Vygotsky stressed the importance of past experiences and prior knowledge in making sense of new situations or present experiences. In view of this, educators should therefore see the overall goal of education as that of generating and leading development which is as a result of social learning that the child acquires through internalisation of culture and social relationships. According to the socio-cultural theory, language skills are particularly critical in the creation and linking of new knowledge to past experiences (Dahms et al., 2007).

Vygotsky proposed the Zone of Proximal Development (ZPD) as being central to how learning takes place.

2.2.2.1 The Zone of Proximal development (ZPD)

The ZPD, according to Vygotsky (1978 p. 85) is:

The distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.

This means the ZPD refers to the difference between what the child can do on his own and the help he/she needs from others more experienced in the subject matter. According to Turuk (2008), learning awakens a variety of internal developmental processes that are able to operate only when the child is interacting with people in his environment and in cooperation with his peers. Thus, it is important to support learners in an inclusive set up and this can be done through peers, teachers, parents, siblings and an enabling social context. According to Vygotsky (1978), interactions with peers and adults in the ZPD promote cognitive development. Dahms et al (2007) posit that the ZPD works in conjunction with the use of scaffolding. According to Donato (1994) in Turuk (2008), scaffolding is a concept that derives from cognitive psychology and L1 research. It is based on the premise that in social interaction, a knowledgeable participant can participate in and extend his/her current skills and knowledge to a high level of competence. This is done through speech and supportive conditions. Thus, scaffolding is used to explain the social and participatory nature of teaching and learning which occurs in the ZPD.

Scaffolding has been used to describe and explain the role of adults or more knowledgeable peers in guiding children's learning and development. Vygotsky (1978) observed that in social interaction, a knowledgeable participant can help the learner who is seen as a novice to understand new concepts. This brings in the aspect of collaboration and co-learning wherein the more capable and knowledgeable adults and peers engage in learning activities with the learners. Collaboration in an inclusive set up helps teachers to solve problems that will lead to new learning for all learners and provide explanations for their actions to their peers that will be of mutual benefit (Chaula, 2014). This means that learners exchange and share understanding which will help in the development of cognitive abilities and assist learning. In addition, there will be active involvement of learners. Therefore, this implies that in an inclusive classroom, the learners who face learning difficulties gain new knowledge from their peers who attend the same class and then later construct their own knowledge. This takes place as they interact in and outside the classroom. Therefore teachers are encouraged to use those strategies that enable learners room to interact with their peers more freely. This means teacher educators have to equip their pre-service trainees with skills that would enable them to utilise such strategies.

Consequently, the learners' action to construct own knowledge after gaining new knowledge from peers and adults means that they engage in reflection. According to Vygotsky (1978), there is some self-movement which leads to reflection and if there is no-self movement, then there is no place for development. The ZPD provides the framework for effective inclusive teaching and learning in the classroom. This means that teachers have the obligation to develop activities that will extend the learners' current knowledge to new knowledge which can be absorbed by the learner and located within his/her ZPD (Vygotsky, 1978). This kind of a movement becomes supportive of the current new dispensation for more inclusive classroom practice and can be achieved through an emphasis on the socio-cultural context and the role of social activities which include instruction in learning and the contributions of learners to their own development. Thus, the teacher must engage in the use of diverse teaching and learning styles to capture the diverse needs of learners in an inclusive classroom. The ZPD brings in the aspect of the more knowledgeable other.

2.2.2.2 The more knowledgeable other (MKO)

Vygotsky (1993) defined those who are able to help the learner through scaffolding as the more knowledgeable other (MKO). The MKO can raise the learner's competence through the ZPD. This implies that they must be in an environment where a more competent peer can be of assistance to elevate his/her competence and so learners need to work together to construct their learning in a socio-cultural environment where all learners will benefit. This can only happen in an inclusive classroom where there is diversity in terms of learner composition (Dahms et al., 2007). In this kind of a scenario, the teacher has the collaborative role of guiding and directing the learner's activities. Hence, there is more emphasis on learning than teaching. It is because of this that Makinen and Makinen (2011) argue that teaching can no longer be seen in terms of traditional or individualistic approach. The current changes related to inclusive settings and learner diversity need educators to view learning as a social activity and thus making the learner part of the active and continual meaning making as he/she is guided by the MKO (Makinen & Makinen, 2011). Therefore, learning is viewed as an interactive experience. The idea of interaction in learning stresses the notion of the necessity of focusing on the strategies that teacher trainees are equipped with during their training which should promote socio-cultural interaction. This interaction should be ongoing between

teacher and learners. Additionally, if learners, in their diversity in inclusive settings are to be active participants in the process of teaching and learning, Vygotsky's theory allows this study to assess the strategies teacher trainees are equipped with in teacher education institutions.

2.2.2.2.1 Link between multiple intelligences and Vygotsky's theory

It is important to draw a connection between Vygotsky's socio-cultural theory and Howard Gardner's Multiple Intelligences theory in devising effective strategies for implementing inclusive education. According to Beliafsky (2006 p.9), "Gardner's MI theory can be used as a tool for bringing to life Vygotsky's concept of Zone of Proximal development." She argues that since Vygotsky's goal was to be able to help children reach their potential, this can be done by using Gardner's multiple intelligence theory. In Beliafsky's (2006) view, this means that teachers should incorporate Gardner's MI theory into their instructional approaches. This will enable them to maximise cognitive development resulting in the expansion of the zone of proximal development. Furthermore, Beliafsky (2006 p.9) posits that teaching and learning through the lens of these theories "will allow educators to teach ahead of development, to teach ahead of development, to teach for understanding, to motivate and promote students' creativity and imagination and encourage their personal, social and academic growth" since this is what has been the goal of educational system.

2.3 Conceptual framework

The conceptual framework for this study focused on two concepts, namely, teaching strategies and inclusive education.

2.3.1 Teaching strategies

Mafa and Chaminuka (2012) agree that teachers need to have the ability to select appropriate teaching strategies. They further state that since teaching is a complex matter, there is need for teachers to have a high degree of decision-making skills and judgment. In this regard, the teacher must be well-informed in terms of the various teaching strategies if he/she has to be effective. In addition, the teacher must be well-informed regarding the conditions under which these teaching strategies can be used effectively.

Arends in Mafa and Chaminuka (2012 p. 38) opines that a teaching strategy can be referred to as “teaching model, teaching method, teaching principle”. He goes further to explain that teaching strategy refers to a particular approach to classroom instruction which includes its goals, syntax, environment and management system. Brown, Oke and Brown in Mafa and Chaminuka (2012) posit that a teaching strategy is a way designed to assist a learner to learn. Mafa and Chaminuka (2012) aver that teaching strategies take into consideration that there is a body of knowledge on one side and the learners on the other where the teacher is seen as the catalyst. Several questions are evident in trying to define teaching strategy, for example, Who is being taught?; Who is teaching them?; What is being taught?; How is it being taught and why? (Uljens, 1997). Mafa and Chaminuka (2012) finally argue that if we consider the above-stated notions, teaching strategies should be seen as the means through which the body of knowledge is made available to the learners.

The teacher’s role in selecting teaching strategies is autonomous and is influenced by a number of factors which include the teacher’s beliefs, attitude, expertise and individual style. The choice of teaching strategies is also influenced by the students’ individual and unique abilities, motivation differences, their learning styles that are also unique and different, and the objectives of the lesson that the teacher needs to achieve (Reece & Walker, 1998 in Mafa & Chaminuka, 2012) Taking this into consideration, teacher education therefore needs to produce products that are capable of selecting teaching strategies that are most effective and which best suit the learners and sometimes the teacher and the environment (Chikuni, 2003).

Currently in Zimbabwe teacher educators equip trainee teachers with a blend of both traditional and progressive or contemporary teaching methods/teaching strategies. The trainee teachers make use of these strategies during their practicum and after they qualify to be fully fledged teachers in both regular and inclusive classrooms. In a study by Bustos, Lartec, De Guzman, Casiano, Carpio and Tongyofen (2012) on integration of inclusive education subjects in the curriculum of pre-service teachers, it was affirmed that the successful implementation of inclusive education in teacher training depends largely on the teaching strategies to which the pre-service teachers are exposed. The study further revealed that those teaching strategies that call for interaction and collaboration between instructor and students and students and students with co-students were seen as the most effective strategies.

2.3.1.1 Traditional teaching strategies

Kuzu (2007) proffers that traditional teaching strategies refer to teaching that is deeply teacher-centred and is based on the traditional view of education where teachers serve as the source of knowledge while learners serve as passive receivers. Kuzu (2007) further states that in such teaching strategies, knowledge is poured from receptacle source into an empty one.

Generally, these strategies are teacher-centred and in these strategies “the teacher has the basic responsibility of organising and conducting goal-related activities in the classroom” (Chikuni, 2003 p.116). This means that the teacher occupies the centre stage of disseminating information to the learners. In the classroom where the teaching methods are teacher-centred, there is more of teaching than learning (Westwood, 2008). According to Chikuni (2003), traditional teacher-centred methods include telling or lecturing, storytelling, miming and demonstration. Such methods lead to rote learning. The following are some of the traditional teaching strategies that pre-service teacher trainees are exposed to in their training in Zimbabwean teacher training colleges.

2.3.1.2 Lecturing/telling/exposition

This is one of the oldest approaches to teaching that educators have used (Kasambira, 2004). It entails oral presentation of information by the teacher and, interaction between the teacher and the pupils is very minimal (Kasambira, 2004). Therefore, it is based on talk-and-chalk which means that this method basically has the speaker (the teacher) and the listener (the learner) (Chikuni, 2003). Wilson (2014) states that in lecturing, there is focus on teacher activity. This means that the teacher controls the instructional process and the content is delivered to the entire class as the teacher emphasises factual knowledge (Damodharan & Rengarajan, 2008). This means that the learning mode is passive and the students play little part in their learning process. In addition, one could argue that in such a method of teaching there is one way flow of information as illustrated in Figure 2.1.

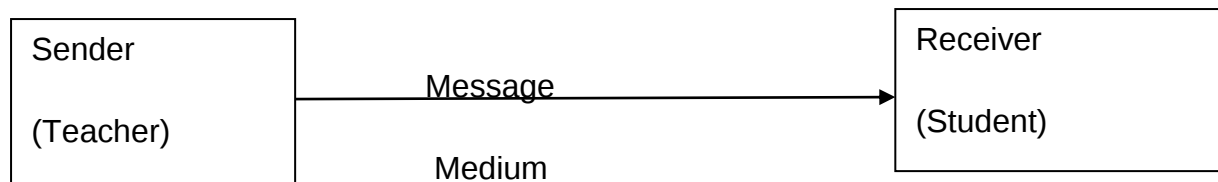


Figure 2-1: Talk-and-Chalk method of teaching

The learners, who are taught through the lecture method tend to memories information through rote learning rather than understand it. The lecture method appears to be a straight forward way to impart knowledge and when we consider Gardner's theory of multiple intelligences, it tends to appeal to auditory learners (Wilson, 2014). Chikuni (2003) also makes this observation when she states that this method is suitable for learners whose listening span can be lengthened and whose communication skills are well-developed. According to Chikuni (2003) and Wilson (2014), lecturing, is effective for large group teaching and for learners who are intrinsically motivated. Chikuni (2003 p.120) further observes that lecturing requires a teacher who is resourceful, creative and imaginative as to "make something out of nothing to ensure that learners learn and to be able to keep the learners attentive". Wilson (2014) asserts that lecturing is enhanced by visual aids. However, too much use of the lecture method may lead to teaching and learning which is dull, inaccessible for some learners and generally non-inclusive. An over reliance on this method does not promote interaction between learners which is advocated in Vygotsky's (1978) Zone of Proximal Development (ZPD) in his socio-cultural theory. In his study on challenges of implementing inclusion in Zimbabwe education system, Mafa (2012) discovered that teachers were worried that whole class instructional strategies like the lecture method may not be appropriate for the different pupils and their different needs.

2.3.1.3 The demonstration method

Chikuni (2003) posits that demonstration is where the teacher shows how something is done by actually doing it him/herself while the learners observe. Chikuni (2003 p.126) further states that there are "two types of demonstration, the whole process and the step-by step or blow-by-blow". In the former type, the teacher demonstrates the whole process from beginning to end in what Chikuni (2003, p.126) refers to as "one continuous process without learners' participation", while the latter involves presentation of the process in bits and learners go and practise what has been

demonstrated. The learners then come back for the next bit of the demonstration until the whole process is completed. Demonstration can be done in conjunction with the lecture method or explanation. According to Chikuni (2003, p.127) this method is suitable for:

- Skills that are new to the learners;
- Skills which are too difficult for the learners to be able to figure out for themselves or to follow given instructions;
- Learners of below average ability;
- Dependent learners;
- Learners with negative attitude towards the subjects;
- Teachers with skills; and
- Situations where there are insufficient materials for learners' participation.

Demonstration as a teaching strategy gives a concrete way of showing how a skill is performed; it is an economical way of teaching because there is no waste of time and other resources if, according to Chikuni (2003 p.127), "results turn out right at the beginning". Some kind of effective learning can still take place even if materials are inadequate. When we consider Gardner's theory of multiple intelligences, such a method would work well for those learners who possess the visual-spatial intelligence as they have the potential to perceive images and space. Wilson (2014) is in agreement with this view as he states that demonstration appeals to visual learners. It also needs the teacher to be well organised as it is teacher-centred.

2.3.1.4 The story-telling method

Chikuni (2003) says story-telling is when the teacher or a learner tells or reads a story with the concepts to be taught. On another note, Wells in Hamilton and Weiss (2005 p.3) states that "story-telling is the process of constructing stories in the mind and is one of the most fundamental ways of making meaning and thus pervades all aspects of learning, regardless of age." This means that story-telling can be used in teaching at any level and still remains effective in its own way. The use of story-telling as a strategy for teaching makes it easier for learners to assimilate new ideas or concepts. Yang (2011) agrees with the above observation by acknowledging that children's characteristics make it imperative for educators to adopt the strategy of

story-telling in teaching younger children while others also find it effective in classes for older children and adults.

Butcher (2006) acknowledges that most scholars agree that story-telling creates a learning situation because it allows the mind of learners to think outside the limits of their experience and to also develop creative ways to solve problems. Butcher (2006) further argues that stories make interesting images in the learner's mind. Story-telling can be used in any part of the lesson. It can be used in the introduction, during the course of the lesson or as the conclusion of the lesson. Story-telling is effective because it involves many mediums of communication such as song and dance and gesture. In this regard, it appeals more to those learners who possess the bodily kinaesthetic and also musical intelligence when we consider Gardner's theory. According to Butcher (2006 p.3), story-telling moulds characters as well as provides enjoyment; it broadens the knowledge of the learners and the cultural beliefs and activities and establishes good relationships among pupils and their teacher. Furthermore, Dujmovic and Paula (2011) observe that story-telling can be used to reinforce conceptual development in children, for example, colour, size, shape, time, cause and effect. In this way, thinking strategies like problem-solving, classifying, comparing are reinforced. Miller (2015) adds to the above by acknowledging that any subject and any topic can be taught in story form. Story-telling, in this regard, makes concepts more memorable. Furthermore, story-telling enhances memory and expands attention spans. Learners also learn new vocabulary by listening to the stories (Miller, 2015).

However, if the teacher does not possess the required skills of story-telling, it may have a negative impact on the learners (Butcher, 2006). If story-telling is over used, it may produce passive learners who receive information without receiving probing questions for better understanding (Butcher, 2006), and this lessens children's opportunity of learning by doing.

2.3.1.5 Drilling/drill and practice

According to the Malawi Institute of Education (2004), drill and practice refers to the repeated learning and use of a particular item while Garrett (2008) notes that drill and practice is when the teacher provides a series of independent tasks to learners in order to reinforce a concept. Repetition is a common feature of drilling and this

enables the teacher to help learners focus on particular aspects of a concept. It is particularly helpful in language teaching where learners focus on particular points of grammar, vocabulary, pronunciation and spelling (Malawi Institute of Education, 2004). This strategy can be funny if the teacher is lively and enthusiastic about it. It also helps pupils understand previous work and sharpens learners' skills under practice. According to the Malawi Institute of Education (2004), drilling can provide a foundation on which higher level cognitive skills can be built.

However, it should be noted that drilling can become monotonous and boring if over used. It may also be difficult for the teacher to sustain learner motivation, interest or alertness due to the repetitions involved in drilling. Drilling leads to rote learning because understanding is not the main aim. When Gardner's theory is considered, drill and practice generally benefits auditory learners whose concentration on listening spans for a longer time.

2.3.2 Modern teaching strategies/progressive teaching methods

Scrivener (2005) defines modern methodology as being more learner-centred classroom instruction. According to Chikuni (2003), learner-centred methods are those methods in which the learners participate more than the teacher. In such methodologies, the teacher is more of a facilitator, motivator and guide of children's learning. Chikuni (2003) views these methods as being effective in enhancing the quality of learning because of their potential to involve the learners directly. In support of this notion are Guloba, Wokadala and Bategeka (2010), who postulate that child-centred strategies are approaches to education which focus on the needs of the learners. They further state that these strategies shift the focus of activity from the teacher to the learners. Such strategies include active learning in which children solve problems, answer questions, formulate questions of their own, discuss, explain, debate or brainstorm during the lesson. Child-centred methods involve co-operative learning in which learners work in teams on problems and projects (Guloba et al., 2010). The learners work under conditions that enable them to experience positive interdependence and individual accountability. Child-centred strategies are characterised by inductive teaching and learning in which the learners are presented with challenges, through questions and problems, and learn the concepts in the context of addressing the challenges.

It is clear from the definitions of child-centred strategies that they put the needs of the learners first. Each learner's needs, abilities, interests and learning styles are focused on, thus, making the teacher a facilitator of children's learning. These strategies acknowledge the learner's voice as being central to the learning experience; thus they require the learners to be active and responsible participants in their learning. This is in contrast to the traditional or teacher-centred strategies which ignore or suppress learner responsibility and focus on the teacher as the instructor (Armstrong, 2012). Child-centred methods have their origin in teaching/learning theories espoused by theorists such as John Dewey, Jean Piaget and Lev Vygotsky whose collective work focused on how children learn (Guloba et al., 2010). For teachers to be able to use child-centred methods in their practice, they need to be informed by such theories. They must be aware of the diverse needs and backgrounds of their learners and to this end, there is need for them to take into cognisance educational practices such as Gardner's theory of multiple intelligences (Armstrong, 2012). Gardner's theory promotes different modes of diverse learning styles and therefore accommodates children's different learning styles.

Pre-service teacher trainees are thus equipped with such teaching strategies before they embark on their practicum and after their teaching practice stint as a way of preparing them for the profession. The following sections outline some of the child-centred strategies with which trainee teachers are equipped.

2.3.2.1 Discovery method

Westwood (2008) observes that discovery is the best known form of inquiry-based learning. In this method, "learners are given a question to answer or a problem to solve, or a set of observations to explain and they work in a largely self-directed manner to complete their assigned task and draw appropriate inferences from the outcomes, "discovering" the desired factual and conceptual knowledge in the process" (Guloba et al., 2010 p.46). Ormrod (2000) in Westwood (2008 p. 35) made the same observation when he stated that discovery learning "requires the learners to investigate a topic, issue or problem by active means, obtain pertinent information, interpret causes and effects, where relevant, and arrive at conclusions or solutions". Learners need to have prior knowledge and skills on the material to be investigated and the teacher needs to provide necessary support during the investigations.

Discovery-based teaching/learning enhances retention of material on the part of the learner (Guloba et al., 2010). According to Westwood (2008), discovery learning has different forms which include: open-ended, minimally guided investigation and fairly tightly structured guided discovery. In open-ended discovery, the teacher may provide all necessary resource materials but learners are given little or no direction for carrying out their investigations. The learners must take the initiative in deciding and they must draw conclusions from the observations they make (Westwood, 2008). In guided discovery, the teacher explains the lesson objectives to the learners and provides the initial explanation to kick-start the investigation process. The teacher may also make suggestions to provide hints for the learners (Westwood, 2008). This is scaffolding that helps the learners not to lose track of their investigation. Thus, the teacher still retains a fair degree of control.

According to Westwood (2008), the discovery method has the following advantages: as a teaching/learning strategy, it enables learners to be actively involved in the process of learning and this is very motivating for them. It also helps learners to get to learn new skills and strategies. The strategy builds upon learners' prior knowledge and experience and they are engaged in independent learning. Learners develop group working skills and they are most likely to remember concepts and information if they discover them on their own. However, discovery teaching/learning has its own disadvantages which according to Guloba et al., (2010) and Westwood (2008) includes: it being time consuming, need for a resource-rich learning environment and need for close monitoring of learners' work.

2.3.2.2 Problem-based learning

Guloba et al. (2010) state that problem-based learning is when students learn about a concept through the experience of problem-solving. The problems that are solved are based on real-life scenarios. Learners are presented with a real-life issue that requires a decision or a solution (Westwood, 2008). The learners work in small collaborative groups and the teacher facilitates the group discussions without necessarily directing or controlling them (Westwood, 2008). This teaching strategy has the following advantages:

- It encourages self-directed learning.

- It helps learners develop flexible knowledge effective problem solving skills, effective collaborative skills and critical thinking.
- Learners study issues that are closely linked with the real world and these result in intrinsic motivation (Westwood, 2008; Guloba et al., 2010).

Like all the other strategies, problem-based learning also has its disadvantages. Some learners may find it difficult to sift irrelevant information from relevant information and teachers may also find it difficult to facilitate learning. There may also be little or no resources around the school for learners to use (Westwood, 2008). Problem-solving as a teaching strategy can benefit learners who possess the intrapersonal intelligence as well as those who have interpersonal intelligence with regard to Gardner's theory.

2.3.2.3 Project-based learning

According to Westwood (2008), project-based learning has been popular for many years and is an approach to child-centred learning which is informed by constructivist principles. This is when learners work individually or collaboratively to gather and present information on a given topic. Thomas (2000) in Westwood (2008) remarks that project-based learning makes use of complex tasks that are based on challenging questions or problems. These problems or questions enable learners to engage in design, problem-solving, decision-making or investigative activities. Learners are given the opportunity to think and reason independently. In some cases, the work may be done in collaboration with others (Westwood, 2008). The project-based approach to teaching is effective in that learning tends to be retained more by learners than in teacher-centred methods. This can be used in all areas of the curriculum and is based on real-world problems. It enables learners to acquire skills for gathering and analysing data because they are responsible for their learning and this increases their motivation (Westwood, 2008). It also encourages the use of higher order thinking skills as well as increasing team work (Westwood, 2008). In view of Gardner's theory, this strategy suits learners who possess interpersonal intelligence.

2.3.2.4 Group work

This is a teaching strategy that is less teacher-focused (Wilson, 2014). Group work is when groups of students formally work together on projects or assignments in a classroom setting (Guloba et al., 2010). Wilson (2014) adds another dimension by saying group learning is where a group of learners meet face-to-face or online to learn collaboratively. It has the advantage that it leads to active learning and learners feel less isolated. It also encourages critical thinking and learners get involved in their own learning. Additionally, reserved and quiet students get the opportunity to speak and be heard in smaller groups. Group work gives a chance to students to learn from each other (Guloba et al., 2010), thus promoting peer learning (Wilson, 2014). However, there are challenges in using group work. It may be difficult to ensure equal and maximum participation of all group members. It may also be difficult to confirm individual progress. Group work can be beneficial to kinaesthetic learners and those who have interpersonal intelligence if we consider Gardner's theory.

2.3.2.5 Question and answer

In this method, questions can be asked by the teacher while learners respond or learners ask the questions while fellow learners and/or the teacher respond(s). The questions that the teacher asks involve the learners more fully in a lesson which leads to deeper understanding of concepts. On the other hand, questions asked by the learners provide feedback for the teacher and offer an opportunity to clarify matters (Guloba et al., 2010). This approach enables learners to develop analytic skills through its potential for prompting debates. The teacher needs to consider different types of questions as explained in Bloom's taxonomy and these include: description, comprehension, application, analysis, synthesis and evaluation (Guloba et al., 2010).

The advantage of this strategy is that it can be used in all teaching situations and it helps develop the power of expression in students. To add to that, it helps the teacher ascertain personal difficulties of his/her learners (Guloba et al., 2010) and it promotes critical thinking (Wilson, 2014). The strategy calls for instant feedback on responses (Wilson, 2014). However, the strategy requires a lot of skill on the part of the teacher to be able to formulate good questions and it is time consuming (Guloba

et al., 2010). The question and answer technique in teaching benefits kinaesthetic and auditory learners (Wilson, 2014)

2.3.2.6 Role play

Role play is a teaching method that depends on role-playing in which learners take on the role profiles of specific characters in a given setting (Guloba et al., 2010). Bhattacharjee and Ghosh (2013) state that role playing is based on the constructivist paradigm in which learning is seen as the constructs of understanding developed by the learner through child-centred learning. The teacher can use drama or simulation which are aspects of role play to not only convey the facts and information of a subject, but to portray a more vivid image of reality (Bhattachajee & Ghosh, 2013). Role play motivates learners, makes learning easier by making it seem like play rather than work and enables learners to look at the material being taught in a new light (Guloba at al., 2010). In addition, it enhances communication skills. However, it requires the teacher to be highly skilled in preparing and administering the roles and according to Wilson (2014), it needs to be carefully managed to ensure skill is practised accurately. Role-play as a teaching strategy is ideal for kinaesthetic and visual learners (Wilson, 2014).

2.3.2.7 Discussion

Killen (2007 p.155) defines discussion as “an orderly process of group interaction in which learners are exchanging ideas listening to a variety of points of view, expressing and exploring their own views, applying their knowledge and reflecting their own attitudes and values”. Chirinda (2011) in a study on teaching methods in Grade 7 in Shurugwi District, Zimbabwe, observed that in discussion, communication is between and among learners themselves and learners and the teacher. Discussion develops creative thinking and improves skills and better understanding (Barker, 2004). According to Wilson (2014), in discussion, there is free exchange of ideas on a given topic and it allows ideas to be shared and it is also an opportunity to value learners’ opinions. Discussion ensures balanced teacher/learner input. However, it needs careful management to ensure range of ideas and to keep on task. The strategy is ideal for auditory learners. It offers learners the opportunity to test their ideas, knowledge, opinions and views against those of their colleagues.

2.4 Inclusive education

Inclusive education is a worldwide phenomenon advocated in many countries. Its philosophical roots lie in ideas on human rights, social justice and equality (Wah, 2010), espoused within the context of the international discussions of the United Nations Agenda of Education for All stipulated by the 1990 Jointien Declaration (UNESCO, 2005). As has already been noted, inclusive education is embraced internationally and has been enshrined and articulated into international legislation (Wah, 2010). Notable among such legislations are policy documents from the United Nations such as the Salamanca Statement of 1994, the Education Forum for Action, Dakar, of 2000, the Millennium Development Goals focusing on Poverty Reduction and Development of 2000, The Education for All Flagship and Disability, of 2004 and the UN Convection on Rights of Persons with Disabilities of 2007 (Mariga, McConkey & Myezwa, 2014).

According to Mariga et al. (2014 p. 27), inclusive education “refers to the right of all children to attend school in their home community in ordinary/regular classes with peers of their own age.” Inclusive education is seen by UNESCO (2005) as a process of addressing and responding to the diversity of learners’ needs through increasing participation in learning, cultures and communities, and reducing exclusion within and from education. In this regard, it is clear that inclusive education advocates acceptance where diversity among all people is welcomed, valued and respected (Carrington & Robinson, 2004). This is made clear in UNESCO’s (2005) view that inclusive education involves changes in content, approaches, structures and strategies, with a common vision which covers all children within an appropriate age. Inclusive education acknowledges that all children can learn (Mariga et al., 2014). It takes into consideration that all children need some form of support in learning during their time at school. In this regard therefore, it can be concluded that inclusive education aims to uncover and minimise barriers to learning. Inclusive education is also concerned with the changing of attitudes, behaviour, teaching methods, curricula and environment in order to meet the needs of all children.

In Zimbabwe, as in all other countries, inclusion is based on Education for All. This means that no child should be excluded from school. It means that all children, including those from poor families, those with language problems, the abused, the

vulnerable, the orphans and those with disabilities must attend the schools nearest their homes, schools of their choice which are accessible. Education is everyone's right; therefore, every child, regardless of race, colour, creed, gender, political affiliation, physical development, language or social class, has a right to education in their local schools. Thus inclusive education should be seen as a critical component in the development of the whole child (Cambridge-Johnson, Hunter-Johnson & Newton, 2014). It should be seen as a way of providing access to quality education for all children and as a means of eliminating all obstacles in accessing education and thus getting rid of all forms and all aspects of exclusion. Mutepfa, Mpofu and Chataika (2007) observe that in Zimbabwe, inclusive education involves the identification and minimisation or elimination of barriers to students' participation in traditional settings (i.e. schools, homes, communities and workplaces) and the maximisation of resources to support learning and participation.

Inclusive education may be viewed differently in various countries, especially when one considers developed versus developing countries. However, it should be noted that the key element of inclusion is not about individualisation but diversification of common learning experiences (UNESCO, 2009). These are meant to achieve the highest degree of participation of all students taking into cognisance their individual needs. All nations should advance towards a universal design in which the teaching and learning process and the curriculum consider from the onset, the diversity of the needs of all children and young people as opposed to focusing on an average student and then carrying out individualised work which responds to specific groups or specific students (UNESCO, 2009). Responding to diversity, has become an essential condition to achieve high quality education for all and has become the main challenge being faced by schools and teachers since it involves making substantive changes in their existing conceptions, attitudes, curricula, pedagogical practices, teacher training, evaluation system and school organisation (UNESCO, 2009).

UNESCO (2009) identified the following factors as characterising inclusion in education:

- a. Having a different vision of education based on diversity and not homogeneity. Each child is taken as an individual who is unique; therefore, the differences in children are to be taken as they are, i.e. they are inherent in human nature.

These differences should be taken as an opportunity to enrich the learning process.

- b. The education system as a whole is responsible for responding to diversity. This means that it is necessary to move away from the homogenous approaches in which all learners are offered the same to education models that consider the diversity of needs, abilities and identities so that education can be pertinent for all people and not only for specific groups of society. To achieve this provision of education, the curriculum and the teaching-learning processes have to be flexible in order for them to be adapted to the needs and characteristics of all learners and the diverse contexts in which they develop and learn.
- c. Creating and achieving a balance between responding to commonality and to diversity by the school curriculum. This means offering universal learning opportunities to all students. It also means ensuring equal opportunities for all but at the same time giving sufficient freedom to schools for defining the learning content necessary to address the requirements of the local context and the educational needs of their students. For the education to be relevant, it should develop an inter-cultural curriculum which promotes the respect for different cultures and the appreciation of differences. It should also consider in a balanced way, the development of different capacities, multiple intelligences and talents of people.
- d. Identification and minimisation of the barriers encountered by students to access and stay in school, participate and learn. Such barriers emanate from the interaction between students and different contexts such as people, policies, institutions, cultures and socio-economic circumstances affecting their lives. To this end, action should be aimed at eliminating the physical, personal and institutional barriers that restrict learning opportunities and also to ensure that students have full access and participation in all the educational activities.
- e. Being a never-ending process as it implies a profound change in the education systems and the school culture. Educational institutions should constantly review their values, organisation and educational practices in order to identify and

minimise the barriers encountered by students to participate and succeed in learning, seeking more appropriate strategies to respond to diversity and learning from differences.

Collaboration of support systems with teachers in addressing students' diversity while paying attention to those who need it most in order to optimise their development and improve their learning. This means focusing on all the resources to complement or reinforce the pedagogical activity of teachers, additional teachers, peers who support students, families, specialised teachers, as well as professionals from other sectors.

2.4.1 Rationale for inclusive education

Inclusive education is based on ethical, social, educational and economic principles. There are many justifications for incorporating inclusive education in our educational institutions.

First and foremost there is an educational justification (UNESCO, 2009). Inclusive education is a means to realise the right to high quality education taking cognisance of offering equal opportunities without discrimination. Education is a human right and no one should be excluded as it contributes to the development of people and society. For one to enjoy this human right, there must be provision of high quality education which promotes the highest development of the multiple abilities of each individual. In other words, the right to education is the right to lifelong learning (UNESCO, 2009). For one to acquire high quality education, they must be included in all classroom activities and this can be made possible through the use of teaching strategies that embrace learners in their diversity.

Inclusive education can be justified in the sense that it is a means to advance towards more democratic and fair societies (UNESCO, 2009). In this regard, one can argue that it has social justification. Inclusive schools are able to change attitudes towards diversity by educating all children together and form the basis for a just and non-discriminatory society (UNESCO, 2009). Quality education for all and the development of schools which receive students from different socio-cultural contexts and with different capacities are powerful tools to contribute to social cohesion

(UNESCO, 2009). This all begins in the classroom where learners, in their diversity feel included.

There is also economic justification for inclusive education because it is less costly to establish and maintain schools that educate all children together than to set up a complex system of different types of schools specialising in different groups of children (UNESCO, 2009). Inclusive education, is a means to improve the efficiency and cost-benefit relationship of the education systems because if inclusive schools offer an effective education to all their students, there will be a higher cost-benefit relationship when providing Education for All (UNESCO, 2009). This means that there will be optimisation in the use of resources.

Inclusive education can also be justified on the basis that it is a means to improve the quality of education and the professional development of teachers (UNESCO, 2009). If high levels of excellence in students' learning are to be reached, this requires adapting teaching practices and pedagogical support to the needs and characteristics of every student. Consequently, greater professional competence for teachers, collaboration among teachers, families and students are called for. This also calls for comprehensive and flexible educational practices which create room for the participation and learning of all. A wide range of teaching strategies should be advocated for including the creation of a school environment in which all learners are received and valued as equal (UNESCO, 2009). Hence, teacher training has to be transformed and teachers have to seek new ways of teaching and reflect critically on their practice.

2.4.2 Benefits of inclusive education

More specifically in developing countries, inclusive education is marred with challenges such as lack of material and human resources. However, there is a lot that can be benefited by engaging in inclusive education. Salend (2008) observed some of the benefits of inclusive education as outlined in the following sections.

a. Diversity

Where effective inclusion is practised, there is improvement in the educational system for all learners. This is made possible by placing learners together in general education classrooms, regardless of their learning ability, race, linguistic ability,

economic status, gender, learning style, ethnicity, cultural background, religion, family structure and sexual orientation. This kind of diversity in an inclusive set up makes it possible for the value of all learners to be welcomed, acknowledged, affirmed and celebrated because they are educated together in high quality age-appropriate regular education classrooms in their local communities. This diversity also enables the learners to get the opportunities to learn and play together and to participate in educational, social and recreational activities. These activities promote acceptance, equity and collaboration and are responsive to individual needs and embrace diversity.

b. Individual needs

In inclusive education, every learner is seen and treated as a unique individual. Effective inclusion thus caters for and is sensitive to individual needs and differences. As teachers teach students, they need to consider the factors that shape the individual learners and make them unique. Teachers need to be sensitive to individual needs and differences. All students are valued as individuals who are capable of learning and contributing to society. McCarty (2006) concurs with this aspect of inclusive education as she states that the concept of inclusive education places focus on each individual child's ability to learn and therefore it does not treat all children as the same. Therefore, teachers are able to instruct each child in a more individualised way. Consequently, all children benefit from a teaching style catered to their individual way of learning (Grimes, 2014). In addition, different teaching techniques that include participatory activities feature very much in inclusive education. This means that the learners are involved in their learning and because of this, they retain more information unlike when information is just imparted to them. To this end, teachers become more dynamic in the classroom and school becomes more enjoyable for both learners and teachers (McCarty, 2006). Mariga et al. (2014) accord that inclusive education acknowledges that all children can learn and it respects differences in children based on age, gender, ethnicity, language and disabilities. Hence, children learn better in a more relaxed environment.

c. Reflective practice

Salend (2008) avers that effective inclusion requires reflective educators. Reflective teachers are those who are capable of examining their attitudes, teaching and

curricular in order to accommodate individual needs. Reflective teachers in an inclusive set up are flexible, responsive and aware of their learners' needs. They think critically about their values and benefits and routinely examine their own professional practice for self-improvement and to ensure that all students' needs are met (Burstein, Sears, Wilcoxon, Cabello & Spagna, 2004). Education is individualised for all learners in relation to assessment techniques, curriculum accessibility, teaching strategies, technology, physical design adaptations and a wide range of related services based on their needs (Salend, 2008). Mariga et al. (2014) concur that all pupils gain where there is reflective practice and differentiated instruction because teachers adapt the curricular and teaching methods that suit individual learners. Resultantly, when teachers take on the challenge of making their classrooms and schools more inclusive, they become more skilful and better practitioners.

d. Collaboration

According to Salend (2008), effective inclusion is a group effort and it involves collaboration among educators, other professionals, students, families and community agencies working together to build effective learning environments. Salend (2008) argues that the support and service that learners need are provided in the regular or mainstream classroom. There is working together cooperatively and reflectively as people share resources, responsibilities, skills, decisions and advocacy for the benefit of the learners. According to Banks in Alston, English, Graham, Wakefield and Farbotko (2011), optimal educational environments involve collaborative efforts among all educational stakeholders in order to ensure that the great amount of learning can take place for all learners.

f. Catalyst for change

Mariga et al. (2014) see inclusive education benefiting all because it is a catalyst for change. They argue that inclusive education provides school improvement for all learners and teachers. It also leads to an increase in awareness of human rights and a reduction of discrimination amongst people. Thus, leading to the promotion of an inclusive society and inclusive development.

g. Safety and security

According to Mariga et al. (2014), inclusive education promotes the need for learners to feel safe and secured. All children need a close, sensitive and loving relationship with adults who care for them. Such a relationship becomes the basis for the development of children's sense of security, confidence and ability to cope well with other people and the world at large. This can happen if the learners are not excluded from classroom instruction through the use of teaching strategies that make them feel a part of the classroom environment.

h. Development of full potential

In Mariga et al.'s (2014) view, inclusive education enables the disadvantaged and marginalised to develop their full potential and be enriched by their difference not devalued as a result of it. As they contribute to society, they increase the chances of development of an inclusive society. In this way, inclusive education may be seen as the beginning of the change needed to end exclusion that has characterised so many of our societies as it supports children, families and communities to recognise the disadvantaged and marginalised. Through inclusive education the disadvantaged and marginalised will experience their potential through diversity and a future inclusive society rests with them (Shaw, 2011).

2.4.3 Goals of inclusive teacher education

Teacher education has become critical in supporting and improving inclusive settings in schools. Forlin (2012) states that it is an unchanging truth that teacher education is now the epitome of establishing more effective and inclusive schooling for all learners. Therefore, much greater emphasis must be given on preparing teachers for an inclusive approach. Forlin (2012) also observes that because of this, there is a need to have teachers who are better trained to provide inclusive practices for learners with diverse needs and this requires appropriate and effective training to be available for pre-service teacher trainees. Therefore, it is imperative to focus on goals for inclusive teacher education and the following have been observed.

2.4.3.1 Preparing trainees to enter a profession which accepts individual and collective responsibility for improving the learning and participation of all children

Pre-service teacher training needs to be re-visited to make sure that inclusive education becomes compulsory for all trainees and a central aspect in their curriculum. The trainees need to be equipped with knowledge and skills of inclusive education which include understanding needs and abilities of children with diverse needs and pedagogic skills such as instructional accommodation and activities differentiation (Thi Nguyet & Thu Ha, 2010).

2.4.3.2 equipping trainee teachers with the knowledge, attitudes classroom techniques and curriculum strategies for inclusive school practice

Thi Nguyet and Thu Ha (2010) observe that for inclusive education to succeed, it is vital that teachers, principals and other education stakeholders maintain a positive attitude towards inclusion. Hence, teacher trainees should be equipped with the right attitudes. They should also be equipped with the knowledge of classroom techniques and curriculum strategies for inclusivity such as child-centred methods of teaching, use of active and participatory learning techniques that cater for diversity in learners and collaborative techniques. This is critical because it becomes the key factor to promote participation and learning in all children. Equipping pre-service teacher trainees enables the development of a core identity as inclusive practitioners and the basic abilities related to valuing student diversity, supporting all learners and working with others (Hollenweger, Pantic & Florian, 2015).

2.4.3.3 To help trainee teachers develop a wider perspective to educational difficulties and approaches to teaching in inclusive classroom (Mariga et al., 2014)

There is need to develop teachers so that they can adjust education in line with the diversity in children's learning. A successful inclusive classroom provides the conditions for all children's learning. Consequently, teacher development needs to address contextual matters in order to create the conditions that enable facilitation in the learning of all children (Mariga, et al., 2014).

2.4.3.4 To produce teachers who are capable of addressing and integrating diversity in the classroom

It should be noted that addressing and integrating diversity in the classroom is “a complex task which involves enhancing teachers’ motivations and competencies, transforming teachers’ training and creating good working conditions” (UNESCO, 2008, p. 17). Teacher education should equip teachers with skills that will enable them to take risks and be open to change, to seek new ways of teaching and reflect critically on their practice. By so doing, teachers will be able to transform their practice, value differences as an element of professional enrichment and be able to work together with other teachers, stakeholders and families. Importantly, teachers know their pupils very well and be sensitive to their students’ needs and emotions (UNESCO, 2008). In addition, they must be able to offer multiple opportunities and have high expectations regarding all students’ learning.

2.5 Strategies for implementing inclusive education

The 21st century classrooms are characterised by diversity of learners; consequently, the 21st century teacher must possess competencies that enable him/her to handle learners from diverse backgrounds and with diverse needs. One of the competences is the ability to use teaching strategies that meet this diversity of learners. In order to achieve this, teacher education should prepare teachers in such a way that they will be capable of handling such diversity. Peebles and Mendaglio (2014) support this observation when they say that there is urgent need to equip teachers to work in diverse settings resulting in most post-secondary institutions offering some form of inclusion training as part of teacher preparation programs. Rieser (2013) asserts that strategies are being developed in teacher education programmes to break down the tradition of “chalk-and-talk” strategies in teaching but he acknowledges that there is still a long way to go in having a universal way of preparing teachers for inclusion. Teachers’ colleges are thus challenged by the emergence of inclusive settings in schools to change their training so as to include pedagogical practices that ensure that trainee teachers are equipped with knowledge and skills to employ inclusive strategies in their teaching. In a study by Mafa and Chaminuka (2012), it emerged that pre-service teachers need professional competences that would enable them to recognise and develop every child’s potential. Rieser (2013) suggests that using

differentiated instruction helps develop teaching strategies that are responsive to all learners' needs.

2.5.1 Differentiation

Gardner and Whittaker (2006) are of the view that all children are unique and that in their uniqueness they differ in terms of their strengths and weaknesses, ability to learn and the styles they prefer in the process of learning. It is for this reason that taking a "one size fits all" stance in teaching in the 21st century classrooms characterised by learner diversity will not work to benefit all. Therefore, as a way of supporting the uniqueness and diversity of learners, there is need to use differentiation as a teaching strategy. Thus, Tomlinson (2008) says learning is made meaningful and understandable for the learner. In addition, Van Gardner and Whittaker (2006) observe that through differentiation, diversity of learners' cultural background, learning styles and capabilities are respected and this results in trust between the makes and the teachers which in turn makes the learners to become independent and successful learners.

Payne-Akinhanmi (2015) views differentiation as a combination of strategies used by the teacher to ensure that every child is learning optimally in the classroom. In other words, differentiation is seen as the strategies that teachers use to enable that children with diverse learning characteristics participate in the regular classroom. In this regard, differentiation can also be taken to mean ways of adapting teaching strategies to cater for learners' different needs and abilities. Lewis and Bagree (2013) acknowledge that differentiation makes teaching more effective to suit different learners in his/her class. To this end, teacher education should equip pre-service teacher trainees with skills that enable them to consider Gardner's theory of multiple intelligences as they handle inclusive classes because the theory considers that learners are different in their abilities, capabilities or potentials in their learning. This means that they need to employ strategies that cater for learners who learn visually, for those who learn by listening and speaking and also for those who learn through movement, i.e. the kinaesthetic learners (Wilson, 2014).

Consequently, there are strategies that a teacher can use to differentiate instruction in an inclusive class. The teacher needs to create variety in the strategies in order to

ensure that he/she meets individual preferences, abilities and needs (Wilson, 2014). This can be referred to as responsive teaching (Tomlison, 2011).

In this kind of instruction, the teacher should differentiate strategies in terms of content, process and production (Tomlison, 2011). Differentiating content refers to what the child should learn or how he/she gets access to the information and ideas; process refers to the activities or how the learner makes sense of the content; and product refers to how the learner shows what he/she has come to know, understand and be able to do (Tomlinson, 2011). Wilson (2014, p.372–373) suggests the following as ways that teachers can use as part of the strategies that add variety and learner preferences as a way of differentiation.

1. Learning techniques suited to those who prepare to learn visually:
 - Use cards, posters and prompt sheets.
 - Display session tasks on board.
 - Write key words on board.
 - Collate ideas from group activities on board or flip chart.
 - Supplement verbal exposition with pictures and diagrams.
 - Ask questions which exploit visual imagination: “What would it look like?”
 - Encourage learners to see words/concepts in their mind.
 - Use highlighter pens to annotate work.
 - Use glossary of terms in a vocabulary book or poster.
 - Vary colour, font style /size in visual aids in learners’ handouts.
 - Use mnemonics.
 - Number sentences or use bullet points.

2. Learning techniques suited to those who learn by listening and speaking:
 - Listen to learners.
 - Talk through ideas on posters, boards, handouts.
 - Ask questions which exploit auditory skills: “What does it sound like?”
 - Introduce new words through language games.
 - Give thinking time in groups activities.

Use musical connections to word (sing alphabet, use rhyme).

3. Learning techniques suited to learners preferring movement (kinaesthetic):

- Use breaks/pauses to get learners moving, even within the room.
- Locate different activities in different parts of the room.
- Use role play or practical activities.
- Put words on cards to be sorted into types.
- Write letters on cards to make words.
- Use post-it notes to record questions in lectures or demonstrations.
- Ask questions which exploit kinaesthetic skills: “what did it feel like?”
- Provide opportunities for learners to do things.

Wilson (2014) further suggests that if the teacher is to ensure that every lesson is inclusive through differentiation, he/she needs to include methods that appeal to visual, auditory and kinaesthetic learning preferences. Such methods clearly cater for all the intelligences advocated by Gardner in his theory of multiple intelligences. Wilson (2014) also suggests that the teacher should vary assessment activities and make learning enjoyable by taking on board all learner in their diversity.

2.5.2 Co-teaching

Besides making use of differentiation in inclusive classrooms, the teachers can also utilise co-teaching as a strategy to cater for the diversity of learners. Solis, Vaughn, Swanson and McCulley (2012) argue that even if inclusion can occur without involvement from a special education teacher, a co-teaching arrangement can be made. In these cases, the regular teacher and special education teachers help each other to provide support for learners, especially those with learning disabilities. Co-teaching is also known as co-operative teaching and Friend and Cook (2008) define it as the partnering of a general or regular education teacher with a special education teacher or another specialist for the purpose of jointly delivering instruction to a diverse group of learners, including those with disabilities or other special needs, in a general or regular education setting. This is done in a way that flexibly and deliberately meets the learners' learning needs. In other words, co-teaching refers to collaboration in inclusive classrooms and it requires co-operation in planning, presenting of lessons, assessing students learning and problem solving. According to Friend and Cook (2010), there are various approaches of co-teaching and these are discussed in the subsequent sections.

2.5.2.1 One teaches, one assists

In this approach, one teacher leads the instruction while the other provides additional support for those learners who need it (giving individual assistance). This approach benefits learners as they receive assistance on challenging material during the course of the lesson.

2.5.2.2 Station teaching

Learners are divided into three separate groups with two groups working with one of the two teachers and the third working independently. All learners benefit from receiving small group instruction. They also receive all the attention they need from the teachers.

2.5.2.3 Parallel teaching

In this approach, the two teachers plan their lessons together then they divide the class into two groups and teach the same lesson/material to these two smaller groups. The learners benefit from working in small groups; in addition, the teachers themselves benefit by learning from each other's expertise.

2.5.2.4 Alternative teaching

This approach entails one teacher being responsible for teaching and the other for pre-teaching, remediation, assessment and enrichment of concepts to those learners who may be in need of additional support.

2.5.2.5 Team teaching

In team teaching, the two teachers provide instruction together in the same classroom. They may take turns in leading instructional activities. All learners may benefit from the expertise of the two teachers.

2.6 Profile of inclusive teachers

The European Agency for Development in Special Education developed a profile of inclusive teachers as one of its main outputs of the Teacher Education for Inclusive Projects (Watkins, 2012). The following questions were considered:

- What kind of teachers are needed for an inclusive society in a 21st century school?
- What are the essential teacher competencies for inclusive education?

Teachers who teach in inclusive environments need to have inclusive pedagogical skills, specialist subject knowledge, knowledge of child development and collaborative skills.

2.6.1 Pedagogical skills

Pedagogy, according to Alexander (2008, p. 29) is:

The observable act of teaching together with its attendant discourse of educational theories, values, evidence and justifications. It is what one needs to know, and the skills one needs to command, in order to make and justify the many different kinds of decisions of which teaching is constituted.

From the definition above, one may summarise pedagogy as a combination of knowledge and skills a teacher requires in order to teach effectively. It is imperative in inclusive education that teachers know how and when to use a range of practices that help them to accomplish their goals with different learners and in different contexts and avoid traditional methods characterised by rote learning.

According to Florian and Black-Hawkins (2011), in inclusive settings, teachers need to shift from teaching and learning using approaches that work for most learners which exist alongside something “additional” or “different” for those with challenges. Rather, they should focus on approaches that involve the development of rich learning communities which are characterised by learning opportunities that are made available for everyone making it possible for all learners to participate in classroom activities. Teachers need to also focus on how their teaching strategies help to increase the participation and achievement of all learners and their diverse needs (Florian & Black-Hawkins, 2011). According to Grimes (2014), this requires an on-going reflection by teachers on how children learn and participate in class, in the school and in the community. It also requires the teachers’ reflection on how they can take into account the diverse needs of the learners as they teach.

In inclusive classrooms teachers deal with children with diverse backgrounds, abilities, interests and learning needs. Such a scenario requires that teachers use child-centred pedagogy to meet the needs of all children. This entails changing their classroom behaviour, how they use resources, the way they speak to and interact with the children and also the way they assess children's learning (Grimes, 2014). Grimes (2014) suggests that teachers in inclusive classrooms should use the principle of the Universal Design for Learning (UDL) to accommodate the diverse needs and learning styles among learners. The following are the three main principles of the UDL as identified by Rapp and Arndt (2012) and Grimes (2014):

1. To provide multiple means of representation;
2. To provide multiple means of action and expression; and
3. To provide multiple means of engagement.

2.6.1.1 Provision of multiple means of representation

There is need to provide multiple means of representation of the content to be learned by the children because children differ in the way they perceive and comprehend concepts. This means that different children approach contexts differently and so the use of different ways of representation benefits all children as it increases the quality of learning for all children (Grimes, 2014). If the teacher presents the context in one way, only the learners who can access that way will benefit from it; but, if the context is presented in multiple ways, more learners will access it. The new concept will be reinforced in multiple ways and the children will more likely become experts in learning as they will become familiar with multiple ways to receive information and will know what works best for them and also explore a range of ways to learn new information (Rapp and Arndt, 2012, p. 146). This can be made possible through teaching strategies that differentiate content and assessment as a way of incorporating learners' diversity.

2.6.1.2 Provision of multiple means of action and expression

As in the first principle, children also differ in ways of expressing themselves on what they know. Therefore, teachers need to provide multiple ways for learners to express themselves. Learners can express themselves orally or through writing, when responding to questions posed by their teachers. These ways may however be limiting for some learners; therefore, there is need to include physical expression

such as acting out, modelling, drawing; some may need to communicate through music, model making and use of assistive technology (which helps with the writing process) in the form of speech-to-text software and word prediction software, to mention a few (Rapp & Arndt, 2012). These provisions should be incorporated in the teaching strategies that consider the different intelligences that learners possess in any given situation.

2.6.1.3 Provision of multiple means of engagement

This principle means the teachers need to provide room for cooperative learning (Grimes, 2014). It means that they use many different ways to engage the learners in their learning through the teaching strategies that they choose to use. Children need to share responsibilities and resources in working towards common goals. However, it must be noted that some learners prefer to work alone (intrapersonal intelligence) while others prefer group work (interpersonal intelligence). Students differ in learning styles and abilities and also in the ways they engage in various learning opportunities. Therefore, teachers need to capture their interest and help them sustain their effort as well as self-regulating their learning behaviours (Rapp & Arndt, 2012). To catch the interest of the learners, teachers should consider offering them relevant, valuable, authentic activities and creating a conducive environment for the learners to work comfortably and without distractions. In order to sustain learners' efforts, teachers need to vary teaching and learning strategies and resources. This can be further enhanced through frequent feedback and showing how much progress learners have made (Rapp & Arndt, 2012). Learners can be encouraged to develop the ability to monitor and modify their own actions as needed. Learners need to be exposed to effective strategies that help them in their learning and what is expected of them. This will enable them to know about their strengths, needs and best strategies and the more they know these the more they will be responsible for their own learning.

2.6.1.4 Collaborative skills

Rapp and Arndt (2012) reiterate that collaboration is a skill all teachers need. The 21st century teacher needs this skill because of the many changes that are being experienced in education such as inclusive education. In the 21st century classroom, teachers should avoid individualism. As Rapp and Arndt (2012, p. 180) observe:

The days of teachers going into their own classroom and teaching all day without other adults present are gone. Today, it is more likely that a teacher interacts with other adults in and out of the classroom.

Consequently, it is important that pre-service teacher training equips the teacher trainees with skills for effective collaboration as an aspect of their pedagogical skills as they prepare them to teach in inclusive classrooms which are characterised by diversity.

2.6.2 Inclusive teacher competencies

Deakin-Crik (2008) defines competence as a complex combination of different knowledge, skills, understanding, values, attitudes and desire which lead to effective, embodied human action in the world in a particular domain. Van Huizen et al. in Pantic and Florian (2015) state that teacher competencies include skills, knowledge and understanding as well as values and moral sensibilities and professional identity. Teacher education is required to prepare teachers who have the knowledge, skills values, attitudes and desire to operate in schools and classrooms that are characterised by diversity of learners. These attributes have a direct bearing on the effectiveness of the strategies that such teachers use to promote effective inclusive education. Therefore, teacher education should be concerned with “the preparation of teachers to meet the challenges of social and educational inclusion in increasingly diverse societies” (Florian, 2008).

Inclusive teacher competencies should be those that are motivational. This means that the teacher must be motivated for the implementation of inclusive education in addition to the values and benefits of the teacher which should lead to tolerance and lack of prejudice. This is reflected in Rouse’s (2008) model which focuses on three elements which are knowing, believing and doing. Rouse (2008, p. 12) argues that “developing effective inclusive practice is not only about extending teachers knowledge, but it is also about encouraging them to do things differently and getting them to reconsider their attributes and beliefs.” Rouse (2008) further explains that developing effective inclusive practice should be about ‘knowing’, ‘doing’ and ‘believing’. According to Florian (2008), this can be seen as a reciprocal triangular relationship between the three elements. Rouse (2008, p. 12) represents this as shown in Figure 2.2.

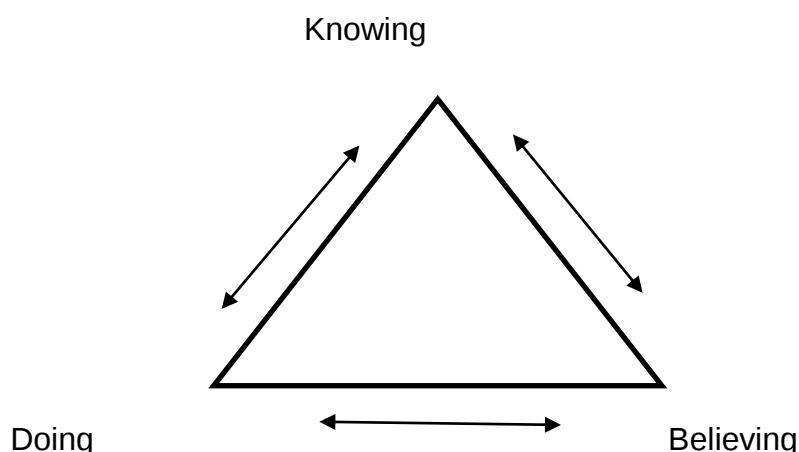


Figure 2-2: Rouse's Inclusive teacher competencies

Source: Rouse (2008 p. 12)

According to Rouse (2008), for many years teacher development courses focused on extending knowledge and skills whereby characteristics of different kinds of learners would take priority. This meant that focus was placed on teaching strategies, disability and special needs, how children learn, what they need to learn, classroom organisation and management, where to get help when necessary, identifying and assessing difficulties, assessing and monitoring children's learning and the legislative and policy context. Rouse (2008) argues that such knowledge is not enough to improve classroom practice, "doing" as Rouse (2008) calls it. Rouse (2008) also posits that 'doing' involves action research initiatives which focus on new ways of practice such as turning knowledge into action, moving beyond reflective practise, using evidence to improve practise, learning how to work with colleagues as well as children (collaboration) and becoming a charismatic professional. This alone may not work for some teachers; thus, it is important "to consider how it might be possible for the teachers to develop new ways of believing" Rouse (2008 p. 14). These include that all children are worth educating, all children can learn, they have the capacity to make a difference to children's lives and that such work is their responsibility and not only a task for specialists (Rouse, 2008).

The above argument reflects that teacher education needs to support the development of the knowledge, beliefs and practices that support inclusion. In addition to the above, inclusive teacher competencies should also be informational. This means that the teacher needs to have the theoretical knowledge, understanding of psychological, educational laws and peculiarities of the age and personality development of children as well as methods and technological knowledge that assist in the teaching and learning of children with diverse needs.

Psychological, educational laws and peculiarities of the age and personality development have already been discussed under child and adolescent development theories. Teaching methods have also been covered in the section on pedagogies of an inclusive teacher. In terms of technological knowledge, the teacher trainees need to be equipped with such knowledge so that they are capable of using assistive technology as part of their strategies in the inclusive classroom. According to Marino, Sameshima and Beecher (2009, p. 187):

Many teacher preparation programs are failing to provide pre-service teachers with the knowledge, skills and dispositions necessary to adopt and utilize technology effectively.

Marino et al. (2009) further observe that including assistance technology in instructional technology in pre-service teacher education programmes enhances academic, social and employment opportunities for those with disabilities. Assistive technology refers to “the devices used to scaffold student’s cognitive processes in order to enhance each individual students unique processing abilities an maximize learning outcomes” (Marino et al., 2009, p. 188). This has been made possible because of recent advances in technology for special needs students. These students can accomplish a number of tasks while in an inclusive classroom. Assistive technology includes the use of iPads, Kurzweil 3000, Read and Write Gold (Das, Sharma & Singh 2012), screen readers, speech-to-text software, and technology-based scaffolds such as digital outlines of text or question prompts embedded in technology-based interfaces (Marino et al., 2009).

2.7 Inclusive teacher education training techniques

Teacher education curriculum should play a leading role in responding to the diversity of learners. “Teacher education needs to move from its currently rigid disciplinary and de-contextualised context towards a flexible approach, providing possibilities for diverse rhythms and pathways of learning progression”(Valliant, 2011 p. 123). There is need for teacher education to be transformed in terms of both theory and field experience to meet the challenges of the 21st century inclusive classroom. Valliant (2011) states that part of such transformation is to re-invent the traditional model of teacher education so that it suits the inclusive environment now being experienced. Reforms in teacher education are critical to ensure that new knowledge about inclusive education and teaching and learning in inclusive schools is taught to pre-service teacher trainees before they enter the profession.

Lewis and Bagree (2013) suggest that it is vital for pre-service teacher trainees to learn about inclusive education from the onset so that focusing on quality and inclusive teaching and learning is seen as a natural part of their job. Lewis and Bagree (2013) further argue that offering trainee teachers one-off courses on inclusive education is not sufficient because this may send a wrong message about inclusive education, mainly that it is a separate project from the other more important courses or subjects. Therefore, need arises to put effort to incorporate inclusive education principles into all teacher training courses and activities. Teacher training must, thus, bring together theory and practice, especially around inclusive education.

Initial teacher training needs to offers trainee teachers a balance of theoretical and practice-based learning. As part of their theoretical learning, trainee teachers need to learn about the concept of inclusive education and other theories such as theories of learning. For example, behaviourist, cognitivist, humanist and cognitive-social learning theories, motivation theories, child development theories, classroom management, etc. Trainee teachers need to understand how their practice relates to such theories and also how they can utilise theoretically good ideas in their practice. They should be able to derive a variety of inclusive teaching methods from such theories which are appropriate for the aims of learning, the learner’s age, their abilities and stages of development. Sound theoretical background should enable the trainee teachers to understand the diverse needs of the wide range of learners

they encounter in a balance between theory and practice. Practice is reflected in the practicum that trainee teachers undergo as part of their training. Teaching practice enables trainee teachers to put into practice the various educational theories that are related to inclusion. It gives the trainee teachers a chance to acquire skills from a typical classroom (Donnelly, 2010). According to Lewis and Bagree (2013), teaching practice should be relevant to the local context and culture. It should also be well managed to avoid trainees getting overwhelmed. Lewis and Bagree (2013) further argue that there should be a balance between theory and practice because too much theoretical learning and too little practice-based learning can leave teachers inadequately prepared for real life challenges that they will face in their profession. Similarly, if there is inadequate theory, the trainees may miss out on vital opportunities to learn from wider sources of information which they need in order to operate efficiently and effectively in the classroom.

2.8 Indicators of inclusive teaching and learning

Inclusive teaching and learning is characterised by several features. In inclusive classrooms, instruction is universally-designed with multiple options for representation, presentation and engagement as reflected in the Universal Design for Learning discussed earlier in this chapter. According to Jorgensen, McSheehan, Schuh and Sonnemeir (2012), instruction in an inclusive classroom reflects the learning styles of all students in the class through the use of visual, tactile and kinaesthetic materials and experiences. Jorgensen et al. (2012) further state that instruction in an inclusive classroom is provided in varied routines such as individual, pairs, small groups and whole class.

Inclusive classrooms mirror the diversity in our societies. Inclusive teaching and learning is thus characterised by styles that accommodate diversity of abilities, cultural backgrounds, learning styles and needs. Hence, inclusive teaching and learning is seen through the use of flexible approaches that take into cognisance the diversity of learners. This is reflected in employing a variety of teaching methods, drawing on students' own experiences, teaching all students as individuals with unique strengths, weaknesses and needs and creating an open classroom that values the experiences and perspectives of all students. This means inclusive teaching and learning is characterised by the use of differentiation.

Differentiated instruction is viewed by Tomlison (2005 p.262) as:

A philosophy of teaching purporting that students learn best when their teachers effectively address variance in students readiness levels, interests and learning profile preferences.

From the above statement, one can conclude that differentiation is based on the fact that students are all different and they learn differently and have different interests (Anderson, 2007). Therefore, trainee teachers should be trained to differentiate their teaching to help students reach their highest potential. Thus, differentiated instruction is a teaching method that allows teachers to use different strategies in the inclusive classroom.

According to Payne-Akinhanmi (2015), the teacher should know the learners' different learning styles, their different learning needs and their multiple intelligences. Payne-Akinhanmi (2015) further observes the following as the different learning styles. There are auditory learners who learn through speaking, radio, tapes, music and use of sound, kinaesthetic learners who learn through tactile equipment, models, role-play, practical's games and cards, visual learners who learn through pictures, diagrams, maps, mind maps, flow charts, use of colour, displays and video. These styles show the importance of considering Gardner's theory in choosing teaching strategies. Some students may need assistance from peers and/or the teacher through teacher scaffolding as advocated by Vygotsky in his theory.

The above shows that in differentiation, Gardner's (1993) theory of multiple intelligences (MI) is effective in dealing with the diversity of learners. Reynolds (2009) avers that MI takes into consideration that all people have a unique profile of abilities in which they are proficient. Therefore, teaching strategies employed in an inclusive classroom incorporate all students' strengths and needs. (Murray and Moore, 2012).

Taking the above into consideration, one may conclude that strategies used in teaching and learning in an inclusive classroom can be seen through the following:

- Reflection of differences in student knowledge;
- Accommodating different rates at which students learn;
- Allowing for differences in learning styles;

- Clarity in the aims of activities;
- Avoiding mechanical copying activities;
- Involving work to be done by individuals, pairs, groups and the whole class;
- Making it possible to have a variety of activities including discussion, oral presentation, writing, drawing, problem-solving, use of library, audio-visual materials, practical tasks and information technology; and,
- Giving students opportunities to record their work in a variety of ways for example, using digital media, drawings, photographs and tapes.

2.9 Techniques for assessing inclusive teacher practice

Inclusive teacher practices need to be assessed to establish their effectiveness in fulfilling the goals and objectives of inclusive education. A number of techniques can be used to assess inclusive teacher practice. These techniques emanate from engaging reflective practice. Reflective practice involves the teacher studying his/her own teaching. This means the teacher has to be observant, reason logically, be analytic, synthesise and evaluate his/her own teaching (Zwozdiak-Myers, 2011). Reflective practice requires the teacher to evaluate his/her own teaching through classroom action research.

Assessment of inclusive teacher practice should be done to improve learning for all pupils in mainstream settings. According to the European Agency for Development in Special Needs Education (2007), all-inclusive assessment procedures, methods and tools inform teaching and learning and support teachers in their work. Assessment involves a range of methods and strategies aimed at gathering clear evidence about pupils learning in all areas. Assessing inclusive teacher practice provides teachers with information on how to develop and improve the process of learning for individual learners or whole groups of learners (European Agency for Development in Special Needs Education, 2007).

Assessment of learners should neither be overly prescriptive nor should it be rigid and lacking clear goals or purpose and not in tandem with learning objectives (Kaplan & Lewis, 2013). Such an assessment is probably one that misses the actual dynamics and processes of learning that take place in the inclusive classrooms and schools. It will not provide a holistic and realistic picture of what happens in the

teaching and learning of pupils. It should be understood by both the teachers and learners so that they become part of it. Formative evaluation, according to Kaplan and Lewis, (2013), is not conducive to inclusive education. Therefore, teacher education must prepare its trainees with skills to be able to engage in continuous assessment which focuses on “understanding the process of learning, a learner goes through” (Kaplan & Lewis, 2013, p. 12). Assessment should involve the learners themselves so as to build their confidence and self-awareness. Teacher education needs to prepare students who move away from the formal, summative forms of assessment towards continuous formative assessment and this should be reflected in the strategies they are endured with during training.

To be able to do this, a wide range of assessment tools should be used and these include, observations, portfolios of learners’ work, checklists of skills, knowledge and behaviours, tests and quizzes, self-assessment and reflective journals (Bennett, 2011). These tools enable the teacher to differentiate the children while assessing them, thus taking into cognisance their diversity. The teacher can also make use of self-assessment as a strategy that helps the learners reflect and identify their strengths and weaknesses in the learning process. These assessment tools should be in tandem with the multiple intelligences considered as part of differentiated instruction.

The assessment procedures and tools enable inclusive teacher education to be assessed and evaluated by considering the following factors:

- Active involvement of the teacher, pupils, parents, class peers, etc as potential participants in the assessment process;
- Collaboration between and among stakeholders;
Empowering of pupils through provision of insights into their own learning and motivation as a means of encouraging pupils future learning; and
- Flexibility in procedures, tools and strategies for assessment (Watkins, 2007).

2.10 Empirical studies

Chireshe (2011) carried out a study based on Special Needs Education (SNE) on in-service teacher trainees’ views on inclusive education in Zimbabwe. The research revealed that teacher trainees felt that the present curriculum did not meet the needs

of SNE children. It revealed that teachers tend to concentrate more on preparing learners for examinations to achieve high pass rate due to the fact that the curriculum is examination-oriented (Chireshe, 2011). As a result, learners with special needs are ignored. The research also revealed that trainee teachers believed all teachers could handle an inclusive class but there is need for commitment by policy-makers towards learners with disabilities. One of the findings of this research is that negative attitudes towards disability hinder inclusive education. The study focused on inclusion of children with special needs and not on the inclusion of children with diverse needs. The research differs from the present study in that it focuses on the teachers' attitudes towards learners with disabilities whilst the study was based on the strategies used by teachers' colleges in implementing inclusive education for children with diverse needs. There is a gap in terms of the strategies used for the implementation of inclusive education which are linked to the way teachers are trained in teacher training colleges.

Mandina (2012) also conducted a study on inclusive education focusing on inclusion and the perceptions and attitudes that Bachelor of Education in-service trainee teachers hold towards inclusive education in Zimbabwe. The study revealed that teacher trainees felt that children with severe disabilities would benefit academically from being in an inclusive class. It was revealed in the study that most teachers felt they were not prepared for inclusive education because they lack appropriate training in this area and thus, have a negative attitude towards inclusion. The teachers also lack confidence in handling an inclusive class due to inadequate training in inclusive education. Furthermore, the study revealed that teachers face challenges that include overcrowded classrooms, lack of preparedness of teaching materials, inflexible timetable, inadequate time for planning and meeting and inadequate specialist support in schools as factors militating against the successful implementation of inclusive education (Mandina, 2012). This study focused on trainee teachers' attitudes and perceptions on inclusive education, hammering more on children with special needs rather than those with diverse needs. Once more, this particular study left a gap in terms of strategies for implementing inclusive education that trainee teachers are equipped with during their training.

In another research study conducted by Mafa and Makuba (2013), focus was on exploring the challenges experienced by lecturers as they attempt to equip teacher

trainees with inclusive teaching skills. The study revealed that apart from the training of specialist teachers, not much is being done in mainstreaming inclusion in teacher training curriculum of teacher trainees meant to go and teach in the mainstream schools after graduating. It also revealed a number of challenges lecturers experience in the teaching of inclusive skills to teacher trainees which are:

- Lecturers' lack of knowledge and skills on inclusive education;
- Inadequate resources and specialist equipment;
- Loaded timetable.

The study also focused on some suggestions made by the lecturers of how to mitigate the above-stated challenges. However, just as in the two studies cited above, this research does not focus on the effectiveness of the strategies the teacher trainees are equipped with for the implementation of inclusive education.

On the international level, there is a study done by Sharma, Depeller and Guang-Xue (2003) which focused on reforming teacher education for inclusion in developing countries in the Asia-Pacific Region. The study concluded that in developing countries there is lack of suitably qualified and prepared teachers, poor and/or limited teacher education, somewhat negative attitudes and an *ad hoc* approach to preparing or up-skilling teachers (Sharma, Forlin, Deppeler & Guang-Xue, 2013, p. 13). These researchers also concluded that teacher education for inclusion was sparse and generally not effective and that many countries in the Asia-Pacific Region were concerned with the lack of suitably trained teachers and this is a major challenge in implementing inclusive education.

Therefore, even if there have been a number of studies done in Zimbabwe and elsewhere on inclusive teacher education, none of them focused on the strategies for implementing inclusive education in teacher education *per se*. Hence, there is a lacuna in this area. It was this researcher's perception that this gap needed to be addressed and hence, there was need to focus on this particular aspect of inclusive education.

2.11 Summary

This chapter focused on literature related the topic under study. The literature reviewed covered the following areas: conceptual framework, inclusive teaching

strategies, rationale for inclusive education, benefits of inclusive education, theoretical framework, goals for inclusive teacher education, profile of inclusive teachers, inclusive teacher competencies, inclusive teacher education training techniques, indicators of inclusive teaching, techniques for assessing inclusive teacher practice and empirical studies on inclusive education in teacher education in Zimbabwe and elsewhere. The next chapter deals with the research methodology used in carrying out this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology used in the study. In addition, the chapter gives justification of the research methodology chosen by the researcher. It begins with a description and justification of the research paradigm, then moves on to discuss the research approach and research design, followed by data collection, population, sample and sampling procedures, data collecting instruments, data collection, data analysis procedures and validation of research instruments. The chapter ends with a discussion of ethical issues pertinent to the study.

3.2 Research paradigm

According to Mertens (2005, p.7):

a paradigm is a way of looking at the world. It is composed of certain philosophical assumptions that guide and direct thinking and action.

On a different note, Neuman (2006, p.81) sees a paradigm as:

a general organising framework for theory and research that includes basic assumptions, key issues, models of quality research and methods for seeking answers.

To merge these definitions is Denzin and Lincoln's (2008) definition who view a paradigm as a net which holds the researcher's epistemological, ontological and methodological premises. They go further to observe that it is guided by the researcher's set of beliefs and feelings about the world and how it should be understood and studied.

The above notion reflects that it is up to the researcher to use a paradigm that suits his/her worldview or beliefs on how knowledge is created and how truth is recognised. The different paradigms differ in terms of their underlying philosophical assumptions. According to Denzin and Lincoln (2008), a particular paradigm determines the scope of the necessary philosophical grounding of any given study.

This is so because it sub-sumes the ontological, epistemological and methodological dimensions of a particular research effort. These dimensions help in defining the researcher's assumptions about the nature of reality and knowledge. Every paradigm is based upon its own ontological, epistemological and methodological assumptions (Scotland, 2012). Ontology is concerned with the search for the essence of reality or being while epistemology is concerned with the course, nature, possibility and limits of knowledge (Cohen, Manion & Morrison, 2007). Methodology focuses on how the research study should be planned, structured and executed in order to gain knowledge. According to Guba and Lincoln (1994) in Scotland (2012), methodology asks the question: How can the researcher go about finding out whatever he/she believes can be known. Mertens (2005) summaries these dimensions by posing questions that the dimensions ask. Mertens (2005, p.8) posits that ontology asks the question *"What is the nature of reality?"*; epistemology asks the question *"What is the nature of knowledge and the relationship between the knower and the would-be-known?"* and methodology asks the question *"How can the knower go about obtaining the desired knowledge and understandings?"*

Cameron (2011) argues that there is a long history on the debate surrounding research paradigms. There are different paradigms that have been making an impact in research and these include interpretivist, constructivism, positivism, post-positivism and pragmatism. Mertens (2005) identifies four major paradigms in research, namely, positivism, post-positivism, constructivist, also known as interpretivism, transformative and pragmatic. Positivism is directly associated with the idea of objectivism and it is a research philosophy that focuses on the use of numerical data (Nyaruwata, 2013) involves testing of hypotheses in order to obtain objective truth. According to Levin (1988) in Nyaruwata (2013), positivism believes in the principle that reality is stable and can be observed and described from an objective viewpoint without interfering with the phenomenon under study. Thus, positivists believe in empiricism. To this end, positivist research is based on data collection from large samples and thus data collection is quantitative leading to statistical data analysis.

Constructivism or interpretivism, on the other hand, is against empiricism in researching on human beings. Interpretivists believe that human beings are social beings and their behaviour changes; therefore in research there is need to get into

reasons and meanings of human behaviour (Nyaruwata, 2013). In this regard, interpretivism entails the use of qualitative research in which data is presented in the form of words and the researcher is the primary instrument for collecting data. The researcher thus becomes holistic and inter-subjective (Nyaruwata, 2013).

Table 3.1 summarises these paradigms in terms of their ontology, epistemology and methodology.

Figure 3-1: Ontological, epistemological and methodological aspects of research paradigms

Basic beliefs	Positive post positivism	Constructivist	Transformative	Pragmatic
Ontology (nature of reality)	One reality; knowable within probability	Multiple, socially constructed realities	Multiple realities shaped by social, political, cultural, economic, ethic, gender and disability values	What is useful determines what is true; participants perform reality checks by determining increased clarity of understanding
Epistemology (nature of knowledge; relation between knower and would be known)	Objectivity is important; the researcher manipulates and observes in a dispassionate, objective manner	Interactive link between researcher and participants; values are made explicit; created findings	Interactive link between researcher and participants; knowledge is socially and historically situated	Relationships in research are determined by what the researcher deems as appropriate to that particular study
Methodology (approach to systematic inquiry)	Quantitative (primary); interventionist decontextualised	Qualitative (primary) hermeneutical; dialectical contextual factors are described	Inclusion of qualitative (dialogic, but quantitative and mixed methods can be used; contextual and historical factors are described especially as they relate to oppression)	Match methods to specific questions and purposes of research; mixed methods can be used

Source: Adapted from Guba and Lincoln (1994)

The transformative and pragmatic paradigms are based on the premise that the quality of study is to be judged by its intended purposes, available resources, procedure followed and results obtained; all of which is done within a particular context and for a specific audience (Patton, 2002).

Cameron (2011) states that some views on the debate surrounding research paradigms say it is irrelevant to struggle for primacy of one paradigm over others because each paradigm has its own merits. Creswell (2012) talks about some schools of thought concerning this debate. He observes that on the one hand, there are “purists” who assert that paradigms and methods should not be mixed. On the other hand, there are the “situationalists” who believe that certain methods can be used in specific situations. There is a middle path that is taken by pragmatists who say that there is a false dichotomy between the qualitative (constructivist/interpretivism) and quantitative (positivism/post-positivism) research paradigms. The pragmatists believe in the efficient use of both qualitative and quantitative approaches and this leads to the mixed methods approach. Migiro and Magangi (2011) contend that pragmatism is a set of ideas articulated by such historical figures as John Dewey (1920), James and Pierce (1877) and that it draws on many ideas including what works using diverse approaches. Pragmatism values both objective and subjective knowledge (Cherryholme, 1992 in Migiro & Magangi, 2011). Pragmatists believe that the truth refers to what works best for the understanding of a particular research problem (Patton, 2002). This is illustrated in Table 3.2 below.

Figure 3-2: Research paradigms

Post positivism	Constructivism
• Determination • Reductionism • Empirical observation and measurement • Theory verification	• Understanding • Multiple participant meanings • Social and historical construction • Theory generation
Transformative	Pragmatism
• Political • Power and justice oriented • Collaborative • Change-oriented	• Consequences of actions • Problem-centred • Pluralistic • Real-world practice oriented

Source: Adapted from Creswell (2014)

The researcher chose to take the middle path of the paradigms; therefore based her research on the pragmatist paradigm. According to Creswell (2007), pragmatism has intuitive appeal to study areas that are of interest, embracing methods that are appropriate and using findings in a positive manner in harmony with the value

system held by the researcher. Amitage (2007) argues that the pragmatist paradigm can be adopted for the purpose of social and management research endeavours because this suits well the mixed methods (qualitative and quantitative) approach taken within what he calls the “predisposition of practitioner based research”. The researcher found this relevant to the study which is social in nature as it focuses on assessing strategies for the implementation of inclusive education in teacher education in Zimbabwe thus, focusing on the researcher’s social experiences. Morgan (2014) argues that the pragmatic paradigm is based on the premise that the world we live in is a product of our social experiences since infancy; therefore, any knowledge is inescapably social knowledge.

In terms of ontology, pragmatists believe in an external reality. They do not believe in possibility to fully determine certain concepts such as truth and reality which they view as having “caused much endless and useless discussion and debate” (Teddlie & Tashakkori, 2003 in Mertens 2005 p. 26). Maxcy 2003 in Mertens (2005) contends that effectiveness, according to pragmatists is the one that needs to be used as criteria for judging the value of research, rather than correspondence of research findings to what he calls “some true” condition in the real world. Furthermore, effectiveness is seen as establishing that the research results work with regards to the research problem the researcher is seeking to resolve. To this end, pragmatists argue that only results count (Maxcy, 2003 in Mertens, 2005)

When it comes to epistemology, pragmatists believe that either subjective or objective meanings can provide facts to a research question. Focus should be on practical application to issues by merging views to help interpret data (Creswell, 2014). Consequently, the researcher chose to use the mixed methods approach as it made it possible to merge quantitative and qualitative data to resolve issues of strategies for implementing inclusive education that pre-service teacher trainees in Zimbabwe are equipped with before they can teach as fully qualified teachers.

From their views on epistemology it is clear that, pragmatists contend that methodology in research should be based on mixed or multiple methods (Creswell, 2014). This means that quantitative and/or qualitative methods are compatible with the pragmatic paradigm (Mertens, 2005). Hence, methods should be decided by the purpose of the research (Patton, 2002). Pragmatists view mixed methods as giving a

practical solution to the paradigm wars in the research community concerning the use of quantitative or qualitative methods (Mertens, 2005). The researcher chose to consider the pragmatist paradigm by using the mixed methods approach as this enabled her to mix both quantitative and qualitative data to address the research questions on the strategies for implementing inclusive education in teacher education in Zimbabwe. The combination of these approaches helped the researcher to get more insight and clarity in understanding the complex issues to do with the strategies for implementing inclusive education in teacher education in Zimbabwe. To this end, the researcher is in agreement with Creswell (2003) who says the pragmatic paradigm places the research problem as central and applies all approaches to understanding the problem. Thus, the data collection and analysis methods chosen by the researcher provided insights into the problem through the use of mixed methods approach (Mackenzie & Knipe, 2006).

3.3 Research approach

Research approaches are defined by Creswell (2007, p. 3) as:

plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis and interpretation.

Ivankova, Creswell and Plano Clark (2012) hold the view that there are approaches for the procedures for conducting research, namely, quantitative, qualitative and mixed methods. They further state that quantitative and qualitative approaches to research are well established in the social and behavioural sciences while mixed methods approaches are growing in prominence. Cameron (2011) also makes a similar observation by saying that mixed methods research has witnessed a rapid rise in popularity in the last 10 years. Similarly, Bryman (2012) contends that an interest in mixed methods research has grown. Ivankova et al. (2012) posit that each of the three approaches to research has its own purposes, methods of conducting the research, strategies of collecting and analysing data and criteria for judging quality. They also contend that the choice of an approach depends on the researcher's philosophical orientation which could be any of the following: post-positivist, constructivist, transformative or pragmatist type of knowledge the researcher is seeking which could be objective, factual information or subjective,

personal experiences or both. Figure 3.3 illustrates this interconnectedness between paradigm, design and research methods.

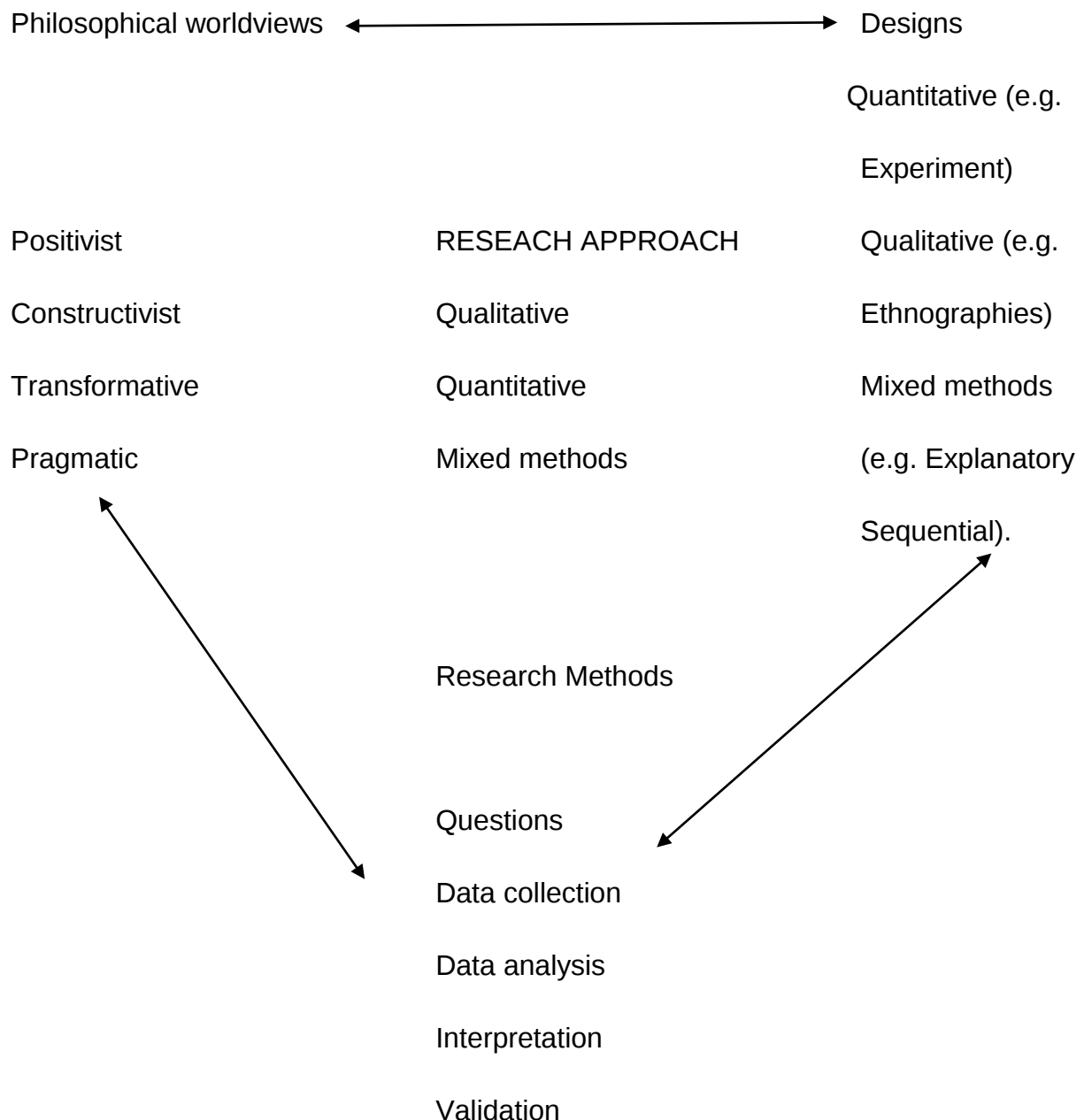


Figure 3-3: The inter connection of worldviews (paradigms), design and research methods

Source: Adapted from Creswell (2014)

This researcher has chosen to use the mixed methods approach. In Terrell's (2012) view, mixed methods approaches have emerged from the paradigm wars between

qualitative and quantitative research approaches and have become a widely used mode of inquiry.

Tashakkori and Teddlie (2008, p.22) define mixed methods approaches as:

Studies that are products of the pragmatist paradigm and that combine the qualitative and quantitative approaches within different phases of the research process.

On a similar note, Creswell (2008) observes that mixed methods research is a procedure for collecting, analysing and mixing both quantitative and qualitative data at some stage of the research process within a single study to understand a research problem more completely. Creswell and Plano Clark (2011) add that the mixed method approach makes use of qualitative and quantitative approaches in rapport as a way of providing a better understanding of the research problem as compared to the use of either qualitative or quantitative approach alone in a study. Ihuah and Eaton (2013) contend that the rationale behind the choice of mixed methods approach is the research questions, where the use of either quantitative or qualitative approaches does not completely address the research problem, whereas a combination of both does.

Since mixed methods approaches have their origin in the two major approaches (quantitative and qualitative), it would be imperative for the researcher to briefly make reference to them.

3.3.1 Quantitative research approaches

Quantitative research draws from the positivist paradigm and Terrell (2012) states that it has historically been the cornerstone of social science research. In quantitative research, researchers are called to get rid of their biases, “remain emotionally detached and uninvolved with the objects of study and test or empirically justify their stated hypotheses.” (Johnson & Onwuegbuzie, 2004, p. 14 in Terrell 2012). Ivankova et al. (2012) add that the goal of quantitative research is to describe the trends or explain the relationship between the variables. Results of a quantitative research are interpreted in light of the researcher’s initial predictions and prior research on the

same topic and the research report shows evidence of a standardised, fixed structure which ignores personal reactions to the results (Ivankova et al., 2012).

3.3.2 Qualitative research

According to Terrell (2012), qualitative research draws from a constructivist or interpretivist paradigm. This research approach contends that “multiple constructed realities abound, that time and context-free generations are neither desirable nor possible, that research is value-bound, that it is impossible to differentiate fully causes and effect, that logic flows from specific to general and that knower and known cannot be separated because the subjective knower is the only source of reality” (Johnson & Onwuegbuzie, 2004, p. 14). Creswell (2008) remarks that the goal for qualitative research is to explore and understand a central phenomenon and that research questions are general and broad. The questions are intended to understand the participants’ experiences with the central phenomenon and the researcher is the main instrument of data collection. Data interpretation involves stating the larger meaning of the findings and personal reflections are made (Ivankova et al., 2012).

3.3.3 Mixed methods research

Terrell (2012) argues that many researchers feel that quantitative and qualitative research approaches and methodologies are compatible and that many social scientists now believe there is no problem that should be researched exclusively with one method. Since quantitative methods tell us “if” and qualitative methods tell us “how” or “why”, it would be best to take a middle path by combining the two in one research study. In view of this, Teddlie and Tashakkori (2009) contend that in the mixed method approach, the researcher combines quantitative and qualitative strategies within one study. The researcher collects both numerical data and text concurrently or sequentially and chooses variables and units of analysis which are most appropriate for addressing the study’s purpose and finding answers to the research questions.

The mixed methods research fits into the pragmatic paradigm which has practical consequences. It is also pragmatic because it makes use of inductive and deductive strategies to achieve understanding and explanation (Johnson & Onwuegbuzie,

2004, p. 14). According to Zohrabi (2013), the mixed methods approaches have recently risen to prominence because more researchers have realised that both qualitative and quantitative data can be collected, analysed and interpreted simultaneously in a single study. Johnson, Onwuegbuzie and Turner (2007) hold a similar view as they state that mixed methods research is becoming increasingly articulated and attached to research practice as it is now being recognised as the third major research approach, alongside qualitative and quantitative research. Furthermore, Johnson et al. (2007) observe that mixed methods approach is a synthesis that includes ideas from qualitative and quantitative research and emerged from the “wars” between the qualitative and quantitative approaches in research. Grace (2014, p. 1) observes that for many researchers, mixed methods inquiry “offers important pragmatic opportunities to build upon the complementary strengths of qualitative and quantitative data to best answer research questions” Johnson and Onwuegbuzie (2004, pp. 17–18) provide a comprehensive definition of mixed methods research as follows:

Mixed methods research is the class of research where the researcher mixes or combines qualitative and quantitative research techniques, methods, approaches, concepts or language into a single study. Mixed methods research also is an attempt to legitimate the use of multiple approaches in answering research questions, rather than restricting or constraining researchers’ choices (i.e. it rejects dogmatism). It is an expansive and creative form of research. It is inclusive, pluralistic, and complementary, and it suggests that researchers take an eclectic approach to methods selection and the thinking about and conduct of research.

This definition reflects the complexity of using mixed methods as a research approach and also highlights its potential value (Harwel, 2011).

The researcher chose to use mixed methods research because the approach helped her clarify her findings by using both quantitative and qualitative research approaches to get insight into the strategies for implementing inclusive education in teacher education in Zimbabwe.

3.3.3.1 Strengths of mixed methods approach

The following are some of the strengths of mixed methods research identified by various scholars as summarised by Sudjainark (2013, p. 99–100):

- When using mixed methods approach in research the researcher has the ability to use numbers as well as words, pictures, insights, meaning and narrative (Johnson & Onwuegbuzie, 2004; Johnson, Onweugbuzie & Turner, 2007)
- There is improvement of performance in one method by using the strength of mixed quantitative and qualitative research (Tashakkori & Teddlie, 2010; Creswell & Plano Clark, 2011; Plowright, 2011).
- The researcher has the ability to produce and examine a grounded theory (Morgan, 1998; Creswell, Plano Clark, Gutmann & Hanson, 2003).
- Due to convergence or confirmation of findings, there is strong evidence for conclusion (Doyle, Brady & Byrne, 2009; Creswell & Plano Clark, 2011; Plowright, 2001)
- There is meaningful and deeper answers to a broader range of questions (Polit & Berck, 2008; Creswell, 2009)
- There is ability to solve debate between philosophies (Creswell & Plano Clark, 2007; Greene, 2008)
- There is ability to increase generalisability of results (Morgan, 1998; Parahoo, 2006).
- Mixed methods approach ensure overcoming of the limitations of conducting a single technique (Creswell, Plano Clark, Gutmann & Hanson, 2003; Tashakkori & Teddlie, 2009).
- Mixed methods research enable development of researcher skills and knowledge related to both quantitative and qualitative research (Weaver & Olson, 2006; Polit & Beck, 2008).

It leads to production of knowledge related to human experiences (Leech & Onwuegbuzie, 2007; Onwuegbuzie & Combs, 2010).

3.3.3.2 Weaknesses of mixed methods approach

The following are weaknesses of mixed methods research as summarised by Sudjainark (2013, pp. 99–100):

- It is difficult trying to carry out both qualitative and quantitative studies (Doyle et al., 2009; Feilzer, 2010).
- It requires the researcher to develop new research skills (Haines, 2011; De Lisle, 2011)
- There is a tendency to favour one paradigm i.e. to work within either a qualitative or a quantitative paradigm (Morgan, 1998; Polit & Beck, 2008)
- It is more expensive than a single methods research (Bryman, 2006; Parahoo, 2006)
- It is more time-consuming than single methods research (Creswell et al., 2003; Johnson, Onwuegbuzie & Turner, 2007; Greene, 2008)
- There is conflict with interpretation of results during data analysis (Johnson & Onwuegbuzie, 2004; Johnson et al., 2007).
- There is conflict between paradigms (Johnson et al., 2007; Greene, 2008).

In view of the above, mixed methods research requires careful handling on the part of the researcher so as to be able to avoid as much as possible crating problems from the weaknesses.

3.3.4 Rationale for conducting the mixed methods research

Greene, Caracelli and Graham (1989) in Onwenegbuzie and Combs (2011, p. 14) identified the following as reasons for mixing quantitative and qualitative data in research:

3.3.4.1 Triangulation

Migiro and Magangi (2011) note that triangulation refers to the use of different data collection methods within one study in order to ensure that the data are telling the researcher what he/she thinks they are telling him/her. Triangulation means that quantitative findings are compared to the qualitative results.

3.3.4.2 Complementarity

This means that results from one analysis type (qualitative) are interpreted to enhance, expand, illustrate or clarify findings derived from the other strand (quantitative). Bentar and Cameron (2011) concur that complementarity among methods permits researchers to clarify, explicate and to apprehend some levels of analysis different from the object of research. Plano Clark (2010) adds to this view by stating that researchers may want to develop a complementary picture of the problem under study.

3.3.4.3 Development

This means that data are collected sequentially and the findings from one analysis type are used to inform data collected and analysed using the other analysis type.

3.3.4.4 Initiation

This means that contradictions or paradoxes that might reframe the research question are identified.

3.3.4.5 Expansion

Quantitative and qualitative analysis are used to expand the study's scope and focus. Additionally, Plano Clark (2010) says that in using mixed methods research designs researchers may want to contextualise information, to take a macro picture of a system and add information about individuals. Plano Clark (2010) goes further to say in merging quantitative and qualitative data, researchers may want to develop a more complete understanding of a problem, to compare or validate and provide illustrations of context for trends in the study and also to examine experience along with the outcomes. Furthermore, Plano Clark (2010) says mixed methods research designs enable researchers to have one database built on another. This is because when a quantitative phase follows a qualitative phase the researcher's intention may be to develop a survey instrument, an intervention or a programme informed by qualitative findings. On the other hand, when a quantitative phase is followed by the qualitative phase, the researcher's intention may be to help determine the best participants with which to follow up or explain the mechanism behind the quantitative results (Plano Clark, 2010).

The mixed methods research makes use of “systematic convergence of quantitative and qualitative database and integration in different types of research designs” which emerged in the early 1990s (Creswell, 2014 p. 43). Creswell (2014) further states that procedures for expanding mixed methods later developed and these are: to check the accuracy or validity of the database; ways to integrate the quantitative and qualitative such as one database could be used; one database could explore different types of questions than the other database; one database could lead to better instruments when instruments are not well suited for a sample or population; one database could build on other databases; and one database could alternate with another database back and forth during a longitudinal study.

Creswell (2014) identifies three primary models of mixed methods research found in the social sciences and these are convergent, sequential and concurrent. These make up the various research designs associated with mixed methods approach.

3.3.5 Convergent parallel mixed methods design

Creswell (2014) observes that the convergent parallel mixed methods approach is probably the most familiar of the basic and advanced mixed methods strategies. He goes further to explain that in this approach the researcher collects both quantitative and qualitative data, analyses them separately, and then compares the results to see if the findings confirm or disconfirm each other. This design assumes that both qualitative and quantitative data provide different types of information. The qualitative data can be collected through instruments such as interviews, observations, documents, records, etc. and the quantitative data are collected through questionnaires.

In collecting both qualitative and quantitative data the same or parallel variable, constructs or concepts must be used (Creswell, 2014). The sample size for qualitative data is smaller than that for quantitative data since qualitative data are meant to gather extensive information from the sample whereas the large sample in quantitative research serves the purpose of conducting meaningful statistical tests.

According to Creswell (2014), data collected through the two approaches are analysed separately and then brought together. Data can be merged in various ways. It can be done through a side-by-side comparison in which the researcher first

reports the statistical results then discuss the qualitative findings that may confirm or disconfirm the statistical results. The researcher may choose to start with qualitative data then compare with quantitative data. Another way of analysing data in this approach according to Creswell (2014) would be to merge the data collected through quantitative approach with those collected through qualitative approach by transforming qualitative themes into quantitative variables then combine the two. This process Creswell (2014) refers to as data transformation. Alternatively, the researcher can analyse data through an approach Creswell (2014) calls joint display of data which is done through the use of a table or a graph.

Figure 3.4 illustrates the procedures done in the convergent parallel design

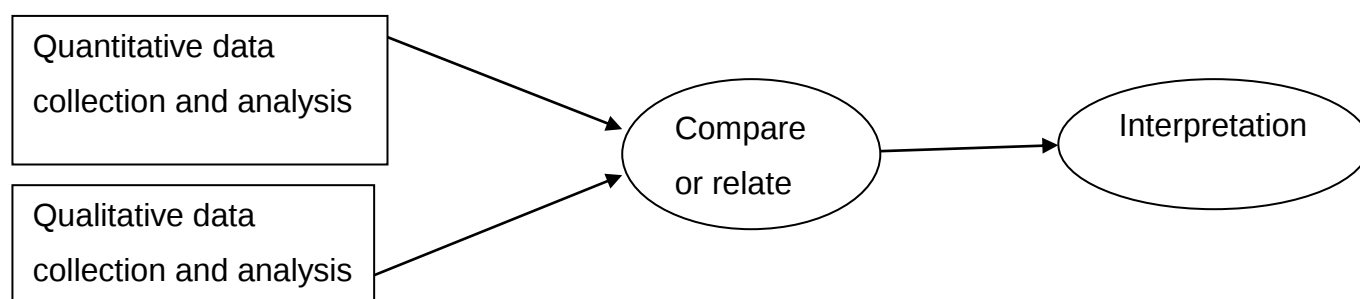


Figure 3-4: Procedures in the convergent parallel design

(Adapted from Creswell & Plano Clark (2011))

The main purpose of the convergent parallel design in mixed methods research is to best understand or develop more complete understanding of the research problem by obtaining different but complementary data and for validation of data (Creswell & Plano Clark, 2011). Collection of data is done at the same time or in a single phase. At the interpretation stage the researcher looks for convergence, divergence, contradictions or relationships of the two sources of data. This research design poses the following challenges identified by Creswell and Plano Clark (2011).

- It requires the researcher to be an expert in both quantitative and qualitative research.
- There may be different samples and different sample size when merging two data sets
- Merging of two types of data

- Dealing with the situation in which quantitative and qualitative results contradict each other

3.3.6 Explanatory sequential designs

According to Ivankova et al. (2012), the explanatory sequential design is the most straight forward of the mixed methods designs. Creswell (2014) contends that this design is most appealing to researchers who have a strong quantitative background or to those from fields relatively new to qualitative approaches. It involves collection and analysis of quantitative data followed by a collection of qualitative data. Thus, according to Creswell (2014), it is characterised by a two-phase process in which the researcher collects quantitative data in the first phase and analyses the result to plan the second qualitative phase. According to Creswell and Plano-Clark (2011), the qualitative study depends on quantitative results. In this design, it is clear that usually quantitative data collection is the priority, as explained by Creswell (2014) and Ivankova et al., (2012) who view that first the quantitative data is collected and analysed. The researcher will then identify specific quantitative results that need additional explanation and then designs qualitative results. Ivankova et al. (2011 p. 272), state that, “the word explanatory in this design suggests that the qualitative findings help explain the quantitative results obtained from the first phase”. The participants in this design should be those who participated in the quantitative study and qualitative study makes use of a smaller sample than that of the quantitative study (Creswell, 2013). Interpretation is done on connected results and the conclusion reached is about whether the follow up qualitative data provides a better understanding of the research problem than simply the quantitative results (Creswell, 2013).

Figure 3.5 summarises the process of research using the explanatory sequential design.

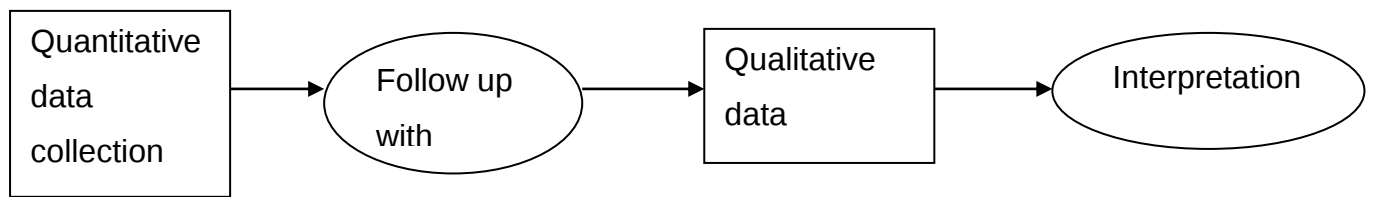


Figure 3-5: Research process in the explanatory sequential design

Adapted from Creswell, (2013); Creswell, (2014)

Creswell (2013) is of the view that this design is time consuming and it may be difficult for the researcher to determine which quantitative results need further explanation. It may also be difficult for the researcher to decide about who to sample and what criteria is used for sample selection for the qualitative study. However, according to Ivankova et al. (2012), this design has the advantage that it has two phases which are separate and which therefore make it straightforward to implement. They go further to say that the steps followed in this research design fall into clear separate stages and can be conducted by one researcher. This also makes it easy to report the study.

3.3.7 Exploratory sequential mixed method design

Ivankova et al. (2012) posit that the exploratory sequential design is used when the researcher first explores a topic using qualitative data before attempting to measure or test it quantitatively. In agreement to this view is Creswell (2014, p. 276) who says this design is "one in which the researcher first begins by exploring with qualitative data and analysis and then uses the findings in a second quantitative phase". This means that the quantitative data builds on the results of the qualitative data done in the first phase. According to Creswell (2013), this design has the purpose of generalising qualitative findings to a larger sample. In this design, participants in the quantitative study are not the same with those who are used in the qualitative data. The quantitative study uses a larger sample. The researcher decides what qualitative results to use. Ivankova et al. (2012, p. 273) contend that the name exploratory suggests that the design permits "the researcher to first explore a topic by identifying

qualitative themes and generating theories, and then to use that exploration to guide a subsequent quantitative examination of the initial qualitative results,” for example, testing the theory on to develop a measurement instrument based on the qualitative results (Creswell & Plano-Clark 2007 in Ivankova et al., 2012)

Figure 3.6 summarises this design

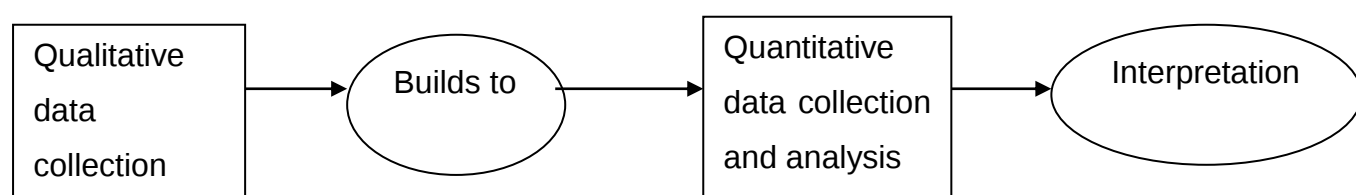


Figure 3-6: Exploratory sequential design

Adopted from Creswell, (2014)

3.3.8 Embedded mixed methods design

Creswell (2013) avers that the embedded mixed methods design is when quantitative or qualitative data collection is within a quantitative or qualitative procedure. Creswell (2014 p. 278) adds on to say, “the embedded mixed methods design rest one or more forms of data (Quantitative or qualitative or both) within a large design (eg. A narrative study, an ethnography, an experiment”. It is viewed that the two types of data answer different research questions, and the collection and analysis of the second data set may occur before, during and/or after the first data collection. Ivankova et al. (2012) observe that the embedded mixed methods design is used when the researcher needs to answer a secondary research question that is different from, but related to the primary research question. In order for the researcher to be able to accomplish this, he/she will embed one type of data within the methodology associated with the other type of data. Ivankova et al. (2012) are of the view that qualitative data can be embedded within a quantitative experimental design and qualitative data may be collected before an intervention to help with the designing of the procedures for recruiting the participants into an experimental study. They further comment that an alternative way would be for the researcher to embed

quantitative data within a traditionally qualitative case study design and will collect the quantitative survey data to help describe the broader context in which a case is situated as part of a qualitative case study. This is illustrated in figure 3.7 below.

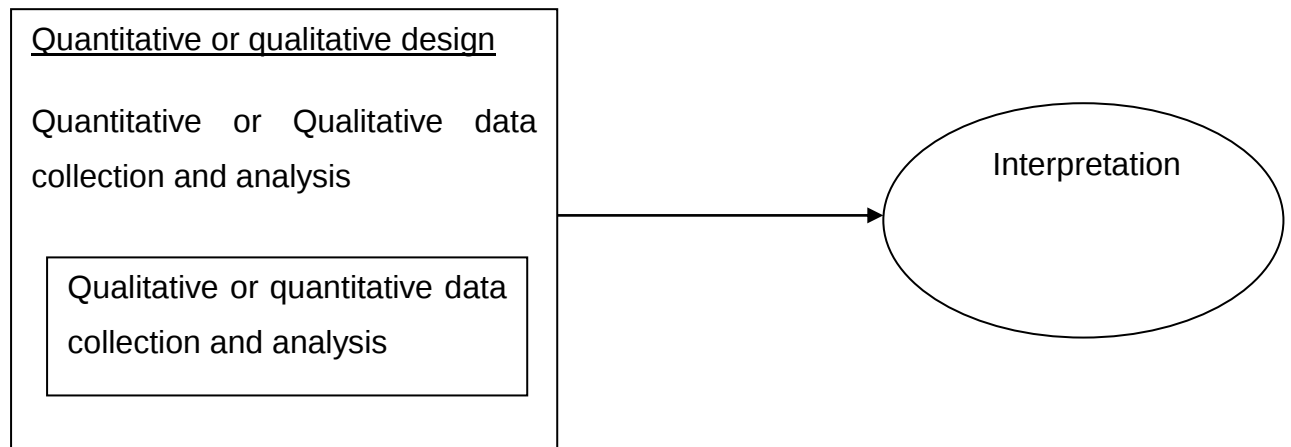


Figure 3-7: Embedded mixed methods design

Adapted from Creswell, (2013)

This design has the advantage that the researcher bases the study on a design that is well known and well established such as a case study or an experiment (Ivankova et al., 2012). Additionally, the researcher can collect the two types of data at the same time. However, This design has the challenge in that the researcher has to decide on why a second data set is needed and also how to collect the supplementary data without introducing bias into the collection and analysis of the primary data set (Ivankova et al., 2012).

3.3.9 Concurrent triangulation mixed methods design

According to Ivankova et al. (2012), the concurrent triangulation mixed methods design is when a researcher uses both quantitative and qualitative methods in order to best understand the phenomenon of interest.

Tiddlie and Tashakkori (2004) say this design is used when the researcher's focus is to confirm, cross-validate or corroborate findings from a single study. In addition Harwell (2011) notes that qualitative and quantitative data are collected concurrently

to the extent that weaknesses of one kind of data are ideally offset by strengths of the other. In this design, equal priority is given to the two kinds of data through mixing the findings. However, according to Harwell (2011) one kind of data can be weighted more heavily. In this design, qualitative and quantitative data are analysed separately. Mixing of data is done during interpretation of findings.

This process is illustrated in figure 3.8 below

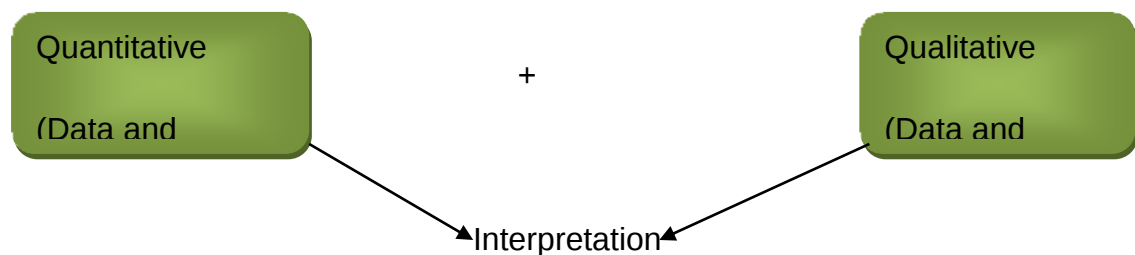


Figure 3-8: Concurrent triangulation design

Adapted from Creswell, (2003)

Ivankova et al. (2012) note that this design takes less time to complete when compared to a sequential design. Harwell (2011) contends that one important strength of this design is its ability to maximise the information provided by a single study as when the researcher needs cross-validation and a shorter data collection period compared to the sequential data collection approaches. However, it is much more complex collecting both quantitative and qualitative data at the same time (Ivankova et al. 2012; Harwell, 2011).

It may also be difficult to compare the different data from the two approaches and to decide what to do when the results differ (Ivankova et al. 2012).

3.3.10 Concurrent transformative mixed methods design

According to Harwell (2011), this design is guided by a theoretical perspective that guides the methodology. Terrell (2012) also holds the same view as he states that concurrent transformative design is guided by a specific theoretical perspective such as critical theory, advocacy, participatory research etc. Harwell (2011) contends that qualitative and quantitative data are collected concurrently and can be weighted equally or unequally during the integration of findings. In agreement to this view,

Terrell (2012) says there are two concurrent data phases and priority may be given to either phase or there may be equal priority. Additionally, Harwell (2011) states that qualitative and quantitative data are typically mixed during the analysis phase.

Figure 3.9 illustrates the process in this



Figure 3-9: Concurrent transformative design

Adapted from Terrell, (2012)

Strengths of this design include the following:

- The researcher can collect both quantitative and qualitative data simultaneously and this allows for perspectives from each
- It provides advantages of both methods
- It is familiar to many researchers (Terrell, 2012)
- It allows for shorter data collection time when compared to sequential methods (Harwell, 2011; Terrell, 2012)
- It offsets weaknesses inherent to one approach by using both quantitative and qualitative methods (Terrell, 2012)

The design also has weaknesses which the researcher must take note of and these are that data need to be transformed to allow integration during analysis which may lead to issues in resolving discrepancies that occur between different data types (Terrell, 2012; Harwell, 2011); it requires a lot of expertise and effort for the researcher to be able to study the phenomenon under consideration using two different methods (Harwell, 2011; Terrell, 2012)

There is another design that goes beyond the six discussed above and this is referred to as multiphase design.

3.3.11 Multiphase mixed methods design

Creswell (2012) notes that there is also a multiphase design that can be added to the above. This is a combination of sequential and concurrent aspects and is commonly used in large funded or multiyear-projects.

Figure 3.10 illustrates this design

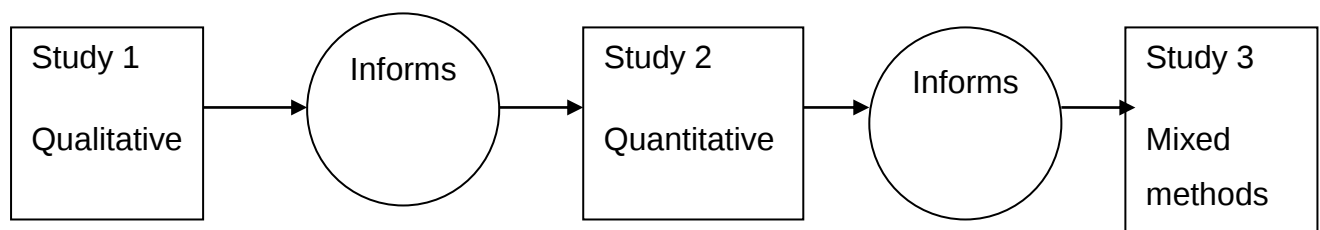


Figure 3-10: Multiphase mixed methods design

Adapted from Creswell & Plano Clark, (2007)

The challenge of this design is that it is associated with individual concurrent and sequential designs and therefore needs sufficient resources, time and effort,. It may also need a research team to implement the research.

3.4 Research design

The mixed methods research approach has various designs that are at the disposal of the research and these are: explanatory sequential, exploratory sequential, embedded, concurrent triangulation and concurrent nested. According to Bless, Higson-Smith and Kagee (2006, p. 71), research design refers to, “operations to be performed in order to test a specific hypothesis under a given condition”. Welman, Kruger and Mitchell (2009, p. 46) see research design as, “the overall plan, according to which the respondents of a proposed data collection or generation”. The definitions above show that research design is the blueprint or plan for conducting research (Babbie & Mounton, 2008). Thus, research design refers to a detailed plan

according to which research is undertaken. Its main function is to enable the researcher to move from underlying philosophical assumptions to making appropriate research decisions in terms of selecting respondents, data collection and data analysis techniques. The research problem is the one that determined the research methods and procedures, the sampling, data collection and data analysis to be used by the researcher (Zikmund, Babin, Carr & Griffin, 2010). The following are some of the mixed methods research designs details of which have been discussed above:

3.4.1 Convergent parallel design

According to Creswell (2014), in this design, the researcher collects both quantitative and qualitative data, analyses them separately and then compares the results to see if the findings confirm or disconfirm each other.

3.4.2 Exploratory sequential design

This design is characterised by a two-phase process in which the researcher collects quantitative data in the first phase and analyses the results to plan the second phase which is qualitative. Thus, the qualitative study depends on quantitative results (Creswell & Plano Clark, 2011).

3.4.3 Exploratory sequential design

Ivankova et al. (2012) posit that this design is used when the researcher first explores a topic using qualitative data before attempting to measure or test it quantitatively. This means that the quantitative data collected in the second phase builds on the results of the qualitative data collected in the first phase.

3.4.4 Embedded design

This design involves the embedding of qualitative data within a quantitative experimental design or quantitative data could be embedded within a qualitative methodology depending on the purpose of the research (Creswell, 2014).

3.4.5 Concurrent triangulation design

In this design, the researcher uses both qualitative and quantitative methods in order to best understand the phenomenon of interest (Ivankova et al., 2012). Qualitative and quantitative data are collected concurrently and then analysed separately.

In this study, the concurrent triangulation mixed methods design was used. The design is also known as parallel design because both qualitative and quantitative data are collected concurrently (Ivankova et al., 2007). According to Creswell (2009), this design is seen as a traditional mixed methods design which researchers use in order to generate both qualitative and quantitative data simultaneously to study a single phenomenon with the aim of comparing and contrasting the two sets of findings. This is done with a view to determine whether there are similarities, differences or some combination in order to come up with well validated findings. In Greene's (2007) view, the concurrent triangulation mixed methods design is used when the researcher is attempting to seek convergence or corroboration of results and when the researcher uses two different methods of collecting data within a single study. According to Creswell (2009), in this design, the researcher uses both qualitative and quantitative methods as a means to offset the limitations inherent within one method. Priority in this research design may be given to either the qualitative or the quantitative method. However, priority is usually equal and the two sets of results are integrated during the interpretation or discussion phase (Creswell, 2009).

In this study, the researcher used the concurrent triangulation design to generate both quantitative and qualitative data concurrently to assess the strategies for implementing inclusive education in teacher education in Zimbabwe. This helped the researcher to confirm, cross-validate and corroborate findings from the study (Teddlie & Tashakkori, 2004). The use of the concurrent triangulation design also helped the researcher to collect both quantitative and qualitative data concurrently with a view to offset the weaknesses of one kind of data by the strengths of the other (Harwell, 2011). In addition, the use of this design was advantageous to the research as it took less time to complete the collection of data and its analysis (Ivankova, 2012) since the quantitative and qualitative data were collected concurrently. This is supported by Harwel (2011) who states that this design has the ability to maximise

the information provided and that the data collection period is shorter since both quantitative and qualitative data are collected at the same time.

According to Bentar and Cameron (2015), triangulation is among one of the main objectives of mixed methods research. Triangulation is defined by Olsen (2004) as the mixing of data or methods so that diverse viewpoints cast light upon a study problem. Mertens (2005 p. 426) says triangulation:

involves the use of multiple methods and multiple data sources to support the strength of interpretations and conclusions in qualitative research.

Bergman (2009) supports this view by contending that triangulation involves the combining of data from different methods. In this study, this was done as a way of cross-checking corroborating and validating the data collected through the questionnaire by means of using face-to-face interviews, focus group discussions and document analysis. The researcher was trying to capture common themes in the perceptions of lecturers, pre-service teacher trainees and qualified teachers of the strategies for implementing inclusive education with which pre-service teacher trainees are equipped.

Terre-Blanche (2004) in Maree (2012) observes that triangulation is critical in facilitating interpretive validity, while McMillan and Schumacher (2001) in Maree (2012) are of the view that triangulation establishes data trustworthiness thus reducing bias. In this study, data collected through the questionnaire were validated through the use of focus group discussions, face-to-face interviews and document analysis.

Figure 3.2 shows the procedures of concurrent triangulation design done as a means of triangulating methods and data.

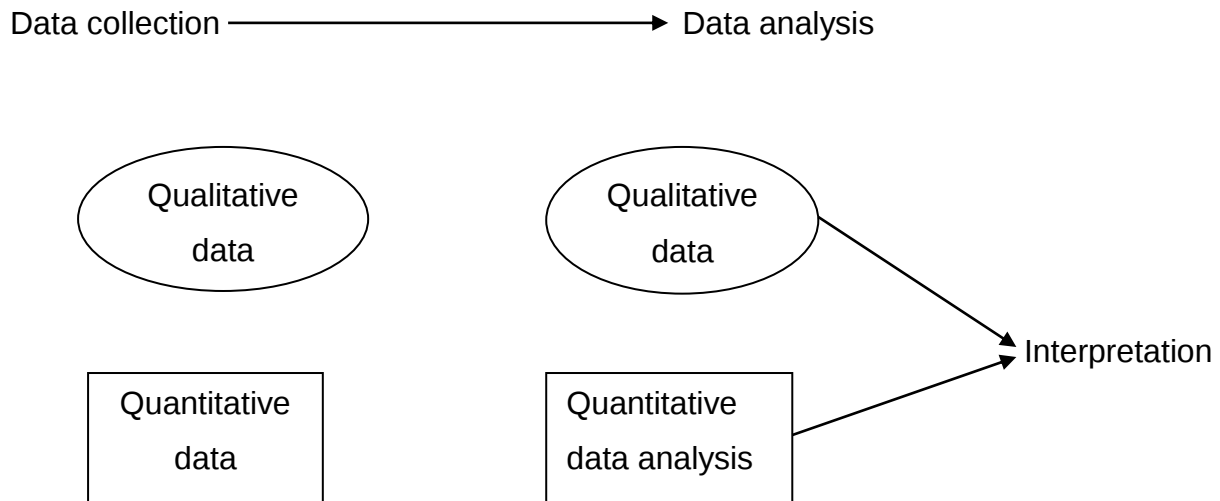


Figure 3-11: Triangulation in concurrent triangulation design

Source: Adapted from Creswell (2003)

In this study the concurrent triangulation design was used to generate qualitative and quantitative data concurrently to assess the strategies for implementing inclusive education in teacher education in Zimbabwe. The qualitative data were obtained from focus groups discussions, face-to-face semi-structured interviews and document analysis while the quantitative data were obtained from semi-structured questionnaires.

The integration of findings from the two methods was done during the analysis and interpretation stage of the study. This was done with a view to integrate qualitative and quantitative findings side by side in a discussion in order to provide a comprehensive analysis of the research problem. The quantitative results from the questionnaire were presented first to provide an overview of the opinions, trends and attitudes of the participants followed by the qualitative data and quotations from the transcripts of focus group discussions, interviews and document analysis.

3.5 Population

Creswell (2009) states that population refers to a group of individuals that has one or more universal features of concern to the researcher for the purpose of gaining information and drawing conclusions. Mertens (2005) contends that population is the group to whom the researcher wants to apply the results of a study. Thus, population

refers to all members that meet a set of specifications and from whom the research wishes to gain information. These members can also be referred to as the target population.

The population of this study comprises of all lecturers from the two colleges (n=180) all final year pre-service teacher trainees from the general course groups from the two colleges (n=400), and qualified teachers who trained with the two colleges and are now teaching in primary schools in the Mbare-Hatfield District (n=160). Lecturers are important in this study because they are the ones who equip pre-service trainees with strategies for teaching. The final year general course students were chosen because they will have experienced teaching in the inclusive classrooms during their teaching practice whereby they implement the strategies with which the lecturers equip them. The qualified teachers in the Mbare-Hatfield District were chosen due to the close proximity of their schools to the researcher and also because they are now experiencing teaching in inclusive classrooms where they are expected to apply the strategies they were equipped with during their training in the two colleges under study.

3.6 Sample and sampling procedures

Mertens (2005) says sample refers to the group that the researcher has chosen from the population from which to collect data. Creswell (2009) posits that a sample is a group of elements or a single element from which data are obtained. In this study, the researcher used what Teddlie and Tashakkori (2009) refer to as parallel mixed methods sampling which makes use of purposive sampling strategies concurrently. This was done in consideration of what Etikan, Musa and Alkassim (2015, p. 2) say in terms of selecting those from whom data is collected in a study.

Etikan, Musa and Alkassim (2015, p. 2) observe that:

Data gathering in research is crucial because it is meant to contribute to a better understanding of a theoretical framework, it is imperious that selecting the manner of obtaining data, from whom the data will be acquired be done with sound judgement, especially since no amount of analysis can make up for improperly collected data.

Onwuegbuzie and Collins (2007) are of the view that sampling is an important step in any research process because it helps to inform the quality of inferences made by the researcher which emanates from the underlying findings. They further state that in both qualitative and quantitative studies, researchers must decide the number of participants to select. These are the ones who form the sample size. Researchers also need to decide how these participants will be selected for any given study. Onwuegbuzie and Collins (2007) also contend that in mixed methods research, making decisions about selecting the participants is more complicated because the researchers need to make sample schemes for both the qualitative and quantitative research components of their studies. Vijilakshmi (2009) is of the view that sampling procedures for qualitative and quantitative research components differ and are generally divided into two main groups which are probability and non-probability or purposive sampling. Probability sampling aims at achieving greater breadth of information from a larger sample while non-probability or purposive sampling aims at achieving greater depth of information from a smaller sample (Onwuegbuzie & Collins, 2007).

In this study, the researcher used mixed methods sampling which involves both probability and purposive sampling techniques. The researcher chose to use these sampling techniques because they allowed her to collect complementary sets of data that gave both depth and breadth of information regarding the strategies for implementing inclusive education in teacher education in Zimbabwe. The techniques also enabled the researcher to acquire both numeric and narrative data to answer the research questions. In collecting quantitative data the researcher employed random probability sampling with the aim of generalising the findings of the study to the population (Onwuegbuzie & Collins, 2007). The random probability sampling included lecturers (n=40), final year pre-service teacher trainees (n=40) and qualified teachers who trained with the two colleges and are teaching in the primary schools in Harare (n=40). The participants were selected to enable the researcher to maximise the information about their experiences and perceptions about the strategies for implementing inclusive education in teacher education in Zimbabwe.

According to Creswell (2007), qualitative sampling employs non-probability sampling through techniques such as purposive sampling. He further explains that purposive sampling means that the participants are selected with a specific purpose based on

the researcher's judgement. According to Neuman (2006), purposive sampling could take the form of criterion sampling in which all participants have to meet some criterion which contribute to quality assurance. Neuman (2006) goes further to observe that in purposive sampling, the sample is made up of participants who have the most typical or representative attributes of the population based on the researcher's judgement. This study made use of convenience purposive sampling in which participants were identified for the reason that they would be capable of contributing meaningfully to the research questions concerning strategies for implementing inclusive education in teacher education in Zimbabwe. The convenience purposive sampling technique was also used for the reason that it enabled the researcher to identify participants who were accessible and willing to participate in the study. According to Creswell (2007), although this technique saves time, money and effort, it could be at the expense of information and credibility. The study purposively sampled 16 lecturers, 16 pre-service teacher trainees and qualified teachers with the two colleges under study and these responded to face-to-face semi-structured interviews, and participated in focus group discussions. These had their documents (schemes of work, lecturing programmes and lesson plans) analysed. This was done with the aim of getting information on their views regarding the strategies for implementing inclusive education in teacher education in Zimbabwe and also getting insights into the strategies that they are equipped with and that they are currently using in dealing with inclusive education.

3.7 Data collecting instruments

The concurrent triangulation design used in this study necessitated the simultaneous collection of qualitative and quantitative data (Creswell & Plano Clark, 2007). This provided the researcher with more insights into the phenomenon of strategies for implementing inclusive education in teacher education in Zimbabwe. The data collecting instruments included a semi-structured questionnaire, face-to-face semi-structured interview, focus group discussions and document analysis.

3.7.1 The questionnaire

According to Tshuma and Mafa (2013), a questionnaire is a document that contains questions which are designed to obtain information from sampled respondents and is used a lot in survey research. There are various types of questionnaires which

include structured, unstructured and semi-structured questionnaires. A structured questionnaire is one composed of closed questions which can be referred to as fixed items (Tshuma & Mafa, 2013). An unstructured questionnaire is made up of open-ended questions which allow participants to write what they want and is more word-based. A semi-structured questionnaire is composed of both closed-ended and open-ended questions (Gillham, 2000 in Zohrabi, 2013). According to Cohen, et al. (2007), the semi-structured questionnaire has open-ended questions or statements which participants respond to or comment on in their own words.

In this study a semi-structured questionnaire was used to collect both quantitative and qualitative data. The questionnaire enabled the researcher to collect large quantities of data over a relatively short period of time (Tshuma & Mafa, 2013). It also made it possible for the participants to share information more easily as they enjoyed the freedom to respond to questions (Tshuma & Mafa, 2013) due to anonymity. To add on, the fact that the researcher administered the questionnaires personally made it cost-effective and time effective. The closed-ended questions made it easy for the researcher to analyse data as the responses were quick to code. The open-ended questions, on the other hand, enabled the researcher to gain insights into the participants' experiences and perceptions on the strategies for implementing inclusive education in teacher education in Zimbabwe.

However, the researcher encountered challenges associated with the use of a semi-structured questionnaire one of which is that the researcher did not get a chance to probe beyond the given responses to clarify ambiguity (Tshuma & Mafa, 2013).

The researcher personally administered different questionnaires; one for the lecturers, a second for the final year pre-service teacher trainees and the third for the qualified teachers (former students of the two colleges under study). The fact that the researcher personally administered the questionnaires to the participants enabled her to establish rapport and explain the purpose of the study to the participants (Best & Kahn, 2006). The quantitative data collected through the semi-structured questionnaire were analysed through the use of frequency tables which are defined by Patel (2009 p. 4) as, "a detailed description of the categories/values for one variable." Patel (2009) contends that a frequency table most often includes all of the following: absolute frequency (or just frequency), relative frequency (or percent) and

cumulative frequency. The absolute frequency informs the researcher how many times a particular category in his/her variable occurs, i.e. frequency of occurrence; the relative frequency informs the researcher the percentage of each category or value relative to the total number of cases and the cumulative frequency reflects a cumulation of the relative frequency for each category (Patel, 2009). The researcher used frequency tables which only captured absolute frequency and the relative frequency, i.e. the percentage.

3.7.2 Face-to-face semi-structured interviews

Gill et al. (2008) observe that there are three fundamental types of research interviews, namely: structured, semi-structured and unstructured. Gill et al. (2008) postulate that structured interviews are verbal questionnaires which have predetermined questions which are posed to participants. These questions have little or no variation and no scope for follow-up questions to the responses given. On the other hand, unstructured interviews do not reflect any pre-conceived ideas and are performed with little or no organisation (Gill et al., 2008). Unstructured interviews may start with an opening question from the researcher to trigger a discussion. The unstructured interview gives the researcher room for probing and asking follow-up questions for further elaboration.

This study made use of the semi-structured interview which, according to Gill et al. (2008), is one that consists of several key questions that help the interviewer to determine the areas to be explored and allows the interviewer and/or the interviewee to diverge in detail. Nienwenhuis (2012) agrees with this view by stating that the semi-structured interview requires the interviewee to answer a set of predetermined questions and it allows for the probing and clarification of answers. Gill et al. (2008) contend that semi-structured interviews are more flexible when compared to structured interviews. This allows for the discovery or elaboration of information which is important to participants but may not have previously been thought of as pertinent by the researcher. Bryman (2014) adds that in a semi-structured interview, the researcher has a list of questions or fairly specific topics to be covered which can also be referred to as an interview guide. Bryman (2014) further states that the interviewee has a lot of leeway in how to respond to the questions. According to Harrell and Bradley (2009), semi-structured interviews collect detailed information in

a style that is somewhat conversational. Bryman (2014) posits that questions that are not included in the interview guide may be asked as the interviewer picks up on things said by interviewees.

Using semi-structured interviews was helpful for the researcher in that the interviews enabled her to explore the strategies for implementing inclusive education that pre-service teacher trainees are equipped with in the teacher training college in Zimbabwe. This was possible as the researcher was able to seek for clarity, depth and validity through posing probing questions and asking for further information (Gill et al., 2008). The use of semi-structured interviews also helped the researcher create rapport with the interviewees as the interviews were more like conversations (Gill et al., 2008; Marshall & Rosman, 2011). The semi-structured interviews helped the researcher to clarify complex questions and issues. The interviews were audio-taped and this made it easy to play back the recording over and over to pick up pertinent issues regarding the main research question.

3.7.3 Focus group discussions

Focus group discussions, also referred to as focus group interviews are seen by Nieuwenhuis (2012, p. 91) as:

A study based on the assumption that group interaction will be productive in widening the range of responses, activating forgotten details of experience and releasing inhibitions that may otherwise discourage participants from disclosing information.

Marczak and Sewell (2007) view a focus group as a group of interacting individuals having some common interest or characteristics brought together by a moderator who uses the group and its interaction as a way to gain information on a specific or focused issues. In addition, focus group discussions are group interviews which comprise of seven to ten people who are familiar with one another and have been selected by a researcher because they share certain characteristics which are relevant to the study questions. This implies that a focus group must be made up of people who are from the same background and who share common ground on the topic or subject under study.

In this study, focus group discussions were conducted with the aim of eliciting lecturers, pre-service teacher trainees and qualified teachers' views and experiences of the strategies for implementing inclusive education in teacher education in Zimbabwe. The focus group discussions enabled the researcher to understand the strategies for implementing inclusive education in teacher education from the participants' point of view (Khan & Manderson, 1992 in Dilshad & Latif, 2013). Through the focus group discussions, the researcher was able to gain insight into the ideas and feelings of the pre-service teacher trainees, lecturers and qualified teachers with regards to the strategies for implementing inclusive education which teacher training colleges equip teacher trainees with (Rabiee, 2004). The focus group discussions were eye opening for the researcher and helped her acquire rich data which was enhanced by the interactions among the participants as they provided checks and balances on each other (Casey & Krueger in Patton, 2000). The group members had the opportunity to provide immediate feedback and clarification on other members' contributions and this further added to the rich data collected by the researcher (Gorman & Clayton, 2005).

The researcher personally conducted the focus group discussions and was the moderator in each of the discussions which comprised between six to eight members. This had the advantage that the researcher was able to take note of both the spoken words and extra-linguistic features such as gestures and facial expressions. The focus group discussions were conducted in the colleges' boardrooms for both lecturers and final year pre-service teacher trainees and in staffrooms of the some of primary schools where the former students of the two colleges are now teaching as qualified teachers. This enabled the participants to express themselves freely without bias since the atmosphere was more relaxed (Marshall & Rossman, 2011) and the environment appeared more natural as the members of the groups felt at home.

The researcher, however met with a fair share of challenges in conducting the focus group discussions. It was somewhat difficult to get the participants together on time for the group sessions (Gorman & Clayton, 2005). To add on, to some extent it appeared to the researcher that a few of the participants in the pre-service teacher trainee groups tended to conform with the responses of their colleagues even if they did not quite agree with them (Gorman & Clayton, 2005).

Since the researcher was the moderator, she started off the discussions by introducing herself then allowed the members in each particular group to do likewise. This created a relaxed atmosphere among the participants and created rapport between them and the researcher. This was further enhanced by the fact that the researcher explained the purpose of the research and why the focus group discussions were being conducted before seeking informed consent from the participants. All the discussions were audio-taped for later transcription and gestures and facial expressions were recorded in a note book for further consideration. The researcher summed up the discussions at the end of each discussions and thanked the participants.

3.7.4 Document analysis

Nieuwenhuis (2012) holds the view that documents analysis is a data gathering technique that focuses on all types of written communications that may shed light on the phenomenon that is being investigated. He goes further to state that documents may include published and unpublished material such as company reports, memoranda, agenda, administrative documents, letters, reports, email messages, faxes, newspaper articles, etc. There are primary and secondary sources of written documents. In research both primary and secondary sources may be considered if there is need to do so. According to Nieuwenhuis (2012), primary sources are generally data that is not published which the researcher gathers from the participants directly; for example, minutes of meetings, reports, lecture programmes. Secondary sources refer to any materials based on previously published works, or second hand information such as books or articles (Nieuwenhuis, 2012; Cohen, Manion & Morrison, 2011).

In this study, the researcher found it important to analyse documents which have a bearing on the phenomenon of the strategies for implementing inclusive education in teacher education in Zimbabwe. The researcher analysed documents such as lecturer's lecturing programmes, schemes of work and syllabi for the Professional Studies Syllabus B (PSB) and Professional Studies Syllabus A (PSA), of the various subjects offered in the teacher training colleges, pre-service teacher trainees schemes of work and lesson plans and qualified teachers' schemes of work. These documents were analysed with the aim of determining the strategies with which pre-

service teacher trainees are equipped by their lecturers and if they use them to effectively teach in inclusive classroom. In addition, the documents were analysed to determine the extent to which these strategies enabled the teachers to meet the profile of an inclusive teacher and how effective they were in meeting the needs of learners in their diversity, which is the major goal of inclusive education.

3.8 Validity, reliability and trustworthiness

According to Nieuwenhuis (2012), in quantitative research, as far as the research instruments are concerned, validity and reliability are crucial aspects while in qualitative research these aspects are looked at in terms of credibility and trustworthiness.

3.8.1 Validity and reliability

Bryman (2014 p.171) says validity refers to:

the issues of whether an indicator (or set of indicators) that is devised to gauge a concept really measures that concept.

Creswell (2009) observes that there are potential threats to validity which must be identified in order to take steps to minimise them. Hence, validity should be of primary concern for all researchers who gather educational data. In this study the questionnaire for gathering quantitative data was pre-tested with a smaller sample and a pilot study was done after which items that appeared unclear were revisited and reconstructed in order for the researcher to be able to get the responses that addressed the research questions focusing on the strategies for implementing inclusive education in teacher education in Zimbabwe.

Pieterse and McGee (2012 p. 215) contend that in research, reliability of a research instrument means “if the same instrument is used at different times or administered to different subject from the same population, the findings should be the same. This means that reliability refers to the “consistency of a measure of a concept” (Bryman, 2014, p. 169). Therefore, reliability of a research instrument could be summarised as referring to the extent to which the instrument is consistent. In this study reliability was acquired through pre-test and retesting the questionnaire on a selected section of the population.

3.8.2 Trustworthiness

In qualitative research, trustworthiness is about making sure that research findings are accurate and detailed as seen from the standpoint of the researcher him/herself, the participants and the readers (Creswell, 2009). According to Bryman (2014), the following aspects make up the trustworthiness of qualitative research: credibility, transferability, dependability and conformability.

3.8.3 Credibility

Trochim (2006) holds the view that credibility involves a determination of whether the results of qualitative research are believable from the point of view of the participants in the study being carried out. Bryman (2014) concurs that credibility means that the researcher ensures that the research is carried out according to the principles of good practice and that research findings are submitted to the participants for confirmation that the researcher has correctly understood their social world. In this study, triangulation was achieved through the use of various data collecting instruments such as the interview, focus group discussions and document analysis. Credibility was also addressed through member checking.

3.8.4 Transferability

Marshall and Rossman (2011) observe that in qualitative research, transferability refers to the degree to which the results of a study can be generalised or transferred to other contexts or settings that may be problematic. To this end, Bryman (2014) contends that since qualitative research means the intensive study of a small group of individuals who share the same characteristics, findings tend to be oriented to their particular context. Hence, to obtain transferability in this study, the researcher did so through presenting findings in the form of thick descriptions and report findings verbatim.

3.8.5 Dependability

Trochim (2006) defines dependability as the ability of a study to account for the ever-changing context within which the research occurs. In other words, there must be consistency in all phases of the research study which include problem formulation,

selection of research participants, fieldwork notes, interview transcripts, data analysis decisions, etc. (Bryman, 2014). The researcher accomplished dependability through use of various data collecting instruments and using academic peers as auditors of all processes.

3.8.6 Confirmability

Bryman (2014, p. 392) avers that confirmability is:

concerned with ensuring that, while recognising that complete objectivity is impossible in social research, the researcher can be shown to have acted in good faith.

This means that the researcher must not be seen to be influenced by personal values, beliefs, biases or theoretical inclinations. The researcher made sure to address this aspect by recording and presenting findings verbatim, thereby producing thick, rich accounts of them.

3.9 Data collection

The researcher made sure to acquire an ethical clearance certificate from the University of Fort Hare and a covering letter from the Faculty of Education. The researcher then gained access into teacher training colleges and primary schools in Harare, Zimbabwe by getting an official letter from the Ministry of Higher and Tertiary Education, Science and Technology Development and Ministry of Primary and Secondary Education to carry out the research. The researcher also created rapport with the principles of the two teacher training colleges and the heads of the primary schools and interacted directly with the lecturers, teachers and pre-service teacher trainees in administering the questionnaire, interviews, focus group discussions and analysing documents.

3.10 Data analysis

According to Merriam (2009), data analysis is the process that enables the researcher to make sense of the data by consolidating, reducing and interpreting what research would have said and what the researcher would have observed and recorded. This is in agreement to what Neuman (2006) says when he opines that data analysis is the process whereby the researcher brings structure and order to the

vast amount of data collected and looks for patterns in the data in order to make sense of it leading to interpretation and meaning making. Cohen et al. (2011) also hold the same view when they say data analysis involves organising raw data into a system that reveals the basic results from the research. They arranged, ordered and presented in some reasonable format that permits decision makers to quickly detect patterns in the data.

In mixed methods research, data analysis relates to the types of research design chosen for data collection (Creswell & Plano Clark, 2007). Since this study was a concurrent triangulation mixed methods research, it involves conducting a separate initial data analysis of both qualitative and quantitative data comparing the findings from both sets of data during the discussion and interpretation stage. Quantitative data was analysed through descriptive statistics and frequency tables were used to present the data which was analysed through SPSS programme (Version 23). Qualitative data was analysed through transcribing the audio taped interviews notes for document analysis and focus group discussions, then coding the data in relation to the research questions. The interviews and focus group discussions were transcribed verbatim, categorised relation to the research questions and analysed according to themes.

3.11 Ethical considerations

Punch (2005) in Creswell (2014) avers that researchers need to anticipate the ethical issues that may arise during their studies. As such, Mertens (2005) observes that ethics in research should not be viewed as an afterthought or a burden but as an integral part of research planning and implementation process. Hence, according to Israel and Hay (2006) in Creswell (2014), researchers need to protect their research participants, develop a trust with them, promote the integrity of research, guard against misconduct and impropriety. Punch (2005) posit that ethical issues may arise at each stage of the research process in both qualitative and quantitative approaches and thus must be taken into account. To this end, Creswell (2014) suggests that any researcher needs to consider codes of ethics and obtain necessary permissions before carrying out a research study. As such, this study will be guided by the University of Fort Hare Research Ethics Policy of 2011 and the Post Graduate Qualification Policies and Procedures. There are ethical issues to be

considered which include the following suggested by Diener and Grandall (1978) in Bryman (2014, p. 135):

- Whether there is harm to participants;
- Whether there is lack of informed consent;
- Whether there is invasion of privacy; and
- Whether deception is involved.

These ethical issues can be broken down as follows:

3.11.1 Anonymity and confidentiality

According to Mertens (2005, p. 333), anonymity means that “no uniquely identifying information is attached to the data, and thus no one, not even the researcher can trace the data back to the individual providing them.” Confidentiality, on the other hand, means that “the privacy of individuals will be protected in that the data they provide will be handled and reported in such a way that they cannot be associated with them personally (Mertens, 2005, p. 333). This means that anonymity and confidentiality are two ethical standards that are applied in research in order to protect the privacy of the research participants (Shumba, 2011) and this addresses the question of whether there is invasion of privacy in the research study. In this study, the researcher used pseudonyms for the participants in order to adhere to anonymity. The researcher guaranteed participants’ confidentiality by promising them that she will not, in any way that may reveal their identity, divulge the information revealed to her by the participants to anyone.

3.11.2 Voluntary participation

Shumba (2011) posits that the principle of voluntary participation prohibits securing consent to participate in a research study through coercion. As such, the researcher in this study informed the research participants verbally and through a consent form that all participation in any part of the study was voluntary and that if any one wished to opt out at any stage they were free to do so.

3.11.3 Informed consent

Flick et al. (2004) contend that information consent means that prospective research participants must be fully informed about the purpose of the study, procedures and

risks involved. According to Marvasti (2004), participation in a research study must be voluntary and the researcher should not psychologically or physically force his/her subjects to take part in his/her research. Hence, the need to have participants sign consent forms. Bryman (2014) agrees with this when he states that researchers prefer to obtain the informed consent of research participants by getting them to sign informed consent forms. Bryman (2014, p. 140) goes further to say the informed consent forms have the advantage that “they give participants the opportunity to be fully informed of the nature of the research and the implications of their participation at the outset.” The researcher should have in possession of a signed record of consent in case there are concerns raised by the participants or others (Bryman, 2014). In this study therefore, the researcher informed the participants about the purpose of the research study, the procedures and risks involved and asked them to sign consent forms.

3.11.4 Deception

Bryman (2014), p. 143) says, “deception occurs when researchers represent their work as something other than what it is.” Deception can occur when participants are intentionally misinformed about an aspect of the research (Mertens, 2005). Mertens (2005) further states that deception is usually justified because researchers argue that the results of a study would be compromised without deception since participants may alter their behaviour if they know what the researcher is really investigating. According to Mertens (2005), most professional associations’ ethical guidelines for psychologists and educators prohibit the use of deception unless it can be justified and the effects of the deception “undone” after completing the study. In this study, the researcher tried as much as possible to avoid deception by informing the participants about the purpose of the research, the procedures and any risks anticipated thereof.

3.12 Summary

This chapter focused on discussing the research methodology to be used in the study including research paradigm, research approach, research design, population, sample and data collection, sampling procedures instruments and data analysis procedures, reliability and trustworthiness, validity and ethical considerations. The

chapter has also justified the researcher's choice of the research methodology. The next chapter will focus on data presentation and analysis and discussion.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents and analyses/discusses the results of the study which are based on the data collected through questionnaires, interviews, focus group discussions and document analysis. Johnson and Christensen (2012) refer to data analysis as creating meaning out of raw data. According to Kvale and Brinkmann (2009), it involves comparing, contrasting, establishing links, speculating, creating category systems, putting together related information and identifying relationships. The study assessed the strategies for implementing inclusive education in teacher education in Zimbabwe with which teacher educators equip pre-service teacher trainees. The researcher decided it was best to present the data collected and immediately analyse/discuss them to avoid the unnecessary repetition that often characterises work in which data presentation, analysis/discussion are separated into two chapters. Data from the questionnaires guided the presentation while data from the interviews, focus group discussions and document analysis augmented them. This was done as a way of triangulating the data in line with the mixed methods research design in which there is convergence of qualitative and quantitative data and validation of quantitative data (Creswell & Clark, 2007). Data are presented in line with the questions which were posed in the study in relation to the strategies for implementing inclusive education in teacher education in Zimbabwe. The main research question was:

How effective are the strategies currently being used in implementing inclusive education in schools by graduate teachers from teacher training colleges in Zimbabwe?

The sub questions were:

- How does the curriculum for initial teacher education equip pre-service teacher trainees with strategies for implementing inclusive education?
- What are the strengths and limitations of these strategies in implementing inclusive education?

- How can pre-service teacher education develop effective strategies for the successful implementation of inclusive education in schools?
- What framework can be developed from the findings of the study on the strategies for implementing inclusive education in teacher education in Zimbabwe?

These questions were posed with a view to assess the teaching strategies that teacher educators in Zimbabwe's teacher training colleges equip pre-service teacher trainees with while preparing them to implement inclusive education in the regular primary schools. Therefore, the study's objectives were to:

- Establish how the curriculum for initial teacher education in Zimbabwe equips pre-service teacher trainees with strategies for implementing inclusive education.
- Identify strengths and limitations of the strategies for implementing inclusive education in teacher education in Zimbabwe.
- Explore how teacher education in Zimbabwe can develop effective strategies for the successful implementation of inclusive education in schools.
- Establish what framework can be developed on the strategies for implementing inclusive education in teacher education in Zimbabwe.

The research questions and objectives were addressed in the semi-structured questionnaire which provided both quantitative and qualitative data focusing on the strategies for implementing inclusive education in teacher education in Zimbabwe. The data were presented in three parts relating to the three groups of respondents. Thus, Part 1 focused on findings from the lecturers' responses, Part 2 focused on findings from pre-service teacher trainees' responses and Part 3 focused on findings from the qualified teachers' who are former students of the two colleges under study.

4.2 Results and analysis/discussion

4.2.1 PART 1: Findings from lecturers (n=40)

4.2.1.1 Biographic information

The first section of the questionnaire sought to establish biographic information about the lecturers (teacher educators) in terms of their gender, age, lecturing experience and qualifications. This was done as a way of ensuring that gender, age,

experience and qualifications were represented. This ensured the collection of views from different categories of people, hence, in a way; the results reflect the views of different participants.

Table 4.1 shows participants by gender.

Table 4-1: Participants by gender (n=40)

Gender	Frequency	Percentage
Female	20	50
Male	20	50
Total	40	100

Participants were 20 females (50%) and 20 males (50%) as reflected in table 4.1 above.

Table 4.2 shows participants by age.

Table 4-2: Participants by age (n=40)

Age	Frequency	Percentage
31–40 years	2	5.0
41–50 years	19	47.5
51–60 years	17	42.5
Above 60 years	2	5.0
Total	40	100.0

Table 4.2 below shows that most lecturers, (19–47.5%) are in the age range of 41–50, followed by those in the range of 51–60 (17–42.5%) while two (5%) are between 31 and 40 and another two (5%) are above 60 years.

The results above show that 90% (36) of the lecturers, (41–60 age range) are mature in terms of age, something which could influence the way they handle training of the pre-service teacher trainees.

Table 4-3: Participants by experience (n=40)

Lecturing experience	Frequency	Percentage
1 to 5 years	5	12.5
6 to 10 years	14	35.0
11 to 15 years	15	37.5
16 to 20 years	4	10.0
Above 20 years	2	5.0
Total	40	100.0

Table 4.3 shows that the majority of lecturers (15–37.5%) had experience ranging from 11–15 years, followed by those with experience of 6–10 years (14–35%). The third group (5–12.5%) had experience of 1–5 years, the fourth group (4–10%) had experience of 16–20 years and the last group (2–5%) had experience of above 20 years.

Table 4.4 below shows data on lecturer qualifications.

Table 4-4: Participants by qualifications (n=40)

Qualifications	Frequency	Percentage
Phd	1	2.5
Master's degree	30	75.0
Bachelor's degree	9	22.5
Total	40	100.0

In terms of qualifications evidence from the questionnaires and represented in table 4.4 shows that 39 lecturers (97.5%) hold more than the Diploma in Education of which 30 (75.0%) do hold Master's degrees in Education while nine (22.5%) hold Bachelor's degrees in Education, while one (2.5%) holds a Doctor of Philosophy degree. Research has shown that the level of qualification one has, has an impact on one's self-efficacy. The researcher believes qualifications have an impact on the

lecturers' self-efficacy in terms of training pre-service teacher trainees and equipping them with strategies for effective teaching in regular classrooms. However, when it comes to inclusive strategies, it is something that may require special training for the lecturers to be able to equip the trainees to use strategies that are effective in inclusive classrooms. On the whole, the researcher observed that the demographic variables, (gender, age, experience and qualifications did not influence the participants' responses, at least substantially. Participants had more or less similar views regarding the strategies for implementing inclusive education in Teacher Education despite their differences in gender, age, qualifications and experience.

4.2.2 Analysis/discussion based on research questions.

4.2.2.1 How the curriculum for initial teacher education equips pre-service trainees with strategies for implementing inclusive education

The first sub-research question of the study aimed to find out how the curriculum for initial teacher education equips pre-service teacher trainees with strategies for implementing inclusive education. The researcher was of the view that this would influence the way they equipped pre-service teacher trainees with strategies for implementing inclusive education. This information was perceived as relevant since it had a bearing on the level of preparedness the lecturers themselves had and on the knowledge that they would in turn impart to the trainee teachers. The information was sought through the questionnaires, interviews, focus group discussions and to a lesser extent, document analysis.

Data gathered indicated that some lecturers had a limited knowledge of what inclusive education entails whilst others perceived it in a wider way. This is a common trend as Westwood (2013, p.1) observes that, "some definitions of inclusive education are extremely narrow while others are all encompassing." The following are some responses from lecturers in the ICT, humanities and languages department. One lecturer from ICT department defined inclusive education as:

Education that does not discriminate against anyone on the basis of their physical condition. Everyone is treated the same.

Another lecturer L5, with the same view said:

Inclusive education is education which takes all students as equal regardless of their physical or mental challenges. Education which caters for pupils/learners with disabilities.

What can be inferred from these definitions is that these lecturers understand inclusive education as only focusing on those learners who have special needs. Such views are reflected by Giffen, (2011, p.1) who says:

Inclusive education is the practice of teaching disabled students alongside their non-disabled peers in regular classroom settings, instead of segregating them in special classrooms.

To this, Westwood (2013) comments that although such a view is narrow, it has increasingly become widespread and accepted.

In these narrow definitions, these lecturers disregarded the aspect of diversity which is central to inclusivity and inclusion. In the researcher's view, such definitions may affect the way such lecturers then equip pre-service trainees with teaching strategies to enable them to teach in inclusive classes. It may in turn mean that their strategies maybe limited to only cater for those pupils with special needs, yet inclusive education is more than just taking care of those learners with special needs. In view of this, Jacob and Olisaemeka (2016) and Hlatywayo and Muranda (2014) argue that inclusive education differs from previously held notions of integration and mainstreaming which were more concerned with disability and special education needs, but rather, inclusive education is concerned with minimising and removing barriers to access, participation and learning of all children, especially for those who have been socially discriminated because of poverty, disability, gender, religion, ethnicity or any inequalities (UNESCO, 2009). The 21st century classroom is now characterised by diversity of learners and no child should be excluded from learning.

Lecturers who understood inclusive education as being more than the notion of integration and mainstreaming, hence, holding a wider view of inclusive education gave the following definitions:

L1: Inclusive education is when students with diverse needs such as giftedness, average and slow learners as well as those who have been marginalised due to ethnicity, gender, disability,

among others, are taught together in the same classroom with their peers.

L2: Inclusive education is an educational practice which allows all learners to learn together despite physical, biological, economic, social, racial, religious or ethnic differences.

L3: Inclusive education is that kind of education that accommodates all categories of learners in the same classroom regardless of their differences in race, language, culture, religion, disability, ability, etc. in the same classroom. The needs of all these learners are considered.

These definitions are evidence that these lecturers understood that inclusive education considers learner diversity in all aspects which include background needs, ability, physical disposition, to mention but a few. Such definitions and understanding of what inclusive education entails are in line with Rieser (2008, p. 21) says,

Inclusive education seeks to address the learning needs of all children, young people and adults, with a specific focus on those who are vulnerable to marginalisation and exclusion. Schools should accommodate all children, regardless of their physical, intellectual, social, emotional, linguistic or other impairments.

Such understanding of what inclusive education entails (reflected in the lecturers' definitions and supported by Rieser (2008) may mean therefore that the lecturers may equip pre-service trainees with teaching strategies that would help them cater for all learners in the inclusive classrooms. It can be inferred that such lecturers will be capable of equipping pre-service trainees with strategies that enable them to consider enrichment and acceleration in their classroom instruction. Drake and Jackson (2016,p.162) emphasise this when they posit that:

In every classroom across the world, you will find learners with one or more obstacles to learning. These obstacles will range from behavioural issues or socio-economic issues to health issues and physical challenges. You may also find in your

classroom that you have a learner who shows characteristics of giftedness.

Generally, data collected from questionnaires revealed that lecturers had some understanding of what inclusive education refers to. However, it was noted that their understanding of inclusive education was affected by the departments in which they lectured, and that this ranged from very limited definitions to wide ones that covered all aspects of learner diversity. Evidence from the interviews and focus group discussions reinforced this observation; for example, in an interview, one lecturer L4 defined inclusive education as: *“Education that includes those children who are physically challenged learning in the same classroom with their non-physically challenged peers.”*

Another lecturer L3 said inclusive education refers to:

The system of teaching those pupils who have special needs, e.g. the hearing impaired, visually impaired and those with disabilities the same classroom with those who have no challenges or special needs.

It was clear to the researcher that lecturers from the Professional Studies A (PSA) and Theory of Education departments showed much more understanding of the aspect of learner diversity that characterise inclusive education than those from the other departments like Languages, Humanities and ICT. The most probable reason is the one revealed in the analysis of the syllabus documents from the different departments or subject areas. The researcher observed that topics on inclusive education were included in the Professional Studies Syllabus A and Theory of Education syllabuses (See appendix N) whereas in the syllabuses for the rest of the departments, no topic on inclusive education was evident. On examining some PSA and Theory of Education exam question papers for final year pre-service teacher trainees, the researcher observed that there were some questions on topics on inclusive education. The researcher therefore inferred that this could be the reason why lecturers from these two departments appeared to have a better understanding of what inclusive education entails than their colleagues from the other departments.

Their understanding of inclusive education resulted from their commitment to exposing their pre-service trainees to more inclusive teaching strategies than what their colleagues were doing. This indicated that the nature of the curriculum that is used for teacher education has little to offer concerning inclusive education in general and inclusive teaching strategies in particular, with the exception of the PSA and Theory of education departments in which topics like the following were treated before and after pre-service trainees embarked on teaching practice.

a) PSA

- Benefits of inclusive education;
- Challenges faced in inclusive education;
- Issues surrounding learner diversity
- Methods/approaches/strategies in teaching inclusive classes.

b) Theory of education

- Conceptual analysis of inclusive education;
- Inclusive education/children with special needs;
- Nature and purpose of inclusive education;
- Education and inequalities;
- Curriculum issues in inclusive education: sign language, curriculum planning and management. Informal and formal assessment;
- Intelligence and creativity; and
- Categories of exceptionalities: intellectual, hearing, visual, physical and motor impairment.

The above discussion shows that the lecturer's knowledge-base on inclusive education affects their attitude towards the concept and this then cascades down to the way they train their pre-service trainees to use strategies that cater for inclusive classes in their teaching. Those lecturers who displayed a limited understanding of inclusive education by equating it to integration and/or special needs education showed that they did not understand learner diversity, an important feature of inclusive education. Rembe, Shumba, Maphosa and Musesengwe (2016, p.42) view learner diversity as referring to the fact that "each classroom typically contains learners from different races, ethnic, cultural and linguistic groups and communities

with different economic and social backgrounds.” As a result, learners in such a classroom cannot be simply taken as a homogenous group, where one size (or teaching approach) fits all (Rembe et al., 2016).

Mosc, Pullin, Gee, Haerteland and Young in Rembe et.al. (2016) state that learner diversity means that the learners also bring to the classroom different cognitive, social, cultural and linguistic diversity. The teacher must therefore be equipped with skills to consider all these aspects and be able to teach in ways that accommodate different needs, interests, abilities, experiences and learning styles. This can be done by employing diverse methods to cater for all learners. Therefore, if the lecturer who trains the teachers is not well-versed with the concept of inclusive education in its entirety, then it will negatively affect the way the trainees are exposed to diversity of strategies for effective instruction or teaching. This is reflected by Chikwature, Oyedele and Ntini. (2016) in their study on incorporating inclusive education in the pre-service teacher education curriculum in Zimbabwean teachers’ colleges when they comment that the idea of incorporating inclusive education in teacher education is critical as failure to implement it at this level would mean failure to introduce it in the large system of education. Chireshe (2013, p. 22) also comments that:

Teachers properly trained in inclusive education practice have the skills, knowledge and competence to be able to run an inclusive system in the general system of education.

The questionnaire had a question (Item 9) that required the lecturers to give their opinions on the issue of inclusion in the regular schools. To this, 80% (32) of the lecturers indicated that it was necessary to practise inclusion in regular schools and that it was a noble idea because of various reasons which reflected that they believed inclusion benefited the learner. Some of the positive responses were that inclusion in the regular schools allows for accommodation of the diverse nature of the 21st century learners; it removes barriers that are linked to ethnicity, gender, social status, disabilities, etc., and that it removes barriers which can inhibit learning and development of skills. This is reflected by Corbett (2001) who says inclusive education helps learners to develop an appreciation and respect for the unique characteristics and abilities of each individual and that teachers benefit by

developing teamwork and collaborative problem-solving skills to creatively address challenges regarding student learning.

The positive responses were also evident from information in the focus group discussions and interviews in which the lecturers stated that inclusion was a noble idea as it benefited the learners in their various categories of diversity. However, most of the lecturers were quick to comment that though it was a noble idea to practise inclusion in the regular schools, their preparation of pre-service teacher trainees was hampered by debilitating factors such as the curriculum that did not give adequate time for coverage of topics pertaining to inclusive education. This was supported by responses from the questionnaires on the question that required the lecturers to state the extent to which their subject syllabi embraced inclusive education. Although the responses were varied, some lecturers acknowledged that there were some topics that catered for inclusive education in their syllabuses. For example, in Professional Studies Syllabus A where they lectured on topics such as Individual differences and in the Theory of Education syllabus where they have topics like Inclusive Education, and where they focus on children with special needs under the Psychology of Education component (See Appendix M).

Lecturers from other departments that do not fall under the Theory and Practice of Teaching Department such as the Languages and Humanities subject areas were quick to indicate that generally, their syllabuses did not say much on the aspect of inclusive education except the section which covers methodologies in which they just listed the various strategies for teaching, which included both traditional and modern methods. For example, lecturing, dramatisation, group work, demonstration, role play, drills, debates, discussion. Evidence from the analysis of the syllabus documents from these departments showed that they were silent on the aspect of inclusive education. However, the researcher inferred from some topics in the syllabuses that, though inclusive education has not been explicitly stated, it is implied in some of the topics like: Classroom and Class Management. The lecturers would obviously talk about inclusivity as this entails handling children in their diversity which could also mean that pre-service trainees were exposed to the need to be inclusive in the way they managed the classroom and the class so as to be able to cater for individual differences. This view is reflected by van Wyk, Galloway and Okeke (2016) who state that for student teachers to be empowered with classroom management

skills, there is need for them to embrace diversity in classroom-based teaching and learning in which they should respect every learner for their race, culture, gender and religious beliefs.

The researcher sought the lecturer's opinions on the differentiation between teaching strategies for a regular classroom and those for an inclusive one in item 11. The aim was to establish whether these were separated in the syllabus documents and when lecturing to the trainee teachers. The question also aimed to find out lecturers' understanding of inclusive teaching strategies. The responses from the questionnaires were varied and these reflected the different attitudes the lecturers had in terms of inclusive teaching strategies. One interesting response came from L6 in the Mathematics Department, who said:

Our teaching strategies are rigid and for now do not help students to cater for all learners.

L5 also from the Mathematics Department reiterated:

The strategies do not differ in the regular and inclusive classes but what differs is the environment provided.

Such responses reflected that the lecturers were not concerned much about how they equipped pre-service trainees with teaching strategies that would help them to cater for the inclusive classes that are characterised by learner diversity. Some lecturers, however, had positive responses and one such is the response from L3 from the Professional Studies Syllabus A Department who had this to say:

There are child-centred approaches in our syllabus. These put the child at the centre of his/her learning and at the same time considering his/her needs. These methods are not all that different from the asset-based method in inclusive education that focuses on developing the child's area of strength. It's also a child-centred approach.

This shows that in some instances, lecturers were aware that there was need to enlighten pre-service trainees on the need to differentiate between strategies for a regular classroom and those for an inclusive one. It can also be inferred that

lecturers did appreciate that pre-service trainees should be equipped with strategies that enable them to handle both regular and inclusive classes. As a result, in exposing them to teaching strategies, lecturers need to differentiate between the two. One lecturer from the Theory of Education Department echoed this by explaining in the questionnaire that:

Strategies of inclusive education cater for individual differences yet strategies for the regular classroom do not; they cater for the average learner and do not consider individual differences.

Evidence from the questionnaires reflected that the lecturers had different understanding of strategies for implementing inclusive education. While some understood these as referring to teaching methodologies, others considered these to be referring to ways of handling learner diversity in inclusive classrooms. As a result, there were varied responses which are illustrated in Table 4.5.

Table 4-5: Lecturers' understanding of inclusive teaching strategies

Lecturer	Response
L1	• Collaborative/cooperative learning • Active learning • Discussion
L2	• Transformative approach which draws its content from different cultures said religions
L3	• Peer tutoring • Interactive group teaching
L4	• Individual attention
L5	• Interactive approaches • Independent learning methods
L6	• Individualised work • Devil's advocate • Problem solving • Extension work
L7	• Demonstration methods
L8	• Learner centred strategies
L9	• Use of technology • Practicals
L10	• Use of all embracing technologies
L11	• Individualised teaching • Group teaching
L12	• Field trips • Use of technology • Discussion • Pair work • Devil's advocate • Individual work

Evidence from the analysis of the syllabus documents and lecture programmes indicated that no differentiation was done in terms of strategies for a regular class and those for an inclusive one. The section of teaching methodology only lists the methods with which the lecturers equip the pre-service trainees.

For example, in the Professional Studies Syllabus A, this is just listed as:

4.8 Methodology

4.8.1 Traditional methods

4.8.2 Progressive methods

In the lecturing programme, these are further broken down to reflect those methods that are done under traditional methods and those that are done under progressive methods. However, the syllabus for the Early Childhood Development (ECD) area lists all the methods under one column as follows:

4.4 Methodology

4.4.1 Introducing developing and conducting lessons

4.4.2 Integrated approach

4.4.3 Play

4.4.4 Role play/simulation

4.4.5 Imitation

4.4.6 Exploration

4.4.7 Experimentation

4.4.8 Games and quizzes

4.4.9 Field trips, outreach programmes

4.4.10 Discussion

4.4.11 Group work

4.4.12 Resource persons e.g. health personnel

4.4.13 Inductive and deductive learning

4.4.14 Computer learning

4.4.15 Demonstration skills

4.4.16 Story telling across the curriculum: Dramatization

4.4.17 Questioning

4.4.18 Inquiry and problem solving

4.4.19 Stimulus variation techniques

The researcher observed that generally there was no differentiation in terms of strategies for a regular class and those for an inclusive one as the strategies were listed and most probably imparted to the pre-service trainees without necessarily showing those that work better for an inclusive class and vice-versa. However, evidence gathered from the focus group discussions, interviews and the questionnaires showed that to some extent, the lecturers were aware that there was need to expose the pre-service trainees to those strategies that work best for an inclusive environment as opposed to those for a regular classroom. Such methods or strategies were also reflected in a study by Motitswe (2012) whose respondents indicated the following as some methods/strategies used to teach in inclusive classroom: storytelling, learning through play, songs, rhymes, group-work, individual work and co-operative learning. This was reflected by the response from one lecturer from the PSA department who said that when she conducted lectures on Methodology, she specifically differentiated and emphasised those strategies that were more effective when teaching a class that is characterised by learner diversity. She observed:

Strategies for a regular class are mainly traditional while those for an inclusive class are selective and focus on promoting hands-on activities for the learner. They promote critical thinking.

However, some of the lecturers reiterated what is reflected in the syllabus in terms of stating the teaching strategies without necessarily differentiating them by saying that the strategies were the same but one needs to focus on how they are used when delivering lessons. It can be inferred here that the same strategies can be used in both regular and inclusive classes but it all depends with how the individual teachers use them and also on the the individual teachers' beliefs and attitude towards inclusion. Jordan, Schwarts and McGhie-Richmond comment (2009) in relation to this by saying:

The pedagogical skills (for effective inclusive practices) are not appreciably different from these that are needed for effective teaching in general. Such skills counter the concern that teachers express about inclusion, that there is not enough time to address the needs of students with disabilities... effective teachers are

able to allocate generous amounts of time to instruction, which they use to attend to individual learning characteristics and needs of the majority of the students in their inclusive classes.

There was an interesting response from L6 of the Mathematics Department who said, “*teaching strategies are rigid and for now do not cater for all learners.*” data gathered from the interviews and focus group discussions showed that such a view could be referring to the fact that 80% (32) of the lecturers said that even though they were aware of the inclusive teaching strategies as different from those used with a regular class, these differences were more theoretical than practical. They indicated that the nature of the curriculum in teacher education which led to the exposure of such strategies to just end at the theory level as there was a host of challenges that prevented them from doing the practical side to make sure the pre-service trainees are fully equipped with these strategies.

4.2.2.2 Strengths and weakness in the strategies with which lecturers equip pre-service trainees

As a follow-up to the above, the questionnaire had a question (item 14) which asked lecturers to state the teaching strategies that they equipped their pre-service trainees with to enable them to effectively handle inclusive classes. Findings from the question indicated that 62.5% (25) exposed their trainees to a variety of strategies though they were mostly not clear on those that are for regular classes and those that are best for inclusive classes. The following were the strategies identified by the lecturers: Collaborative or co-operative learning, group discussions, group work, experimentation, demonstration, peer teaching/tutoring, interactive and group teaching, storytelling, simulation and dramatisation. These teaching strategies are in line with those identified by Sapon-Shevin (2005) which include co-operative learning which is commended as one of the optimal ways to teach children with different abilities in the same classroom. Sapon-Shevin (2005, p. 40) says that “it is a strategy that involves children working together, helping each other to learn.”

Winter and O’Raw (2010) also aver that cooperative learning is among the best approaches for promoting successful inclusion in classrooms characterised by learner diversity. They posit that cooperative learning involves learners working together in small-groups learning activities with a view to maximise their own as well

as each other's learning. Sapon-Shevin (2005, p 42) also identified peer tutoring as "another way to address different skill levels within a class to arrange for children to be resources for one another through tutoring or teaching." Winter and O'Raw agreed that peer tutoring allows classroom teachers to cater for diverse needs within the inclusive classrooms. They also commend peer tutoring as a strategy that enables one child to act as a tutor while another is the learner or tutee (Winter & O'Raw, 2010). In addition, Winter and O'Raw (2010) contend that peer tutoring improves self-esteem and social interactions in learners thereby maximising learning.

A few of the lecturers grouped the strategies and summarised them as interactive approaches and learner-centred strategies that place learner needs and peculiarities at the centre of teaching/learning against traditional strategies that were teacher-centred. The above stated strategies clearly showed that pre-service trainees were equipped with varied strategies which cater for learner diversity though for most lecturers, this was generally more theoretical than practical. Lecturers expressed the challenges that they encountered which made it difficult for them to "show" their trainees rather than "tell" them how to effectively use such strategies. These include the nature of the curriculum which resulted in the timetable being congested; inadequate material resources for use in demonstration lectures, for example, computers, overhead projectors, relevant software; student-lecturer ratio which was too high; and the fact that most lecturers were still learning about and coming to terms with strategies that are effective for inclusive classes, hence, they were also experimenting with the trainees. In a study on the state of inclusive education in Zimbabwe, focusing on Bachelor of education (Special needs education) student's perceptions, Chireshe (2013) found out that the same challenges identified by the lecturers affected negatively the effectiveness of strategies for implementing inclusive education.

Although it appeared lecturers exposed their trainees to a variety of strategies for inclusive classes, what was not clear was whether they trained them to use a number of these strategies in a single lesson for individual learners and/or groups of learners. It was clear to the researcher though, that lecturers were aware that pre-service trainees needed to be exposed to and equipped with a variety of transformative, interactive, learner-centred strategies which are modern and that they should avoid focusing mainly on traditional strategies that call for rote learning

because learners need to take part in their own learning. Some of the strategies identified by the lectures, for example, peer tutoring and collaborative learning are in line with Vygotsky's 1978 socio-cultural theory which emphasises that students have to be scaffolded through interaction with more knowledgeable peers, their teachers and/or parents to help them catch up with new concepts. Winter and O'Raw (2010) contend that this concept of scaffolding which derives from Vygotsky's work can be done through teacher modelling of problem-solving and also through step-by-step sequencing of procedures in classroom activities. The theory also emphasises co-operative dialogue between learners and more knowledgeable members of their class in challenging activities (Least, 2014; Li & Lam, 2013). According to Winter and O'Raw (2010), scaffolding is a useful strategy that encourages more independent learning in students.

Equipping pre-service trainees with such strategies as co-operative or collaborative teaching and learning reflected that lecturers were aware of the need to expose trainees to strategies that would help them encourage learners, in their diversity, to work with each other in their learning and that teachers can work with one another to handle learner diversity if effective learning is to take place. Van Wyk and Ndamba (2016) observe that since learning is a social process, interaction with others is desirable and this is enhanced through the use of collaborative strategies. Collaborative teaching could lead to the teachers becoming more confident in their ability to teach effectively and to include learners with varied abilities, backgrounds and learning styles needs. It could also add to the teachers' competence in handling learner diversity in inclusive classrooms in terms of teaching strategies. This can only succeed if teacher education exposes and equips pre-service trainees with such strategies as to enable them to vary them in a single lesson as a way of maximising and capitalising on what the learner can do in line with Gardner's theory of multiple intelligences discussed in Chapter 2.

4.2.2.3 Strengths and limitations of the strategies with which lecturers equip pre-service trainees

The researcher felt the issue of strengths and limitations of the strategies that pre-service trainees were equipped with and exposed to while in college could be addressed by focusing on how adequate they were in the lecturers' view. In

response to the question on the adequacy of the strategies pre-service teacher trainees are equipped with (item 15) 92.5% (37) of the lecturers said the strategies they equipped their pre-service trainees with were inadequate. For example, one lecturer, L10 observed that they needed to equip the pre-service trainees with hands-on experiences before they embarked on their practicum. The lecturer went on to say that if lecturers can expose their trainees to real life situations or have videos to concretise their explanations of the various teaching strategies, it would go a long way in helping the trainees to be able to handle the inclusive classes they would teach during their teaching practice. Another lecturer, L12, in agreement to the above said:

They (strategies) may not be adequate because the situations on the ground may differ from the theoretical aspect that we talk about in lectures.

This implied that what the lecturers equipped their students with and how they did it was basically theoretical and lacked the practical element, thus providing a superficial view of the various strategies to which the trainees are exposed. This may suggest that when they go out on teaching practice and even after completing their teaching course, these trainees may not be confident and effective in the ways in which they teach inclusive classes in terms of the strategies they employ.

Still on the same issue, L2 avered that the inadequacy of the strategies is caused by factors such as time and lecturer-student ratio. The lecturer went on to say that due to inadequate time on the timetable, lecturers were unable to do hands-on practice on the strategies in college before the students go for teaching practice in schools where they spend five terms and also after they come back for the last two terms of their training. To elaborate on these challenges that resulted in the inadequacy of the strategies, the same lecturer stated that lecturer-student ratio also worked against the idea of doing hands-on practice of the teaching strategies whilst students are still in college before and after teaching practice since the students were too many for the few lecturers. Another lecturer, L6, added that the strategies they equipped their pre-service trainees with were not adequate because:

We do not consider the diverse needs learners have. That is, we do not have certain assistive devices for use to demonstrate to

the trainees how use them when they encounter learners in schools who may have the need to use them. For example, for learners with certain impairments such as hearing, visual or physical disability.

In addition, L7 remarked that he felt the strategies they equipped their trainees with were inadequate for inclusive classes because they basically exposed them to traditional teaching strategies which, according to him, were generally teacher-centred. He felt that as teacher educators, they needed to expose the trainees more to modern inclusive teaching strategies which were learner-centred. The lecturer further commented that there was need for lecturers to engage in reflective practice in the way they equipped pre-service trainees with strategies for teaching inclusive classes and to impart such skills to them so that they will in turn be reflective in the way they employed teaching strategies. To the lecturer, reflective practice reflects appreciation of learner diversity. Rembe et al. (2016, p. 39) postulate that:

Reflective practice encourages you to understand your learners in terms of their needs and abilities. Theories in psychology of education suggest that every individual learner is different. It follows that they will respond differently to what you as their teacher present to them and what you do in your classroom practice.

Another lecturer L9 added her voice to the above sentiments by stating that the teaching strategies were inadequate for inclusive teaching and went on to say that there is need for pre-service trainees to be equipped with varied strategies that appealed to all learners, taking into cognisance their diversity especially considering Gardener's learning styles which are: visual or spatial, auditory or linguistic, musical, mathematical, bodily kinaesthetic, interpersonal, intrapersonal and naturalist. (Winter & O'Raw, 2010). It was highlighted by most of these lecturers that the inadequacy of the strategies for inclusive teaching was escalated by the fact that there were also no resources available both in college and in the schools to enable the pre-service trainees to practise using varied teaching strategies like differentiation that were more effective in teaching classes characterised by learner diversity. Furthermore, the lecturers raised concerns about the high teacher – pupil ratio in primary schools

which they said affected feasibility of the more inclusive teaching methods that pre-service teacher trainees may have been exposed to by their lecturers. The lecturers explained that the trainees will not be able to practically handle the inclusive classes in terms of using the more reflective inclusive strategies because there will be too many pupils in the custody of one teacher. This was also reflected in a study by Chimhenga (2016) on the implementation of inclusive education for children with disabilities in primary schools in Zimbabwe. Chimhenga (2016, p. 34) found out that teachers could not cope with large numbers of children within the classroom situation and he concluded that:

The class size impacts on inclusion implementation due to the difficulties that teachers have in attending to individual needs, class management dynamics and the marking load they exert on teachers.

This challenge of large numbers of pupils in a class was also reflected by Samkange (2013) in his study on inclusive education at primary school in Zimbabwe, Harare District. Samkange (2013) found out that there were problems related to teacher – pupil ratio which hindered progress in the implementation of inclusive education in the primary schools in Zimbabwe. He found out that teachers are overloaded because some schools have teachers with classes of over fifty pupils. This left them with no option but to use the teacher-centred methods like lecturing that were not quite appropriate for inclusive classes. Samkange (2013) noted that if such a problem is not resolved then the essence of inclusive education may be defeated as children with special needs may be excluded.

Data from the focus group discussions indicated that the lecturers felt that the inadequacy of the strategies they equipped their trainee teachers with was worsened by the fact that inclusive classes needed special attention which required a lot of time to administer. However, at the present moment, the time allocated per lesson in the schools does not give the teacher much time, leading to them just focusing on the traditional strategies like lecturing and question and answer. One lecturer, L10 added another dimension to the issue of the inadequacy of the strategies they exposed their pre-service trainees to by revealing that some lecturers tended to equip the trainees with those strategies that they themselves were exposed to at the

time they trained. The lecturer further stated that these lecturers were exposed to the traditional strategies which he said were not adequate for teaching inclusive classes as they were rigid and did not cater for learner diversity.

In relation to the above, Grimes (2014) and Wilson (2014) says there is need for teachers to use child-centred pedagogy which includes: facilitating multiple pathways to learning; encouraging co-operative learning, creating meaningful learning opportunities, developing attractive and flexible settings and rethinking assessment and changing roles of teachers. The traditional methods usually promote rote learning in which the teacher repeats content over and over again. According to Grimes (2014), this will only accommodate a small group of learners who prefer verbal learning thereby leaving out or excluding those who prefer other ways that reflect Gardner's theory of multiple intelligences such as co-operative work, body or kinaesthetic intelligence in which children learn through movement, games or drama.

The questionnaire had a question which required the lecturers to rate the teaching strategies that they equipped their pre-service trainees with before and after teaching practice (item 12). This was viewed by the researcher as having a bearing on the strengths and weakness of the teaching strategies. Table 4.6 shows the rating that resulted from their responses.

Table 4-6: Rating of teaching strategies (n=40)

	Frequency	Percentage
Poor	3	7.5
Average	8	20.0
Satisfactory	16	40.0
Good	10	25.0
Very good	3	7.5
Total	40	100.0

The results reflected that the majority (40% – 16) of the lecturers felt that the strategies were satisfactory, 20% (8) said they were average, 25% (10) indicated they were good, 7.5% (3) said they were very good while 7.5% (3) indicated they were poor. From these results the researcher inferred that generally, the lecturers

felt the strategies they equipped their pre-service trainees with were satisfactory. This could mean that they needed to focus on improving on the way they lectured on the strategies so that these would help the pre-service trainees to be able to cater for learner diversity in terms of using teaching strategies.

The lecturers were also asked to rate the availability of assistive technology in their colleges (Item 13). The researcher felt that assistive technology would influence the teaching strategies in terms of strengths and limitations. The following table reflects the results.

Table 4-7: Availability of assistive technology in colleges (n=40)

Response	Frequency	Percentage
Poor	14	35.0
Average	10	25.0
Satisfactory	10	25.0
Good	4	10.0
Very good	2	5.0
Total	40	100.0

Data from Table 4.7 shows that 35% (14) of the lecturers said availability of assistive technology was poor, 25% (10) said it was average, 25% (10) indicated it was satisfactory, 10% (4) indicated it was good and 5% (2) said it was very good. Generally, these results reflected that availability of assistive technology in the colleges was satisfactory. Data from the interviews and focus group discussions reflected that availability of assistive devices was satisfactory but some lecturers commented that they rarely used them. Though some of the lecturers generally indicated that availability of assistive technology was satisfactory, they did not mince their words in commenting that they did not have access to specialised assistive devices such as talking computers or those with a special screen and Braille machines to assist pre-service trainees in getting hands-on experience on how these are used. This, they said was a challenge as the trainees would need to familiarise with such devices so that when they encounter pupils who have need to use such

devices they are knowledgeable on how they function. The lecturers added that such devices are needed to compliment the teaching strategies and make them more effective, especially in cases where pre-service trainees have learners that have hearing and/or visual impairment.

Smith and Tyler (2011) observe that the use of such assistive technology has many advantages. They contend that it makes it easier for new information and skills mastery. They add on to say that it fosters students' collaboration and communication and ensures consistent presentation of content. One lecturer in one of the colleges cited an example of a pre-service trainee who was physically challenged to the extent that she could not use the chalkboard when teaching. This student, it was revealed, made use of a laptop and therefore needed training in using the various computer programmes like power point when teaching. This means that the lecturers themselves need to be competent in the use of such assistive technologies so that they can in turn impart the knowledge and skills to their trainees who need to use such knowledge and skills if need arises in teaching inclusive classes.

Lecturers in one of the colleges however, indicated that provision of assistive technology in the college had moved a step ahead as the college had established a multi-media centre in the library in which lecturers and students were being trained in the use of assistive devices that aid teaching and learning. However, they were quick to indicate that the multi-media centre was limited in terms of space and could not accommodate many people at the same time. They also commented that more still needed to be done in the area of assistive technology so that the lecturers and the students could have hands-on experience. This implies that the lecturers acknowledge the necessity of skills and knowledge in the use of assistive technology to aid and compliment the effective use of the inclusive teaching strategies.

The lecturers were asked to rate pre-service trainees exposure to assistive technology in college and the following results were attained:

Table 4-8: Pre-service trainees' exposure assistive technology in college

	Frequency	Percentage
Poor	14	35.0
Average	10	25.0
Satisfactory	10	25.0
Good	4	10.0
Very Good	2	5.0
Total	40	100.0

The results illustrated in Table 4.8 indicate that 35% (14) of the lecturers said pre-service trainees exposure to assistive technology while in college was poor, 25% (10) said it was average, 25% (10) said it was satisfactory, 10% (4) indicated it was good while 5% (2) indicated it was very good. These results matched those on the availability of assistive technology. The researcher inferred that generally, pre-service trainees' exposure to assistive technology was satisfactory. However, evidence gathered from the interviews and focus group discussions reflected that some lecturers felt that some pre-service trainees showed a lot of enthusiasm in using assistive technology so as to familiarise with it while some did not bother much about it.

The researcher also asked in item 16 how far the lecturers considered assessment of learners to be an integral part of teaching strategies. Results gathered from the questionnaires indicated that 80% (36) of the lecturers responded that assessment was indeed an integral part of teaching strategies. The lecturers indicated that it helps the teacher to identify the needs of learners such that they will be in a better position to provide assistance or help them through utilisation of relevant and appropriate methods to maximise learning despite diversity in terms of learning abilities and styles. Data gathered from the questionnaires indicated that lecturers

believed that assessment as an integral part of teaching strategies (Vayrynen, 2000, UNESCO, 2004), needed to be differentiated according to learner differences in terms of abilities and needs in the inclusive classroom, a skill that pre-service trainees need. Winter and O'Raw (2010) contend that what constitute progress in learning varies depending on the child. They postulate that it is important for educators to recognise that progress in learning for learners with significant learning difficulties or disabilities can be achieved in many different ways. Vayrynen (2000) says that whatever is the format of assessment, it is essential for us in order to provide curriculum access to all learners, according to their needs and potential. Assessment to all learners, according to their needs and potential. Assessment is for providing the framework for the activities in which learners can show their understanding of the knowledge they have reconstructed. The lecturers observed that it was unfortunate that currently they did not expose their trainees to differentiated assessment strategies which would be a way of implementing Gardner's theory of multiple intelligences discussed in Chapter 2. One lecturer, L3 specifically stated that assessment was very critical to teaching strategies used. Another lecturer L6 said that assessment helps in establishing learner needs which are then addressed using different teaching strategies. She commented that:

To a greater extent assessment is an integral part of equipping trainees with teaching strategies because they get connected and know which strategy to use, with who and where.

In agreement with the above comment, L15 said assessment was crucial because it informs on the strategies and inadequacies of the strategies. The lecturer added that assessment is very essential for the teacher to be certain of every pupil's successful learning (UNESCO, 2004).

On the question of whether pupils' assessment is focused upon setting specific and realistic targets that lead to improvements in learning (Item 17) the following results represented by the Table 4.9 were attained.

Table 4-9: Assessment as setting specific and realistic targets for improvement in learning

Response	Frequency	Percentage
Strongly agree	20	50.0
Agree	10	25.0
Undecided	0	0
Disagree	6	15.0
Strongly disagree	4	10.0
Total	40	100.0

The results indicated in Table 4.9 reflect that 50% (20) of the lectures strongly agreed that pupils' assessment is focused upon setting specific and realistic targets that lead to improvements in learning, 25% (10) said they agreed, 0% (0) were undecided, 15% (6) said they disagreed while 10% (4) strongly disagreed. The researcher therefore concluded from the results that the majority of the lecturers were in agreement with the idea that assessment of pupils is meant for improvement of learning and it can thus be taken as an integral part of the teaching strategies. This is reflected by Grimes (2014, p. 22) who posits that assessment serves "the educational process by promoting learning and guiding teaching" and that "it is assessment "for" and "of" learning." Grimes (2014) also states that in inclusive settings assessment should be a way of enabling all learners to have an opportunity to show what they have learned in different ways and according to their different pathways of learning.

In response to the question on what assessment strategies lecturers use to equip their pre-service trainees with to prepare them for an inclusive environment (Item 18), the majority (80% – 32) of the lecturers indicated that they did not do much in this area. Some of them said they concentrated on continuous formative assessment which was done through tests. A few lecturers (20% – 8) stated that they concentrated on practical assessment. The responses from the questionnaires, the interviews and focus groups discussions generally reflected that individual

differences in terms of learner needs and abilities were not addressed in the assessment strategies to which pre-service teacher trainees were exposed and equipped with.

A study of the syllabus documents revealed that pre-service trainees were exposed to both summative and formative evaluation as ways of assessing learners. Formative evaluation was reflected in some of the records that pre-service trainees were encouraged to keep such as the Progress Record, Test Record, Remedial and Extension Records. These were meant for the trainees to keep records of the progress of learners throughout the term. This was mainly done through written exercises and tests, a thing which goes against Gardner's theory of multiple intelligences as such assessment focuses on only one type of intelligence, which is linguistic-verbal intelligence. The researcher felt that this assessment does not take into cognisance learner diversity and therefore it is not inclusive. Nevertheless, one syllabus document from the Theory of Education Department has reflective practice as one of the sub-topics under Assessment, Measurement and Evaluation, indicates that, to some extent, pre-service trainees are enlightened on the need to use assessment strategies that cater for the diversity of learners through reflective practice. However, this may have been just theoretical as the lecturers did not show that they actually took it upon themselves to engage the trainees in activities that enabled them to practise such assessment strategies.

The questionnaire had one question (Item 19) which required lecturers to give their opinions on whether pre-service trainees should be exposed to differentiation as a teaching strategy that addressed learner diversity. About 77.5% (31) of the lecturers were affirmative on this issue while 22.5% (9) were not.

Those who responded affirmatively explained that differentiated teaching strategies would help pre-service trainees to cater for the individual differences children in an inclusive setting have. One lecturer commented:

Teachers need to know that there is no method which is "one size fits all." The same concept can be taught in different ways.

This was reflected by Rembe et al. (2016, p.42) when they say that learners in any classroom “cannot be simply taken as a homogenous group where one size (or teaching approach) fits all.” In support of this view, one lecturer commented:

Exposure to differentiation is necessary because different learners require different teaching strategies in order for them to master concepts being learnt/taught.

Such views are in agreement with what the South African Department of Basic Education (2011) which says that differentiation is a key strategy for responding to the needs of learners with diverse learning styles and needs and also that differentiation takes into account learners’ ability levels, interests and backgrounds. Furthermore, the South African Department of Basic Education (2011) says that differentiation can be done at the level of content, teaching methodologies, assessment and learning environment. Details on differentiation of methodologies/strategies were discussed in Chapter 2.

The views above concur with what Mariga, McConkey and Myezwa (2014) say about inclusivity. Mariga et al. (2014) observe that inclusive classrooms are microcosms of the diverse society in which we live and that the aim of inclusive education is not to dilute standards or change context, but to adopt a teaching style that accommodates a diversity of abilities, cultural backgrounds and learning styles and needs. They further state that it is therefore critical that inclusive teaching and learning be characterised by the use of multiple strategies for delivery of information and multiple ways for learners to demonstrate the knowledge they have acquired. Mariga et al. (2014) opine that inclusive teaching and learning should also be characterised by the use of flexible approaches that anticipate diversity.

The following can be employed as part of the teaching strategies:

- Use of a variety of teaching methods;
- Being flexible with assessment methods; and
- Creating an open classroom that values the experience and perspectives of all learners.

This can be possible when the pre-service trainees are equipped with strategies that enable them to treat all learners as individuals with unique strengths, weaknesses and needs rather than generalised representatives of particular groups. Thus, it is imperative for teacher educators to be able to impart such strategies as differentiation to the pre-service trainees so as to be able to employ such strategies when they encounter inclusive classes. However, the findings from the questionnaires, interviews and documents do not reflect that pre-service trainees are exposed to and equipped with different skills.

4.2.2.4 How teacher education can develop effective strategies for the successful implementation of inclusive education

The lecturers were asked in Item 20 to state what structures or mechanisms were put in place in their colleges to allow pre-service trainees to practise differentiated instruction. Half of the lecturers (50% – 20) indicated they were not aware of any such mechanisms while the other 50% said something was being done. Those who indicated that something was being done commented that this was mostly handled by lecturers in the departments of Theory of Education and Professional Studies Syllabus A. They indicated that topics on inclusive education were mostly done by lecturers from these departments and that they focused on theories on inclusive education and methodologies for the teaching and learning of pupils in inclusive classrooms. However, a few lecturers said in some subject areas this was handled under the Applied sections of the syllabus. The syllabuses for the Applied section which the researcher studied however, did not reflect much on topics focusing on inclusive education. It appeared that generally, the topics covered in the Applied sections covered general methods or strategies for teaching but they did not specifically look at those that were ideal for an inclusive classroom. An interesting aspect came out of responses to this issue. Some lecturers indicated that pre-service trainees were exposed to ICT-related programmes which they believed exposed them to a variety of strategies to use if they were given the chance to explore these ICT-related programmes further.

One lecturer L9 argued that since the pre-service trainees were equipped on how to do remedial and extension work in the Applied sections of every subject area, they

were therefore exposed to some form of mechanism on how to deal with learners' diverse abilities and needs.

The researcher also sought to know from the lecturers, as indicated in Item 21, what mechanisms were in place in their colleges to ensure pre-service trainees got the chance to practise handling of inclusive classes in terms of teaching strategies. To this, 50% (20) of the lecturers professed ignorance while the other 50% (20) said the trainees got knowledge of theories that focused on inclusive education from their lectures in Theory of Education. One such response was:

They are given the theories from the different lectures in Theory of Education where they study such theorists as Howard Gardner, Les Vygotsky and Jean Piaget, in which they learn about the nature of learners, their needs, their intelligences and how they learn.

Another lecturer went further to state that in Theory of Education, pre-service trainees were exposed to topics that covered the various disabilities like visual impairment hearing impairment, autism, etc. The lecturer added that in lectures in which they learned such topics, pre-service trainees were given theories on how to handle learners who live with disabilities and how to cater for diverse learner needs, learning styles and abilities. The syllabus documents from the Theory of Education Department reflected that it was true that such topics were covered during lectures, as topics such as: theories of intelligence, learning theories and disabilities were listed in the syllabus documents. It was noted from the ECD Professional Studies Syllabus A syllabus documents that different strategies for teaching inclusive classes were taught. These included peer tutoring and differentiation. The lecturers indicated in interviews and focus group discussions that lecturing on such topics helped them to impart to pre-service trainees skills that would enable them to make use of a variety of teaching methods and strategies, including those that draw from the learners' experiences for effective teaching and learning to take place. Such strategies should take into cognisance the different ways in which children can learn. Grimes (2014) avers that how children learn at different points in their lives may differ and may differ for different topics. Grimes (2014, p. 12) further states that "some children can learn from listening to the teacher, while others might prefer

doing exercises, using visual aids or having group discussions.” This reflects what Gardner observes in his theory of multiple intelligences discussed in Chapter 2.

On the question of how lecturers trained pre-service trainees to use inclusive teaching strategies (Item 22) the responses were on the whole almost similar, for example, one lecturer said:

By exposing students to different teaching methods and then exposing them to practical implementation of such methods first during peer teaching and micro-teaching and then when they do their teaching practice in different schools while attached to qualified teachers (mentors).

The lecturer was quick to comment that though pre-service trainees engaged in peer teaching and micro-teaching before going out for teaching practice, they did not do much because of their large numbers against the small numbers of lecturers who were supposed to be helping them in these exercises. It was further stated by the lecturers that before the trainees embarked on peer and micro-teaching, they were taught on theories based on the use of a variety of methods and that they were given hands-on a lectures through the use of slides, demonstrations and visuals on TV screens. They said pre-service trainees also underwent basics on the use of ICT to aid learner understanding. This shows that to a certain extent pre-service trainees do get some skills and knowledge on the utilisation of varied strategies for effective teaching and learning that cater for learner diversity.

The lecturers were asked in Item 23 to indicate the extent to which they considered pre-service trainees’ ability to accommodate learner diversity in their teaching practice as a way of equipping them to be able to handle inclusive classes in the way they employed teaching strategies. To this, 40% (16) of the lecturers indicated that they did not consider this since the TP supervision crit does not spell this out. However, 60% (24) said they assessed students’ ability to cater for learner diversity in several aspects during lesson delivery and in the way they assessed learners. They stated that they did this by assessing the teaching strategies used, the written work assigned to pupils after and during lesson delivery, use of media, learning activities and tasks given to pupils and structuring of content. Results from focus group discussions and interviews showed that lecturers were in agreement to this

aspect. The lecturers added that they also looked at and scrutinised the various class records that pre-service trainees were expected to keep. These records included the Social Record in which pre-service trainees are expected to enter information on each and every pupil in their class pertaining to the child's background, status of parents, religion, how they came to school, date of birth, etc; the Remedial Record Book in which remedial work given to those learners who needed it was recorded; Extension Record Book in which work assigned to the fast learners was entered and the Progress Record Book in which marks for tests given to the pupils were entered.

An analysis of pre-service trainees' Teaching Practice records reflected that indeed they did have such records which was evidence that to this extent, aspects of learner diversity were considered during assessment while trainees were on teaching practice. This shows that there was some contradiction among the lecturers as some of them had indicated in their response in the questionnaire that they did not consider or assess students' ability to accommodate learner diversity yet, evidence from the interviews, focus groups discussions and document analysis reflected otherwise. This contradicts with what those who advocate inclusive education say about an inclusive teacher. This is reflected by Grimes (2014) who argues that every teacher must be an inclusive teacher. Grimes (2014) states that in their classes, all teachers will meet children with a variety of needs, abilities and interests and therefore every teacher must be trained to be inclusive. Moss, Pullin, Gee Haertel and Young (2008) also observed that in the 21st century classroom, learners bring different cognitive, social, cultural and linguistic diversity into the learning environment and therefore teachers need to understand this.

There was also evidence of such contradictions amongst lecturers as some indicated that the Teaching practice supervision crit that they used to assess students while on teaching practice did not spell out the aspect of learner diversity while others said it did. Data gathered during interviews and focus group discussions reflected that in fact, the crit did spell out this. In responding to this question, one lecturer L3, articulated this when she commented that the crit showed that lecturers were supposed to assess and comment on the student's teaching strategies during lesson delivery and as recorded in their schemes of work and lesson plans with the aim of bringing out variation of such strategies. They were supposed to also assess and

comment on the following seating arrangement in terms of classroom organisation: variation of learning activities; variation of media, media size, durability and labelling; Extension and Remedial records; Social records; Test records and Progress records. The lecturer added that in doing all this, they will be considering whether the students are considering learner diversity and including all learners in their teaching, including the strategies employed during lesson delivery.

Results from focus group discussions and the study of the Teaching practice supervision crit indeed reflected that these aspects were assessed. Nevertheless, it was clear from the sentiments expressed by some lecturers that in the majority of cases, they rushed over the Teaching practice supervision crit and overlooked certain aspects that focused on students' ability to include all pupils by taking into cognisance learner diversity. They explained that this was due to the limited time they had to assess a 30-minute lesson or a 1-hour lesson in cases where a student may be having a double lesson. Therefore, the element of time may be a hindering factor in terms of allowing the lecturers adequate time to assess this aspect in students' teaching practice and be able to help them take care of learner diversity in all aspects, including teaching strategies employed during lesson delivery.

The contradiction that arose in lecturers' views on this issue may be an indication that some of the lecturers did not quite understand how to assess students' ability to be inclusive in their teaching using the pointers and reference points in the supervision crits. This may have affected the exposure that the pre-service trainees were supposed to get in terms of dealing with inclusive classes if they did not get maximum support and guidance from the teacher educators themselves. Lecturers were supposed to give feedback to the students after assessing them by highlighting areas of strengths and weaknesses and making suggestions on those areas that needed to be improved. If, however the lecturer is not aware of the purpose of pointers such as variation of strategies, activities, media, etc, then it would mean that the student would not get much assistance and thus would not improve on such aspects as accommodating all learners through employing inclusive strategies while delivering lessons.

When asked if they considered equipping their pre-service trainees with collaborative skills as a way of preparing them to use them as a strategy for implementing

inclusive education 35.0% (14) of the lecturers said they did not while 65.0% (26) said they did.

In elaborating further to this question, some lecturers commented that collaborative skills were necessary as a way of taking care of learner diversity in teaching and learning and in making certain that all learners were included during the lesson process. One such comment came from L3 during an interview. She said:

Without collaborative skills, the diversity of pupils won't be tapered into and addressed fully. It therefore means all stakeholders should be actively involved in preparing pre-service trainees to be better teachers in the inclusive classroom by being more inclusive in the way they use collaborative methods.

When asked, during the interview, to elaborate on this, the lecturer said it would be best for lecturers to train the pre-service trainees to be able to work together during their teaching practice to help each other in areas of weaknesses where one student could have strengths (Kasa & Causton-Theoharis, 2010, Dejana, 2013). That way, she said, they would cover all critical areas in terms of strategies to help the learner grasp the concepts being taught. Another lecturer L4, said:

We train them to be sensitive to various learner needs and to collaborate with colleagues on how best to meet the specific needs of an inclusive class.

This indicated that the lecturers were aware that collaborative skills assisted pre-service trainees in working together as part of strategies to enhance pupils' understanding of concepts and taking care of diverse learner needs, learning abilities and styles in the inclusive classrooms. This idea is supported by Grimes (2014) who states that teachers learn best from each other and that collaboration among teachers is very valuable as a way of developing teacher professionalism. Grimes (2014) adds on to say collaboration is a source for additional support in implementing inclusive education. Another lecturer, L12 observed that equipping pre-service trainees with collaborative skills was critical because it would train them to engage in co-operative teaching which, according to him, enabled sharing of ideas and improved teaching and learning especially in classrooms characterised by

learner diversity. The idea of making use of collaborative skills as a strategy for improving learning in inclusive classrooms is supported by van Wyk and Ndamba (2016) when they suggest collaborative partnerships. Van Wyk and Ndamba (2016, p. 270) state that:

The strength of collaboration lies in the combined effort in addressing common goals, a situation which transforms the quality of teaching scholarship into participative teaching venture, contrary to traditional delivery approaches. Collaboration also helps you to embrace a feeling of collegial support and a realisation that you are not alone in the struggle. Consistent and systematic peer evaluations serve a learning forum which may contribute to your enhanced growth and development as a pre-service teacher.

The researcher noted that even though the lecturers supported the idea of imparting collaborative skills to the pre-service trainees, they had challenges in doing so. The lecturers lamented that due to the overloaded timetable, they did not have adequate time to engage in training their students collaborative skills though they were aware of the benefits of such skills if taken as part of the strategies for implementing inclusive education. This is also reflected in a study carried out by Mafa and Makuba (2013) in which they found out that lecturers who participated in their study agreed that the teacher education timetable that was being used in the colleges was too loaded to the extent that it was difficult for teacher educators to effectively equip pre-service trainees with inclusive skills in the limited time available. One lecturer, L15 commented that she felt it would work better for pre-service trainees if they, as teacher educators would include topics on collaborative skills in the Professional Studies Syllabus A and Syllabus B as these were the areas that focused on teaching strategies. It also emerged from data gathered during interviews and focus group discussions that some lecturers believed that equipping pre-service trainees with collaborative skills would enable them to be competent inclusive teachers who have the ability to appreciate learner diversity, good communication skills, be open-minded so as to be able to employ varied teaching strategies to cater for learner diversity in terms of their backgrounds, needs, interests, learning styles and abilities. The lecturers added that one of the teacher competencies they needed to instil in

their pre-service trainees was to develop a positive attitude towards learner diversity so that they are able to devise strategies that would ensure effective teaching and learning that accommodates all learners. One lecturer L12 commented on teacher competencies required for inclusive classrooms. She commented as follows:

Ability to come up with strategies appropriate for teaching learners with diverse needs as well as the assessment strategies that cater for the different needs learners have.

An interesting response to the issue of teacher competencies for inclusive education came from L2 who noted that a lecturer should be accommodative, flexible and reflective. Myers et al. (2011) in Rembe et al. (2016) emphasised this observation when they suggested that the teacher should engage in reflective practice which they define as involving studying one's personal teaching. They further say that this means that the teacher must be observant, reason logically, be analytical and synthesise and evaluate his/her own teaching.

The above means that if the teacher is accommodative, he/she can cater for learners in their diversity in terms of employing inclusive teaching strategies, that is, those that take into cognisance the diverse backgrounds, needs, interests and learning abilities and styles. Being flexible entails being accommodative and thus can be linked to one utilising strategies that take into consideration the learners' varied intelligencies as espoused by theorists such as Gardner (See Chapter 2).

Mann and Walsh (2013) point out that reflective practice entails dialoguing with other teachers and that it means the teacher becomes involved in thinking critically about the knowledge and experience of their own teaching. To this extent, it is imperative that lecturers in teacher education equip pre-service trainees with such competencies as part of their strategies that would enable them to teach in inclusive classrooms. However, the researcher noted from the focus group discussions and interviews that lecturers did not do much to achieve this. They expressed concerns about the loaded timetable in the curriculum for the 2-5-2 teacher training model which they said left them with little time to venture into exposing their trainees to reflective practices which would enable them to become effective inclusive practitioners during their teaching practice and after they qualified.

One lecturer, L12 repeatedly made reference to the aspect of time, expressing that the limited time did not leave them with room to train pre-service trainees in the aspect of being reflective and flexible. The lecturers remarked that this left them with no choice but to equip their pre-service trainees with the same old traditional strategies much of the lecture method, question and answer, group work and class discussion that were not so flexible when they are faced with inclusive classes. Such methods, they said, were limited in helping the trainees cater for the learners' diverse learning styles and abilities, varied intelligences and diverse needs. The lecturer, L12 also added that the nature of the teacher education curriculum was based on passing a final examination added to the challenge of time as the lecturers rushed to cover the syllabi in preparation for exams. This was reflected in Mafa and Makuba's (2014) study in which they found out that most of the lecturers ended up resorting to the use of notes in the form of handouts as a way of covering the syllabus for the final examinations.

In responding to the question on the necessity for teacher education to equip pre-service trainees with skills that would enable them to consider learners diverse backgrounds, needs, abilities and learning styles (Item 26), one of the participants remarked the following:

Pre-service teacher trainees need such skills because they need to be able to meet the needs of learners. No two children are the same hence the trainees need to have an understanding of teaching and assessment strategies centred on the potential or ability to have a holistic approach to diversity in learner backgrounds, needs, interests and abilities.

However, in the follow-up interview question on how the lecturers were handling this issue, the responses were varied though generally data from these responses indicated that the lecturers were not doing much in this area. The majority of these lecturers lamented the issue of the loaded timetable, inadequate resources in the colleges to enable them to impart such skills to pre-service trainees and inadequate training of lecturers in the area of inclusive education. This was further substantiated by what the lecturers said during focus group discussions. They revealed that they had not received adequate training or any training on inclusive education. They went

further to say that they attended a few workshops just to be sensitised on inclusive education. This, they argued, led to most of them not having much of an interest in the approach and worse still on being particular with the inclusive teaching strategies they needed to equip pre-service trainees with skills to enable them to handle inclusive classes. In addition, evidence from the analysis of documents revealed that the Professional Studies Syllabus A and Theory of Education examination question papers had questions on inclusive education which read:

- *Taking care of individual learner differences is synonymous to inclusive education. Discuss.*
- *Inclusive education is mixed ability grouping. Discuss.*
- *Inclusive education is exclusive education. Discuss.*

These questions were evidence that pre-service trainees were expected to be inclusive in their teaching in all aspects. However, data gathered from the questionnaires, focus group discussions and interviews indicated that topics on inclusive education were only done theoretically thus, the practice was limited. Evidence also showed that inclusive education was not taken as a stand-alone subject but topics on inclusive education were covered in Theory of Education, Psychology section and in Professional Studies Syllabus A. To add, it was clear from document analysis of pre-service trainees' notes in their coursework files that they covered topics on inclusive education in Theory of Education and Professional Studies Syllabus A and that this was mainly theoretical. There was nothing to show that they practised it before going out on teaching practice and even after their teaching practice stint when they came back for their final year. This shows that theory alone without practice does not help the pre-service trainees much in terms of the acquiring necessary skills that would enable them to employ inclusive teaching strategies when they are faced with inclusive classes.

In commenting on the effectiveness of the strategies they equip pre-service trainees with in handling learner diversity, lecturers generally indicated that though the strategies were varied they were not practised much to enable the trainees to be comfortable when handling inclusive classes. The majority of responses from the questionnaires showed that the lecturers agreed that these were not very effective

due to some challenges lecturers and pre-service trainees faced. Of the responses given, the researcher found the following interesting:

Although we do equip students, I cannot say we are all that effective because inclusivity is quite a new concept and so lecturers also need to be trained to be able to do effective for the students.

The strategies are effective to a certain extend. The drawback is that these skills are only said in theory. The college itself does not offer the practical aspect.

Further probing in the interviews and focus group discussions revealed that the effectiveness of the strategies imparted to pre-service trainees was hampered by challenges such as inadequate assistive technology, inadequate time to allow lecturers to be flexible and more practical in their approaches of imparting effective skills and limited training for lecturers, which affected their attitude one way or the other. Mafa and Makuba (2013) also identified these challenges as they found out that there were inadequate resources and specialist equipment. They found out that lecturers were of the view that they should not theorise when teaching teacher trainees such topics as reading and utilising braille. Therefore there is need for specialist equipment which is not always available (as alluded before) for the pre-service trainees to have hands-on practice. Mafa and Makuba (2014) also found out that lecturers lacked knowledge and skills on inclusive education to enable them to effectively prepare pre-service teacher trainees for inclusive teaching.

The lecturers were also asked in Item 28 how they would improve strategies for the implementation of inclusive education in their training or pre-service trainees if they got the chance to. One common response was that they would change the curriculum in terms of time allocated for inclusive education lecture and that they would also make inclusive education a stand-alone subject. Some added that they would incorporate the use of assistive technology as a pre-requisite of the teaching course, change assessment strategies that trainees are exposed to and make it a point that all lecturers were fully trained in inclusive education so that they become confident and more accommodative when they train their students to be inclusive practitioners. The lecturers further stated that there was need for practical element

on the use of inclusive teaching strategies to become reality. As it is at the moment, this is still theoretical, so the curriculum needs to focus on the practice or hands-on activities to enable every student to be experienced in the teaching of learners in an inclusive environment.

4.3 PART 2: Findings from pre-service teacher trainees (n=40)

4.3.1 Biographic information

The first part of the questionnaire for pre-service trainees focused on biographic data in terms of gender and age. This was done to ensure fair representation.

Table 4.10 below shows the results based on the participants' gender.

Table 4-10: Participants by gender (n=40)

Gender	Frequency	Percentage
Male	14	35.0
Female	26	65.0
Total	40	100.0

Data in Table 4.10 shows that 35% (14) of the pre-service teacher trainees were male while 65.0 (26) were female. This is a true reflection of the pre-service trainees in the teacher training colleges where female trainees out-number the male trainees.

Table 4.11 shows the results on the participants in terms of age.

Table 4-11: Participants by age (n=40)

Age in years	Frequency	Percentage
21–25	10	25.0
26–30	11	27.5
31–35	4	10.0
36–40	6	15.0
Above 40	9	22.5
Total	40	100.0

Information in Table 4.11 reflects that 25% (10) of the pre-service teacher trainees fall in the age range 21–25, 27% (11) fall in the age range 26–30, 10% (4) fall in the age range 31–35, 15% (6) fall in the age range 36–40 and in the last category of above 40 comprises 22.5% (9).

4.3.2 Pre-service trainees' knowledge on inclusive education

In Item 3, the pre-service trainees were asked to indicate their knowledge of inclusive education on a scale ranging from very high to very low. 90% (36) of the trainees indicated that their knowledge on inclusive education was average while 10% (4) indicated it was high. The trainees were asked to explain their understanding of inclusive education as a follow-up to the rating. To this, there were quite interesting responses some of which are cited below:

Inclusive education is education for all in a least restrictive environment with the teacher realising the individual differences of the pupils.

It is education that caters for all children despite their colour, language, age cultural or religious background, social background as well as physical abilities.

Inclusive education is education which caters for all pupils regardless of gender, race, ability, social or economic background in a well organised and less restrictive environment.

These definitions are in agreement with the one given by Singh (2016) who says inclusive education is defined as:

a process of addressing the diverse needs of all learners by reducing barriers to, and within the learning environment.... Inclusive education is a process of strengthening the capacity of the education system to reach out to all learners.

Generally, the trainees indicated they understood what inclusive education is about. However, a few of their definitions appeared to be limited to physical disabilities which would then mean that they understood inclusive education as more of special needs education yet it is more than that as was revealed in the following definitions they advanced.

Inclusive education is when children with and without disabilities participate and learn together in the same class.

This refers to a situation whereby you have in one class pupils who are disabled and those that are not learning together.

Such definitions which limit inclusive education to only those children living with disabilities and with special education needs have been also advanced by some authorities. For example, Adebayo and Ngwenya (2015, p. 247) are of the view that inclusive education “is a concept that allows students with special needs to be placed and receive instruction in the mainstream class and taught by mainstream teachers. Chireshe (2013, p. 223) advances a similar definition by saying:

Inclusive education implies that children with special educational needs have to attend mainstream schools they would have attended if they did not have a disability.

As with the lecturers’ responses, the researcher noted that one’s understanding of what inclusive education entails affects their attitude and ways of teaching in inclusive classrooms. The trainees were asked to comment on how they felt about teaching in classes characterised by learner diversity (Item 5) and data gathered from the questionnaires reflected three categories of responses. The majority of pre-service trainees 80% (32) indicated that they felt that it was appropriate to engage in inclusive education because it enables teachers to take note of and tolerate pupils’ diverse backgrounds, interests, abilities and learning styles and it also gives room for these learners to be motivated by their peers and therefore maximising learning.

Such views were also put forward by authorities such as Grimes (2014, p 8) when he states that:

Inclusive education requires an on-going reflection by reaches on how the children in their class are learning and participating in the class, school on a community, and how to take diverse range of needs of the children into account when teaching in mainstream settings.

This demonstrated that such trainees had a positive attitude towards inclusive education as Grimes (2014) says teachers who believe it is their responsibility to teach children are more effective teachers in general; such an attitude leads to them striving to acquire skills that would enable them to devise teaching strategies that do not exclude any learner in their classes.

Most of those who were positive about inclusive education commented that they were comfortable with the idea of engaging in teaching inclusive classes as the following comments from some of them show:

I feel comfortable about teaching in a class characterised by learner diversity.

I would be much more privileged to be among such pupils as this gives me more experience as to know different characters among them as well as knowing how to handle them.

The second category of pre-service trainees was characterised by those who commented that it was a challenge to engage in inclusive education because they felt handing an inclusive class was difficult as this required one to be resourceful in using different teaching strategies in an environment characterised by inadequate resources. One interesting comment was:

It is a big challenge to teach in inclusive classes because the learners mostly need special infrastructure, eg. Furniture size, and they need a lot of resources that are expensive such as the talking computer and one with a special screen. They also grasp information at different rates.

A study by Chireshe (2013) on inclusive education in Zimbabwe revealed that the implementation of inclusive education in Zimbabwe was affected by lack of resources. The above comment indicated to the researcher that although this category of pre-service trainees understood what inclusive education entails, they felt that a lot must be put in place to make the teacher's work more comfortable in the process of teaching by making sure that there is provision of resources that aid the teaching and learning of learners with diverse needs. This could mean that for the inclusive teaching strategies to be used effectively there must be adequate resources that assist both the teacher and the learner. This is supported by Ahmad (2015) who states that resources such as assistive devices have great potential in providing access for all learners, and the ability to access the general education curriculum.

The third category of pre-service trainees felt that engaging in inclusive education would be comfortable provided there are adequate resources (Item 5). They added that although it may be challenging, it is interesting to tackle the challenge that comes with teaching such classes as it would make the teacher want to research more to be able to accommodate all learners. This is reflected in the following comments:

Learner diversity poses a direct challenge to the teacher and thus encourages the teacher to dig deeper to accommodate all.

This gives the opportunity to gain more experience on how to deal with different pupils understanding their needs and how to handle them.

I feel challenged to research so that I can cater for their individual differences.

The above comments reflect a positive attitude pre-service trainees have on inclusive education. It can then be inferred that such an attitude means that the pre-service trainees do very much feel learner diversity must be catered for in the teaching that goes on in the classrooms.

4.3.3 Teaching strategies pre-service trainees were equipped with

The questionnaire had a question that required the pre-service trainees to state the teaching strategies they were exposed to and equipped with by their lecturers while they were in college (Item 7). They identified the following:

- *Role play*
- *Devils' advocate*
- *Question and answer*
- *Demonstration*
- *Group work*
- *Pair work*
- *Dramatisation*
- *Discussion*
- *Experimentation*
- *Lecturing*
- *Field trips*
- *Story telling*
- *Project*

These were the same strategies that their lecturers said they equipped them with and evidence gathered from the analysis of the syllabuses showed that these were the same strategies with which pre-service trainees were equipped. In the questionnaires, some trainees indicated these by the broad terms child-centred or progressive methods and teacher centred or traditional methods. This was evidence to the researcher that pre-service trainees were adequately equipped, at least theoretically as most of them indicated during the focus group discussions and interviews. They agreed with the lecturers' views indicated earlier that there was not much time for them to engage in hands-on activities or practical's while still in college due to the limited time and overloaded curriculum.

In responding to the question regarding which of these strategies they felt were most appropriate to use in teaching classes characterised by learner diversity (Item 8), most trainees (80%) indicated that child-centred strategies such as dramatisation, role play, experimentation, project, demonstration and group work were the most

appropriate. Evidence gathered during the focus group discussions and interviews substantiated the above as the pre-service trainees emphasised that child-centred, progressive teaching strategies were the most appropriate as they promoted active learner participation. Grimes (2014) propound that teachers in inclusive settings use a child-centred pedagogy to meet the needs of all children. This is in agreement to the lecturers' views discussed earlier. The researcher noted from focus group discussions and interviews that the pre-service trainees were very comfortable talking about the child-centred or progressive teaching strategies which was an indication that they were familiar with such strategies. This could mean that the lecturers did a good job in exposing them to such strategies.

On Item 9, the researcher also asked the pre-service trainees how they accommodated learners who experienced barriers to learning. Ninety five percent (38) of the trainees said they interacted with such learners on a one-on-one basis and gave them remedial and extra work to help them catch up with their peers. Five percent (2) of the trainees added on to say that they also used teaching strategies that motivated the learners more, such as dramatisation. This can be taken to mean that the pre-service trainees were aware of the ways that helped motivate learners who faced barriers to learning; therefore including them in learning activities through various strategies could have been a result of them having been equipped with such skills as to be able to cater for all learners.

On the question whether their lecturers differentiated between strategies for teaching in a regular class and those for teaching in an inclusive class Item 10, 50% (20) of the trainees said they did not differentiate and the other 50% (20) said they did. One of the responses from the questionnaires read:

We are taught how to teach pupils with different abilities and disabilities, eg. those with visual impairment, hearing impairment and the gifted ones.

Another response revealed that the pre-service trainees were taught that the teacher in an inclusive classroom must cater for individual differences in the strategies they employed during lesson delivery. In addition, the trainees said they were taught that they should allocate time equitably and pay attention when dealing with learners with diverse needs. Another trainee explained that their lecturers differentiated the

strategies and made it clear to them that they were going to meet learners who were diverse in their abilities and backgrounds and that this was done under the topic on Individual Differences in Psychology of Education. The researcher noted that these sentiments contradicted with what most lecturers had said. The lecturers indicated that they simply exposed the trainees to the teaching methods without necessarily differentiating them. The syllabus documents also reflected that the methods were given to the trainees in the form of lecture notes. However, after having analysed the pre-service trainees' lecture notes, the researcher discovered that in the process of exposing them to the various teaching strategies, the lecturers indicated the strengths and weakness of each of these strategies. The researcher therefore inferred that in so doing, some differentiation was made of strategies that were more effective in inclusive classrooms and those for the regular classroom.

The researcher also wanted to find out how the pre-service trainees accommodated the different learning styles learners possessed during their teaching practice. The trainees stated that they made use of different teaching strategies to accommodate as many learning styles as possible. For example, one trainee's response read:

As a way to accommodate different learning styles in pupils, I exposed learners to different teaching methods such as dramatisation, role playing, discovery and experimentation. As a result, they managed to explore different activities and exposed their talents in them.

To the researcher, this was a reflection that the pre-service trainees had been made aware of the need to employ varied strategies when teaching classes characterised by learner diversity to cater for learner differences. A number of responses from the trainees focused on the aspect of giving remedial work for the slow learners and extension work for the gifted ones. One such response read:

Slow learners and pupils with challenges or difficulties were given remedial work whilst exceptional pupils were given extra work in the form of extension work.

The above response showed that although the trainees were aware of the need to accommodate varied learning styles, they limited themselves to two categories, i.e.

slow learners and gifted learners. In contrast, the first response reflected to the researcher that such trainees took heed of the fact that learners do possess varied learning styles and that all of them need to be catered for to avoid excluding any learner one way or the other. This is reflected in Grimes's (2014) view that children do have different pathways of learning which overlap with Gardner's multiple intelligences advocated in his theory of multiple intelligences. These include verbal or linguistic where children think and learn through written and spoken words, memory and recall; logical or mathematical-where children think and learn through reasoning and calculating, easily making use of numbers and recognising abstract patterns, visual or spatial where children think and learn through visual aid and can easily read maps, diagrams and charts; body or kinaesthetic where children learn and think through movement, games and drama; music or rhythmic where children learn through sound, rhyme, rhythm and repetition, in the personal where children learn through personal concentration and self-reflection and can work alone as they are aware of their own feelings, strengths and weaknesses. This was evident in one questionnaire response in which the trainee made reference to the theory of multiple intelligences, though he/she focused on a few of these. The trainee said:

For tactile learners I was making them do hands-on activities, for fast learners I gave them extension work and for auditory learners I used lecture methods, for special learner I used song and dance so that they could understand the concepts and enjoy the lesson.

This was very interesting and the researcher made reference to this response during the focus group discussions and the interviews to try and find out if all the trainees were aware of Gardner's theory of multiple intelligences and its relevance to the teaching strategies associated with inclusive classrooms in which there is differentiation. Data from the interviews and focus group discussions indicated that they had indeed studied this theory under the guidance of their lecturers while still in college. An analysis of the syllabus from the Theory of Education subject area also indicated that the theory was listed as one of the topics to be studied. Furthermore, the trainees' lecture notes revealed that they had learned the theory and how it applied to inclusive settings.

In connection with differentiated instruction, Thakur (2014, p10) says:

Differentiated instruction seeks to move away from teaching to the whole class in the same manner and addresses the needs of all learners including those who are at risk and the gifted, through various forms of well planned, well organised, flexible curriculum and instructional strategies.

Thakur (2014) goes further to explain that the rationale behind differentiated instruction is Piaget's constructivist theory, Vygotsky's Zone of Proximal Development and Gardner's theory of multiple intelligences which take into consideration children's varied learning styles and abilities. It focuses on the philosophy of teaching that is based on the idea that children learn best when their teachers accommodate the difference in readiness levels, interests and learning profiles (Tomlison, 2004).

In response to Item 12 which sought to find out whether they maintained the strategies with which they were equipped in college, all the respondents indicated that they maintained the use of the strategies that their lecturers had equipped them with during their teaching practice. However, 62.5% (25) said they did not try to use any new strategies in their teaching in the inclusive classes while 37.5% (15) said that they had experimented with some strategies of their own which they felt would help cater for learner diversity in their classes.

There were some interesting responses from those respondents who indicated that they experimented with some strategies not prescribed in college by their lecturers:

There were times when I tried to experiment by grouping learners mixing faster learners with the slower ones so that the fast ones would help their peers.

Some of the learning problems cannot be resolved by using prescribed teaching methods. Therefore, in Maths for example, I pre-tested the learners at the beginning of the year to gauge their abilities. Subsequently, grouping them enabled pupils to be taught concepts in line with their abilities. This meant that in my grade 5 class, the concept/topic of, say, time, would have some pupils

being taught following the grade 4 syllabus then they would move on much later.

The above response reflected to the researcher that there were elements of scaffolding by the more knowledgeable peers; in which case one could see Vygotsky's (1978) theory being implemented in terms of the Zone of Proximal Development. This also reflected that the trainees displayed acquisition of one of the inclusive teacher competencies discussed in Chapter 2; that of being innovative and resourceful and reflective in using teaching strategies to cater for and accommodate learner diversity in an inclusive environment. This is reflected by Watkins (2012) who says that teachers must be reflective practitioners and that teaching is a problem solving activity which requires on-going and systematic planning, evaluation, reflection and modification.

The trainees were asked to show whether their lecturers sensitised them to the use of assistive devices or technology in their teaching during their residential period in college. Table 4.11 below shows the distribution of the responses which were rated from always to never.

Table 4-12: Sensitisation to use of assistive devices

Response	Frequency	Percentage
Always	8	20.0
Almost always	16	34.0
Rarely	11	27.5
Very rarely	2	5.0
Never	3	7.5
Total	40	100.0

Data in Table 4.12 indicate that 20% (8) of the pre-service trainees said they were always sensitised to use assistive devices while teaching in inclusive classrooms, 40% (16) said they were almost always sensitised, 27.5% (11) indicated they were rarely sensitised, 5% (2) said they were very rarely sensitised and 7.5% (3) indicated they were exposed to some sensitisation on the use of assistive devices while

teaching in inclusive classrooms. However, the researcher noted that there were contradictions among the pre-service trainees from both colleges as some of them indicated that they were never sensitised on the use of assistive devices while others said they did. The contradictions were also reflected in the focus group discussions and in the interviews. Some respondents emphasised their lecturers never sensitised them on the use of assistive technology Others however, said they did but the problem was that resources were inadequate to enable each and every trainee to have hands-on experience in using them. One interesting comment was:

We have been told about assistive technology which can help in the learning and teaching of pupils with diverse needs such as making use of our laptops and projectors in power point presentations, hearing aids for pupils who are hard at hearing, enlarged print on some special type computers for those with visual impairment and maybe some braille machines or computers for the blind.

Another trainee from one of the colleges stated that they were sensitised about such assistive technology as their college had established a multi-media centre in the library in which they made use of technology such as the interactive whiteboard, video player, DSTV decoder, projectors and computers. According to Thakur (2016), multimedia technology refers to a combination of several technological forms of information which could be text, audio, visual graphics, image, audio or video. Thakur (2016) further explains that the term multi-media refers “to an electronically delivered combination of media including video, still images, audio, text in such a way interactively. This means that lecturers and their pre-service trainees can engage in the practice of a combination of media all at once as a way of having hands –on experience for use in the inclusive settings in schools.

Another trainee commented that some of the trainees who could afford smart phones, iPads and tablets made use of these in their lectures and so they could also use them for teaching effectively in inclusive classes and encourage their learners to do likewise. He went further to say that they had lectures in the Professional Studies Syllabus A component on how to use such technology for effective teaching and learning; though it was not made explicit that this could be done in inclusive

classrooms. An analysis of their lecture notes from their coursework files indeed reflected they had a few lectures on the use of such technology. In fact, one trainee said that they had been given an assignment in this subject area in which they were supposed to prepare media (using such technology) that they would use in teaching a topic of their choice in the subject area of their choice. The researcher investigated further on this issue and discovered that it was true as she was shown some of the models of the electronic media made by the trainees. One of these was a model for a digital map detector which could be used to aid learning for those learners who were hard at hearing. Further probing during the interviews reflected that there were lectures conducted by a specialist lecturer on technology but only in the Professional Studies Syllabus A component.

The researcher noted that the contradictions amongst the trainees on them having been exposed to any assistive technology during training have been caused by lack of coordination and integration amongst lecturers in the various departments and subject areas. As noted from lecturer responses, the lecturers themselves seemed to also contradict on such issues because those from other departments and subject areas may not have been aware that their colleagues were exposing trainees to assistive technology as it appeared this was done by lecturers from one subject area, i.e. Professional Studies Syllabus A. Without proper integration and coordination, lecturers from other departments and subject areas may not have been aware of what was taking place. It was clear therefore, from evidence gathered, that indeed pre-service trainees were sensitised and exposed to assistive technology, though which could go a long way in making their teaching strategies more effective. The pre-service trainees indicated that in trying to accommodate learner diversity during lesson delivery, they faced challenges in using inclusive strategies. One common challenge mentioned by all of the respondents was the element of time. The respondents lamented the primary school curriculum which they said was not flexible in terms of the time allocated for a lesson. One respondent said:

In trying to implement varied strategies to suit the needs and abilities of the learners in my class, I realised that the strategies proved to be consuming and required extra time in preparation especially of the media to aid learning and during lesson delivery itself.

Another respondent also expressed the issue of inadequate time to experiment with a variety of strategies during lesson delivery which would aid teaching and learning by saying:

I faced various challenges which include time allocated to each lesson on the timetable, the time is inadequate if we try to meet different needs of learners through the use of a variety of methods.

This showed that the curriculum was not flexible enough in terms of time to allow the trainees to employ varied strategies during lesson delivery in trying to cater for the needs learning styles and abilities of the different learners. Thakur (2014) states that when teachers consider learning styles they plan learning activities taking into account visual auditory and kinaesthetic preferences, and this needs a lot of time which is limited in schools. Data gathered from the focus group discussions and interviews also indicated that the lecturers were particular on the issue of time management. An analysis of the teaching practice supervision crit showed that this was one of aspects the lecturers assessed while a trainee is conducting a lesson. The trainees would be expected to conduct the lessons and finish them in the time allocated. Failure to do so would mean that they lose marks. As a result, they would not be able to experiment with strategies that required them to use more time than was allocated on the timetable.

All respondents also indicated teacher-pupil ratio as one of the challenges they encountered during teaching practice. They commented that this was not favourable because the number of pupils was too high for a single teacher to manage. Chireshe (2013) highlighted in his study that high teacher – pupil ratio in many Zimbabwean primary schools affected effective implementation of inclusive education. The same view was highlighted by Kurebwa, Majaha and Nyika (2014) in their study on primary school teacher perceptions on the challenges of implementing the inclusive education programme in Zimbabwe's Gweru urban district. Kurebwa et al. (2014) found out that the high teacher – pupil ratio made it difficult for teachers to handle inclusive classes. Consequently, it was very difficult for them to device teaching strategies that were inclusive of the diverse needs, abilities and learning styles the learners had. One such sentiment was reflected in the following responses:

One of the challenges I met is that the teacher-pupil ratio was not favourable. The number of pupils was high hence accommodating learner diversity during lesson delivery became a problem.

The challenge was that the number of learners in our classes was too big for the teacher to be able to cater for individual differences. Therefore, there was need to allocate more time per lesson.

The researcher inferred that the lecturers may not have advised the pre-service trainees on how to deal with such problems and still being capable of considering learner diversity. The respondents highlighted that they had not for seen this when they started teaching practice; as a result, some of those who were affected by unfavourable teacher – pupil ratio said they ended up resorting mostly to teacher-centred strategies that did not foster much learning and were not favourable for inclusive classes as they excluded some learners.

Furthermore, most of the respondents identified inadequate resources as one of the challenges they encountered during teaching practice which was also not favourable for dealing with learner diversity in inclusive classes (Chireshe, 2011, 2013). One such observation was:

Learners living with disabilities needed assistive devices such as hearing aids and Braille machine and these were not available. As a result, I had problems trying to accommodate pupils with hearing and visual impairment who needed such assistive devices to cope with the lessons.

Another interesting comment made by one pre-service trainee was:

Some strategies could not be used effectively without the use of assistive technology such as laptops and overhead projectors for power point presentations therefore I had problems experimenting with some strategies because in the school I was practising there were no such resources to help some pupils understand better the concepts I was teaching but it was difficult without resources.

The researcher probed the respondents further in trying to establish if in any way their lecturers had prepared them for such challenges and how to possibly solve them. The respondents stated that they had been prepared to a certain extent as they had trained to be resourceful and creative in situations where there were inadequate resources. However, they also expressed that they could use their personal devices like laptops, but some devices such as overhead projectors were expensive and they could not afford them. They also remarked that some devices like hearing aids were supposed to be personalised and that it would be difficult to buy or secure such for use by everyone. They added however, that other devices like Braille machines could be sourced by the schools from charity organisations such as Leonard Cheshire but they, as students, were not allowed to approach such organisations. This could only be done through the school administrators.

In responding to the question on how they tried to overcome the above-stated challenges (Item 16), the pre-service trainees gave varied responses most of which reflected that they had to adjust in the way they used strategies to try and accommodate learner diversity. One respondent said that to cater for those pupils who had visual impairment and those with hearing impairment, she would adjust her handwriting on the chalkboard because there was no overhead projector and she had to speak louder than usual to accommodate the hearing impaired pupils who had no hearing aids. Another respondent said that he grouped learners with similar needs and abilities and attended to them in groups to at least try and cater for all of them since materials to use with individual pupils were inadequate. The respondent went further to say that for those with visual and hearing impairment, she would make them sit near the chalkboard and the teacher and she commented that at least their lecturers in Professional Studies Syllabus A had prepared them for this when they advised them on seating arrangements and classroom management.

The pre-service trainees were asked whether they made use of any technology or assistive devices while on teaching practice (Item 17). To this, 67.5% (27) indicated they did while 32.5% (13) said they did not. This is represented in Table 4.13.

Those who said they used technology and assistive devices explained that it captured the interest and attention of the learners and motivated them to learn. They

added that it also enhanced pupils' participation; thereby maximising learning. One interesting response was:

Pupils were excited and eager to learn when technology and assistive devices were in place since it is now the modern trend.

The above idea is echoed by Rembe et al. (2016, pp.43–44) when they say:

The twenty-first century teacher has to be able to incorporate technology into her teaching and learning. Today's children are so-called digital natives', having been born into this technology, and hence they make extensive and easy use of technological gadgets and devices in their everyday lives.

It is therefore imperative for lecturers to train their pre-service trainees to be conversant with and skilled in using technology and assistive devices to enable them to handle learners in the inclusive classrooms in the way they use teaching strategies. This would help them capture the attention and interest of the learners and effective learning would definitely take place. Van Wyk and Steyn (2016) are of the view that when using technology, the teacher needs to develop his/her own new teaching strategy or adapt existing teaching strategies. They further express that doing so would mean that the teacher should select those elements that he/she is going to use in order to support learners to acquire the required competencies. They argued that the teaching strategy should be one that supports self-managed, interactive learning. Therefore, the researcher believes the teacher educators in the teacher training colleges should train their pre-service trainees to develop such skills so that they understand how important technology and assistive devices are in teaching and learning of the pupils in inclusive settings. They added that it also enabled for them to be able to be competent in carefully identifying relevant technology that enables them to support particular teaching activities that enhance learning. To this end, the researcher concurs with van Wyk and Steyn (2016) who identify the following advantages of using technology to develop aid teaching.

- Teachers are supported in helping learners to develop themselves as independent and liberated learners.

- The quality of teaching is enriched by the integration of technology in the teaching strategy.
- Technology can improve learners' attitudes and confidence and is especially beneficial for at risk learners because it provides instructional opportunities not otherwise available.
- Using technology enables learners to learn at their own pace, while also helping the teacher to connect with individual learner more often and effectively.
- It can be used to increase learner collaboration on projects.
- It significantly improves learner problem-solving skills.
- It increases the preparation of learners for most careers and vocations.
- It tends to shift teaching styles from traditional direct instruction to a more learner oriented approach.

The researcher also agrees with van and Steyn (2016) when they observe that the use of technology implies that the teacher should use different techniques and methods than those used in traditional teaching. They also noted that the teacher needs to be able to develop teaching strategies according to their unique situations recognising their learners, the subject being taught, the school context and the technology available. This, they argue, can be done falling back on existing teaching and learning strategies and theories (such as Vygotsky's socio-cultural theory and Gardner's theory of multiple intelligences discussed in Chapter 2). Furthermore, van Wyk and Steyn (2016) state that such technology-integrated strategies should include the choice and use of relevant teaching methods such as question-and-answer, lecture method, self-discovery and self-exploration, group work and tutorials. This means that it is imperative for the teacher educators to be able to train their students to develop such skills in order for them to be more effective in their teaching, especially of the inclusive classes which are typical of the 21st century. It also means that pre-service trainees should be equipped with skills to use technology in teaching as a way of improving teaching and learning of learners in their diversity; to the quality of teaching and develop their own unique teaching strategies to support learners to be facilitators of their learning Winter & O'Raw, 2010).

Item 18 in the questionnaire required the participants to explain how far they felt competent to teach classes characterised by learner diversity. The table below reflects the findings on this question.

Table 4-13: Competence in teaching classes characterised by learner diversity

Response	Frequency	Percentage
Yes	26	65.0
No	14	35.0
Total	40	100.0

The results indicated that 65% (26) of the participants said they felt competent teaching classes that are characterised by learner diversity while 35% (14) said they did not feel competent. Those who said they felt competent explained that they had been prepared for such classes while still in college before going for teaching practice. One interesting participant said:

During my two terms of the first residential year in college my lecturers had taught me skills on how to handle problems associated with learner diversity.

Another participant said:

I felt competent because of the various teaching strategies which we were exposed to before teaching practice at college by our lecturers

Another participant also stated that he felt competent because he was confident of doing a great job since their lecturers had adequately taught them and equipped them with the relevant strategies and ways of handling such situations. Evidence from the students' lecture notes in the Theory of Education and Professional Studies Syllabus A subject areas indicated that they had indeed been taught how to handle learner-diversity in the strategies they used and also on various teaching methodologies that can be more effective in the teaching of classes characterised by learner diversity. These included use of differentiated instruction, peer tutoring, group

work, project method, self-discovery and field trips. Therefore, it can be inferred that the lecturers, to some extent, prepared and equipped their pre-service trainees with the relevant skills they required to teach classes characterised by learner-diversity. However, it should be noted that from responses on certain questions addressed during focus group discussions and interviews, this was mainly theoretical as the participants indicated that due to inadequate time caused by the loaded curriculum, there was not much time to do hands-on practice of such skills.

Item 19 in the questionnaire required the pre-service trainees to indicate if they felt their lecturers adequately exposed them to the knowledge and skills of using teaching strategies to enable them to handle inclusive classes. Seventy five percent (30) of the trainees indicated that they felt they had been exposed to the knowledge and skills of using teaching strategies to enable them to handle classes characterised by learner diversity while 25% (10) felt they did not. Those who said they had been adequately prepared explained that they had been taught how to handle inclusive classes while still in college before going for teaching practice. One such participant said:

Lectures on how to handle inclusive classes had been done at college prior to us going on TP. After micro-teaching we deliberated on what had transpired in the classes we were teaching and this helped me to take note of the strategies and skills that I required to handle all learners.

Another trainee said:

Because the lecturers taught us how to use various methods and strategies for us to be fully equipped before teaching practice as these methods were varied such that they catered for all learners. Most of the strategies are practical and easy to implement and apply.

A third trainee explained why he felt he was adequately exposed to the knowledge and skills of using teaching strategies to enable him to handle inclusive classes by stating that:

Our lecturers exposed us to various teaching methods such as role playing, dramatization, discovery, experimentation, field trips and these helped me cater for children that were gifted and talented, the slow learners, physically challenged, those from diverse cultures and religious backgrounds. I can now accommodate pupils with different need and abilities in my class.

The above comments reflected to the researcher that the lecturers exposed their trainees to the strategies and skills they required for them to be able to teach inclusive classes and accommodate learner diversity in terms of the teaching strategies that they employ. The researcher observed that there were contradictions with the responses given by some lecturers and a few of the trainees while answering some questions in the questionnaires and in focus group discussions and interviews. They had in fact, indicated that the trainees had not been adequately prepared as the lectures were mostly theoretical and lacked the practical element due to a number of challenges which include inadequate time, loaded timetable and inadequate resources. One such contradictory response from the pre-service trainees' questionnaire read:

The concept of inclusive education was well taught and time and material resources were adequate to afford the trainees enough practice in handling children in their diversity.

This contradiction worried the researcher but after further probing during the focus group discussions and the interviews, the researcher noted that this was due to the commitment some trainees had to the concept of inclusive education such that they made maximum use of the few resources they had at their disposal. Other trainees even said they worked after lectures with some lecturers who were willing to assist to improve their skills in using some strategies such as experimentation, group work, discovery, project method and also in using their laptops and tablets to aid teaching and learning. They indicated that they also researched more on inclusive strategies and use of certain assistive devices such as hearing aids, preparation of inclusive media and then application of certain theories such as Piaget and Vygotsky's constructivist theories. The researcher felt this was evidence that such trainees and lecturers had a more positive attitude towards the subject of inclusive education than

their colleagues who did not do much extra work to address the inadequacies indicated above. A positive attitude, in the researcher's view, helped them focus more on the inclusive strategies to aid the teaching and learning of pupils in their diversity.

The researcher also asked pre-service trainees in the questionnaire what facilities were available in their colleges to help them in utilising teaching strategies that accommodated learner diversity in inclusive classes (Item 20). To this question, 70% (28) of the participants indicated that there were computers and overhead projectors. Others among the 70%, added that there were slides and the internet. One of the trainees from one of the colleges indicated that there was an e-library equipped with material and books on how to accommodate learner diversity. Some of these trainees talked about the multi-media centre housed in the library of one of the colleges. The multi-media centre was mentioned by some lecturers who indicated that the centre enabled lecturers to help their trainees acquire skills in using the interactive white board which can be used in the classroom "to display hypermedia images on a specialised board by means of a digital projector" (Van Wyk & Steyn, 2016, p.290); computers connected to the internet, a DSTV decoder and CD's plus an overhead projector. The lecturers indicated that these items, especially the interactive white board promoted interactive learning and thus would help the pre-service trainees in using those strategies that promoted interactive learning among their learners. This is reflected in van Wyk and Steyn's (2016, p.291) view:

An interactive whiteboard supports interactive learning engagement amongst learners. The use of the whiteboard can also enrich the different learning activities of learners.

The interactive whiteboard as a technology solution that eases the challenge of teaching in today's classrooms which "are filled with a diverse range of students" SMART Technologies (2009). Furthermore, among these students are those who are "primary visual learners," others are "gifted and talented" while others "struggle with physical, mental, behavioural or emotional challenges" SMART Technologies (2009, p. 3).

The researcher inferred from the pre-service trainees' responses that mentioned mostly computers as the only facility available, that they also have attitude problems

towards the use of other electronic gadgets to aid their strategies while delivering lessons in inclusive classrooms. A few of the trainees also displayed lack of understanding on the facilities that aided teaching or instruction in the classroom as they included such facilities as “user friendly toilets”, “rumps” and “pavements for those who use wheelchairs”.

Data from the questionnaire indicated that 30% (12) of the trainees said that there were no facilities whatsoever available in their colleges to help them in utilising teaching strategies that accommodated learner diversity. The researcher viewed this as a sign of carefree attitude towards anything to do with inclusive education. This kind of contradiction also indicated to the researcher that some of these trainees may have failed to understand that the facilities available in their colleges, though inadequate, as the lecturers indicated, were meant to help them develop skills and strategies for coping with the diversity of learners in their classrooms and to aid teaching and learning of all children.

When asked about teacher competencies in the teaching of classes characterised by learner diversity (Item 21), the pre-service trainees gave varied responses. The researcher picked common responses in some of the questionnaires which have been summarised as:

- *Having the ability to accommodate learners with diverse needs, backgrounds abilities and learning styles;*
- *Having the ability to create a classroom environment whereby learners tolerate each other despite differences; and*
- *Being accommodative and empathetic.*

However, one particular trainee’s response to this question caught the researcher’s attention and was quite interesting. The trainee listed the following as teacher competencies for teaching in classes characterised by learner diversity:

- *Being knowledgeable on inclusive education and inclusion;*
- *Being creative;*
- *Being empathetic;*
- *Being accommodative;*
- *Being patient;*

- *Being resourceful; and*
- *Having an inquisitive mind.*

Kusuma and Ramadevi (2013) highlight the following inclusive teacher competencies which interlink with those suggested above by the pre-service trainees:

- Ability to solve problems, to be able to informally assess the skills a student needs rather than relying solely on standardised curriculum;
- Ability to take advantage of children's individual interests and their internal motivation for developing needed skills;
- Ability to set high but alternative expectations that are suitable for the students; this means developing alternative assessments;
- Ability to make appropriate expectations for each student, regardless of the student's capabilities;
- Ability to determine how to modify assignments for students; how to design classroom activities with so many levels that all students have a part;
- Ability to learn how to value all kinds of skills that students bring to class, not just the academic skills;
- A realisation that every child in the class is their responsibility; and
- Knowing a variety of instructional strategies and how to use them effectively. This includes the ability to adapt materials and rewrite objectives for a child's needs.

The response cited above indicated to the researcher that the trainee had developed a very positive attitude towards teaching in inclusive classrooms and augured with some response from the lecturers. Being knowledgeable on inclusive education and inclusion means that the teacher understands how to handle classes with learners from diverse backgrounds and with diverse needs, interests, abilities and learning styles. Being creative would mean that the teacher will be able to devise teaching strategies that would enable meaningful learning to take place for all learners without discriminating anyone. The researcher inferred that being empathetic meant that the teacher should be capable of understanding each and every pupil's situation so that he/she can be in a position to use those strategies that accommodate all learners while delivering lessons and so augurs with being accommodative. Being accommodative entails exercising patience and this also involves being empathetic.

The trainee said the teacher should be resourceful and this means one should have an inquiring mind and also be able to research and put together material to meet the needs and interests of all learners. Donnelly (2010) reflects these teacher competencies by identifying the following as basic skills and competencies with which teacher education should equip teacher trainees for inclusive classroom:

- Classroom research skills and the ability to engage with academic research;
- Monitoring the effectiveness of their classroom interventions;
- Develop empathy and treat all students as individuals; and
- Promote the success of all students and the strategies to deal appropriately with prejudice at school.

Donnelly (2010) further adds that the teachers should be capable of reflecting critically on their practice and work collaboratively with their peers and other stakeholders. This was lacking even in the responses given by the lecturers which indicated to the researcher that in preparing their pre-service trainees for teaching in the inclusive classrooms the lecturers did not do much to equip them with collaborative skills so as to enable them to use collaborative teaching as one of the inclusive teaching strategies. They also appeared not to have prepared their trainees to be reflective so that they would assess their own teaching in terms of teaching strategies and then revisit some of the strategies after researching on using a combination of some strategies to aid learning.

The last aspect (Item 2) on the pre-service trainees' questionnaire required them to make overall comments based on the exposure they had received while in college in terms of teaching strategies for addressing and accommodating learner-diversity in inclusive classes. The participants provided interesting responses though some contradicted with their peers in their views. There were basically two different views. There were those who commented that they were well prepared by their lecturers for them to be able to use different strategies in teaching their pupils. Below are some of the responses from those who felt that they were well prepared with effective strategies to enable them to handle inclusive classes:

The exposure of different strategies helped a lot in addressing learners' diversity because it helped me to cater for every individual learner.

Micro-teaching helped me so much by introducing me to real learning environments where I met pupils in their diversity. It prepared me to use different teaching strategies to take care of the diverse learners.

On the other hand were those trainees, who felt that though there was inadequate preparation, it was not adequate due to different reasons.

Some of the responses in this category are listed below:

I can say the exposure I got from my college helped me a lot though it was mainly theoretical. Not much of the practical aspect was covered before I went on teaching practice.

The college curriculum covered most if not all concerns of inclusive education. It is my wish, however, that course like sign language and Braille reading and typing be included in the curriculum so as to enable trainee teachers to handle classes with such children as those with visual impairment and the deaf and dumb.

Exposure from college was limited and I feel the college need to invest in facilities and materials that help to address learner diversity during lesson delivery. Inclusive education must be taken as a subject on its own and not as topics in Theory of Education and PSA.

Such sentiments echo what some lecturers said. They remarked that although they were familiar with inclusive education, they did not get the practice that involved practical teaching using the various inclusive strategies exposed to them during lectures because of the overloaded curriculum. The contradiction among trainees could be a reflection of the different perspectives they had as trainees and most probably the lack of coordinated activities on inclusive education among the various

departments and subject areas in their curriculum. Evidence gathered during focus group discussions and interviews indicated that the degree of confidence on the use of various strategies in accommodating learner diversity depended much on the exposure the trainees got from their lecturers in college and the coordination or lack of it among lecturers from different departments. It also reflected that the effective use of teaching strategies for inclusion depended on the pre-service trainee's attitude towards inclusive education.

4.4 Part 3: Findings from former students of the 2 colleges (n=40)

4.4.1 Biographic information

Just as in the lecturers' and pre-service teacher trainees' questionnaire, the former students' questionnaire had questions on biographic data in which they were asked to indicate their gender, age and teaching experience. The researcher did this as a way of ensuring that different views across gender, age and experience were captured.

Table 4.14 below reflects the data on gender

Table 4-14: Participants by gender (n=40)

Gender	Frequency	Percentage
Male	14	35.0
Female	26	65.0
Total	40	100.0

Data from Table 4.14 reflects that 35% (14) of the participants were male while 65% (26) were female. Table 4.12 below indicates data gathered on the participants' in terms of age.

Table 4-15: Participants by age (n=40)

Age range in years	Frequency	Percentage
21-25	10	25.0
26-30	11	27.5
31-35	4	10.0
36-40	6	15.0
Above 40	9	22.5
Total	40	100.0

Table 4.15 indicates that 25% (10) of the participants were in the age 21 – 25, 27.5% (11) were in the age range 26 – 30, 10% (4) were in the age range 31 – 35, 15% (6) were in the age range 36 – 40 and those above 40 comprised 22.5% (9).

Item 3 of the questionnaire asked the participants to indicate their teaching experience after graduating from college and the results are presented in Table 4.16.

Table 4-16: participants by teaching experience (n=40)

Experience in years	Frequency	Percentage
1 year	15	37.5
2 years	11	27.5
3 years	4	10.0
4 years	9	22.5
Above 4 years	1	2.5
Total	40	100.0

Data in the table above shows that in terms of teaching experience 65% (26) of the participants had below three years' teaching experience. There was only 1 (2.5%) participant whose teaching experience was above four years, 10% (4) of the participants had three years' experience while 22.5% (9) had four years' teaching experience.

The researcher inferred that this could mean that these teachers were fresh from college and could still be enthusiastic to employ the various teaching strategies that they were exposed to and equipped with while in college. They may also be committed to experimenting with some other strategies in order to accommodate learner diversity in their inclusive classrooms.

4.4.2 Knowledge on inclusive education

In Item 4 of the questionnaire, the teachers were asked to explain their understanding of inclusive education. To this question, 95% (38) of the teachers gave responses that indicated to the researcher that they were aware of what inclusive education meant and that they understood what it entails. The responses were quite detailed and gave the researcher the feeling that these teachers were really involved in teaching inclusive classes. The following are some of the responses given:

Inclusive education is the inclusion of all children in one class in a regular school regardless of gender, culture, religion, race, physical ability or social background.

Involving every child in all teaching and learning activities in a regular school despite their gender, culture, physical disposition, social or economic background, intellectual ability, etc.

A situation whereby all children are enrolled in the normal school nearest to their home and of their choice in a less restrictive environment despite their ability, physical disposition, gender, social and economic background, religion and culture.

These views are in line with what Quane (2008) says in relation to inclusion when he states that the thinking on inclusion has moved beyond the narrow idea of inclusion as a means of understanding and overcoming a deficit and that it is now widely accepted that inclusion has to do with issues of gender, ethnicity, class, social conditions, health and human rights. All these take into cognisance universal involvement, access, participation and achievement. Grimes (2014, p 45) gives a similar definition by saying:

Inclusive education is a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities and reducing exclusion within and from education.

Therefore, the teachers were able to explain what inclusive education entails and to the researcher this understanding of inclusive education could be attributed to the fact that some topics on inclusive education had been done while they were still in college. A study of the syllabus documents from the two colleges in which they trained revealed, as stated earlier, that the curriculum for initial teacher education has topics on inclusive education. The researcher inferred that this understanding of inclusive education could also mean that these teachers were capable of using various teaching strategies to enable them to cater for and accommodate all learners despite their diversity. This could mean that the lecturers did a satisfactory job in equipping these teachers during their training, to be able to handle learner diversity in their teaching. Data from the focus group discussions and interviews also showed that the teachers had an understanding of inclusive education as the participants went to lengths in trying to explain how inclusive education caters for all learners in their diversity. In responding to the question on their background on inclusive education (Item 5), 60% (24) of the teachers indicated that they had background on it while 40% (16) said they did not.

The 60% who indicated they had background on inclusive education gave similar explanations some of which are listed below:

Yes, we were taught at our college that the 21st century classroom we were going to be teaching in had children who had diverse backgrounds, needs, abilities and disabilities and that we as teachers, were supposed to accommodate all of them in the same class. We are not supposed to discriminate any of these children, we must treat them equally when we are teaching them.

We did some topics on inclusive education in Theory of Education and Professional Studies Syllabus A. We also attended a workshop which was organised by one Non-governmental Organisation, VVOB, while we were in our final year at college.

The workshop was good because we engaged in practical discussions and activities on teaching learners who had diverse needs, interests and abilities.

I got it from college during training whereby we attended a workshop and did lectures in Theory of Education in educational Psychology on disabilities such as hearing impairment, visual impairment, autism and learner diversity and to some extent in PSA when we were taught about teaching strategies that can be used for classes that have different children due to their backgrounds, needs and ability.

These views were supported by what the teachers said during focus group discussions and interviews. They commented that they had been sensitised to the need to avoid discriminating any child in their classes because of the nature of the 21st century classroom which accommodated learners from all walks of life. They also hinted at the fact that since they had also studied children's rights in the Sociology of Education, they were aware of the fact that no child should be excluded in the learning activities in the school. Therefore, they stated that having this in mind helped them understand that they should make it a point that every child benefits from their teaching by having access to the resources and participating in the class activities and getting involved in their learning. This shows that initial teacher education had laid a foundation for their professional development as stated by Watkins (2012, p. 17) who says, "initial teacher education is the first step in teachers' professional lifelong learning."

4.4.3 Teaching strategies teachers were equipped with in college

The teachers were asked to indicate in the questionnaires the teaching strategies that their lecturers had equipped them with while they were still training (Item 7). To this, the researcher noted varied responses were given and most of them were limited to just the same strategies. The strategies that were mentioned included the following: lecturing, demonstration, discussion, dramatisation, group work, experimentation, story-telling, devil's advocate, discovery, research, pair work, question and answer, educational tours and project method. The researcher noted that these were the same with those stated by the lecturers and the pre-service

trainees. Data gathered from teaching documents used by the teachers such as the schemes of work and lesson plans indicated to the researcher that indeed they made use of such methodologies (See Appendix O). The researcher also noted from the focus group discussions and interviews that these were the teaching strategies to which the teachers were exposed when they were still training in college. The researcher asked the teachers to explain how they used these strategies to meet the diverse needs and abilities of the learners. There were interesting responses to this questionnaire Item 8. The responses indicated to the researcher that the teachers were keen on experimenting with the strategies to accommodate all children. Here are some of the responses extracted from the questionnaires.

In an attempt to utilise all these methodologies time seems the limiting factor and usually to cater for children's diverse needs and abilities, demonstration, ability grouping, dramatization and discussion is what I employ the most.

When introducing lessons I use question and answer or story-telling, of course depending on the subject and the concept. I use demonstration and experimentation mainly when teaching Maths and Science lessons, with a bit of project method in science, then here and there, I use the lecture method.

I try to use strategies that are learner-centred most of the time like project method, experimentation, dramatization and group work so that children get involved as much as possible in their learning.

Such responses indicated that these teachers had been exposed to the need to vary strategies as a way of accommodating learner diversity and that means they were sensitive (in the way they employed the various strategies) to the different learning styles and abilities. The different learning styles and abilities may be equated to what Grimes (2014) refers to as pathways of learning. These pathways of learning are linked to Gardner's multiple intelligences theory. The verbal or linguistic category of intelligence means that children learn through written and spoken words, memory and re-call, logical or mathematical means they learn through reasoning and calculating, i.e. they can easily use numbers, recognise abstract patterns and take precise measurement; visual or spatial means the children can learn through visual

aids and can easily read maps, diagrams and charts; body or kinaesthetic means they can learn through movement, games and drama; music or rhythmic means they can learn through sounds, rhyme, rhythm and repetition, interpersonal means they learn in groups through cooperative work; and intrapersonal means they learn through personal concentration and self-reflection, i.e. individual work (Grimes, 2014). Nevertheless, it was noted that some of the teachers were limited in the ways they tried to accommodate learner diversity in using teaching strategies, by the aspect of time as one teacher observed:

I have not done much because I could not cope with the diversity in the time allocated for a lesson which is 30 minutes for a single lesson and 1 hour for a double lesson.

This reflected the same sentiments lecturers and pre-service trainees expressed when they lamented the limited time in which the teacher was expected to use varied methods to meet learner-diversity during lesson delivery. During the focus group discussions, one teacher said:

Surely, in 30 minutes one cannot cater for all the learners in the class considering that they may need to be exposed to differences.

Another teacher added:

Mmm another issue that complicates this is the teacher-pupil ratio. There are too many children in one class, for example in my class there are 52 pupils against one teacher.

The researcher noted from this that, although the teachers were aware that they had to vary different strategies to cater for every individual child in their classes, they experienced challenges like time and teacher-pupil ratio which limited them in the way they used strategies to meet learner-diversity. This is consistent with what VVOB Zimbabwe in Sithole and Mafa (2017) observe when they say that the large classes in Zimbabwean classrooms teachers would need to use differentiated teaching methods that would respond to different learning styles and multiple intelligences of learners.

A very interesting response that caught the researcher's attention read:

I had tried to use these strategies by focusing on learner needs, interests and abilities as we were taught in college and in the various workshops we have attended. However, any job was not been made easy at all as certain strategies require you to have a lot of resources like laptops, overhead projectors, to mention but a few. Such resources are hard to come by in our schools and sometimes if you cannot afford to bring your own you are forced to abandon using strategies that require these.

The issues of inadequate resources was also highlighted in the studies carried out by Mafa and Makuba (2013), Mafa and Chaminuka (2012), Samkange (2012 and Chireshe (2013).

This indicated to the researcher that, although the teacher appeared to have been exposed to the use of strategies that would be effective in teaching inclusive classes, this has come to waste due to the challenges they encountered, most of which they cannot control.

In Item 9, teachers were asked in the questionnaire to indicate the strategies they normally used in order to improve the abilities of their learners. To this, the majority indicated the following: role play, dramatisation, experimentation, demonstration and storytelling. One teacher simply said:

I normally use the participatory methods which are child-centred and include, dramatization, group work and role play.

Data gathered during the interviews and focus group discussions indicated that indeed such were the strategies they were equipped with during training which they believed improved learner understanding due to their participatory nature. The teachers argued during focus group discussions that such participatory methods appealed to almost all kinds of learners and captured their interest. This they added, ensured maximum participation and in learning.

The questionnaire had a question (Item 10) that required the teachers to explain how they accommodated learners who experienced barriers to learning in their classes. There were interesting responses to this question, some of which are listed below:

I used varied teaching methods to make the lessons lively and interesting as a way of keeping them focused.

I assign tasks and pair them with the fast learners so that they will help each other kind of mixed ability grouping.

I give them remedial work and use a lot of media to help them understand the concepts. For those who are hard at hearing I make them sit near me and those with visual impairment I make them seat near the chalkboard and the display board. I also try to get some devices from the school admin like the recorder and record for the visually impaired.

The above comments indicated to the researcher that these teachers were made aware, during their training, that they should use strategies that enable them to include all learners during lesson delivery by making sure that they are sensitive to their needs and abilities. This can be done by employing strategies that break down the tradition of “chalk-and-talk” strategies (Rieser, 2013). It would appear that, although the lecturers themselves felt they did not do that much in this area due to some challenges, the teachers themselves took heed of the sensitisation that they received and were keen on implementing it to make sure no child was excluded in the way they used the various teaching strategies. Thus, according to Mafa and Chaminuka (2012), pre-service teacher trainees need professional competencies that would enable them to recognise and develop every child’s potential.

However, in responding to Item 11 on whether they felt they were adequately equipped during their training in college to be able to handle inclusive classes in terms of teaching strategies, 50% (20) said they were, 50% (20) said they were not.

One teacher explained that they were made to understand how teaching strategies helped learners with diverse backgrounds, needs, interests and abilities understand concepts and maximise learning. Another teacher added that during training, their lecturers emphasised the use of child-centred strategies that enabled them to cater

for each and every child. Reece and Walker in Mafa and Chaminuka (2012) advocate this idea when they say the choice of teaching strategies is influenced by the learners individual and unique abilities, motivation differences, their learning styles that are also unique and different and the objectives of the lesson that the teacher needs to achieve. Those who indicated that they had not been adequately equipped, highlighted the various challenges they encountered while training as teachers. They said that the loaded timetable and curriculum did not leave their lecturers with room to take them through much practice of the strategies before and after their teaching practice. This was also observed in the lecturers' responses when they raised concerns regarding the loaded timetable. Mafa and Makuba (2013, p.31) in their research in which they investigated mainstreaming inclusion in teacher education in Zimbabwe, also highlighted this issue as one of the challenges experienced by lecturers in the teaching of inclusive skills to teacher trainees when they said:

Lecturers were in agreement that the teacher education timetable that was being used in the college was too loaded, such that with the limited time available, it was difficult to effectively equip teacher trainees with inclusive skills.

In addition to the challenges of the loaded timetable, the teachers also lamented the nature of the teacher education curriculum which was meant for them to pass a final examination. They commented that this made their lecturers teach to cover the syllabus in time for written examinations, hence, limiting the time for doing the hands-on practice of the inclusive skills they required for the actual teaching in schools. Mafa and Makuba (2013, p.31) also raised the same concerns:

In order to cover the syllabi in time for examinations, most of the lecturers ended up resorting to the use of notes in the form of handouts.

This indicated to the researcher that the lecturers did not have adequate time to enable trainees to practise the skills; hence, they highlighted the inadequacy of their preparation to handle inclusive classes with the confidence they required. After putting together responses from lecturers, pre-service trainees and the qualified teachers, the researcher concluded that the preparation of pre-service teacher

trainees was mostly theoretical and lacked the practical element which was very essential in enabling the trainees, during and after college training, to be able to adequately address learner diversity in inclusive classes through the use of teaching strategies.

The questionnaire had a question (Item 12) which required the teachers to indicate whether they had been using any other strategies besides those they had been exposed to and equipped with in college to meet the diverse needs and abilities of their learners. Fifty percent (20) of the teachers indicated that they had while the other 50% (20) said they had not. In trying to explain why they used other strategies some of the teachers stated that they had felt they needed to experiment with other strategies to help the learners.

One interesting response was:

I have tried to use cooperative learning and collaboration in line with some theories we did in college and knowledge I received in studying further with UNESCO so that those learners who perform above average will be able to help their peers who may be facing challenges.

Such a view seemed to be dove-tailing with Vygotsky's (1978) theory discussed in Chapter 2 in the issue of the more knowledgeable peers being given the chance to scaffold for their weaker peers through the Zone of Proximal Development. Another teacher added the element of involving parents which could also be linked to Vygotsky's theory in terms of having the parents also scaffolding for their children. The issue of collaboration mentioned in the response above can also be taken as an aspect of Vygotsky's (1978) theory. The present researcher can therefore conclude that even though their training was limited in the practice of inclusive skills, the teachers had made use of the various theories (especially learning theories). They had been taught in college to come up with some effective strategies that would help them in their teaching of inclusive classes.

4.4.4 Exposure to assistive devices

On the question that required them to show if they were exposed to any forms of assistive devices that could help learners improve their ability (Item 13) the majority

of the teachers (80% – 32) indicated that they had not been exposed to this, 20% (8) indicated they had. Those who said they had mentioned that they had, been trained in the use of ICT related tools to help learners grasp concepts better. One teacher commented that they were trained in the use of projectors and laptops as they used power point presentations during lesson delivery. The researcher was puzzled by those who said they had not been exposed to the use of assistive devices because after discussing with the lecturers in the college, it was clear that such gadgets as overhead projectors and computers had been installed although they were inadequate, some trainees may have lost interest and stopped bothering themselves with them.

The majority of the teachers (80% – 32) indicated that they did not use any assistive technology to aid teaching and learning, 20% (8) said they did. Those who indicated they used assistive technology explained that they had to improvise and be more resourceful to acquire such technology from their training in college as they did not engage in much practice on this while in college due to the congested time table. It should be noted that assistive devices are needed for those learners who have learning disabilities. Ahmad (2015, p.70) says:

For students having specific learning disabilities, educational software can help in skill building, by offering multi-sensory experiences, positive reinforcement, individualised instruction and repetition.

The researcher noted that the teachers were worried that they could not devise more effective teaching strategies without the use of assistive devices. Sadly, they had no experience in the use of some of them as they had not had hands-on practice with such devices while they were training in college. However, the researcher sensed some contradictions with what some lecturers and pre-service trainees. They had stated that they had studied topics in the use of ICT and had even had practical assignments on the use of ICT to aid teaching and learning. They had experiences with computer programmes such as PowerPoint and with some projectors available in their colleges they could surely make use of such devices during lesson delivery to assist some learners with learning disabilities.

It was noted earlier that one lecturer who was responsible for training pre-service trainees in the use of ICT to prepare electronic media, had indicated that the trainees were exposed to the use of their smart phones, tablets, iPads as assistive devices while teaching in inclusive classrooms. Ahmad (2015) suggests that students who have problems in processing written information can be trained to use computers like the standard word processor, especially for those who cannot write coherently. The researcher understood this as she had been informed in one of the colleges that they had a trainee who had to be allowed to write all her work using the computer as she could not write due to the problem of dysgraphia, an inability to write legibly. Unfortunately, she had to bring her own laptop to college as those in college were not adequate. This means that if colleges do have such a provisions, then lecturers have the responsibility to train their pre-service trainees to be able to do the same with the learners when they engage in the actual teaching in schools after training and during teaching practice. Ahmad (2015) further suggests the use of adaptive devices like large print displays, alternative colours on the computer screen and voice output to help learners who have reading problems. This was noted by one of the lecturers from the Professional Studies Syllabus A in one of the colleges who commented that in training their pre-service trainees on the issue of media that aids teaching strategies to be effective, they insisted on the aspect of size, colour and print.

The teachers were asked in the questionnaire (Item 14) if they made use of any assistive devices to facilitate pupils' learning. 40% (16) of the teachers indicated they did, 60.0% (24) said they did not. Those who indicated that they did, explained that they made use of books with large print for the learners who had visual impairment. They also indicated that they sourced hearing aids for those learners with hearing impairment through their school administrators as most of the learners came from poor families who could not afford to buy these for their children.

One teacher indicated:

I use TV and DVD's during lesson delivery to capture the attention of the pupils, especially those who have problems with concentration.

The researcher probed this issue further during focus group discussions and interviews by asking the teachers if they did not consider using radio lessons, cell phones, voice recorders and laptops as assistive devices to enhance the effectiveness of their strategies. Most participants indicated that it had not crossed their minds that such devices were also handy when in enhancing effectiveness of teaching learning when delivering lessons in inclusive classrooms. A few indicated that although it had escaped their minds, they remembered that this had been made reference to during some of their Educational Media and Technology (EMT) lecturers in the Professional Studies Syllabus A subject. They also lamented that this was done theoretically and that they had not had adequate time to put it into practice, therefore, the effectiveness of such skills was not enhanced. The researcher noted that if the lecturers themselves did not make use of assistive devices to cater for the pre-service trainees, then it would be difficult for the trainees to do so. It should be noted that as part of the teaching strategies, assistive devices aid in the use of multi-sensory approaches during lesson delivery to accommodate learner diversity. Mafa and Makuba (2013, p.30) in their research on mainstreaming inclusion in teacher education in Zimbabwe found out that:

The curriculum on teaching methods should include pupils' styles of learning since they influence the teacher's choice of what teaching methods to use; multi-sensory approach so that teachers can make use of available pupils' senses in their teaching....

The teachers were asked in Item 15 if during their training they were exposed to differentiation as a way of accommodating diversity of learning needs, styles and abilities. Ninety five percent (38) of the teachers indicated they were not while 5% (2) said they were although they commented that it was not prioritised. After probing further during focus group discussions and interviews, the researcher noted that most of the teachers were actually not aware of what differentiation entails. Those who understood differentiation said they had come across information on it but even if they wanted to experiment with it to cater for learner diversity they could not due to challenges such as inadequate time as a result of the loaded curriculum. The above sentiments reflected to the researcher that the teachers had not much exposure to differentiated instruction as a strategy for handling and managing inclusive classes

during their training. The researcher found this confusing, however, because one lecturer from the Professional Studies Syllabus A component in one of the colleges had indicated that she in fact sensitised the pre-service trainees to differentiation as an instructional strategy that would provide them with skills in accommodating learner-diversity during lesson delivery. This was suggested by such authorities as Tomlison (2004) who advised that when teaching a class whose population is diverse, differentiated instruction should be used to benefit all learners.

Hernandez (2013) is of the view that differentiation skills need to be taught in college during teacher training to equip the pre-service trainees so that they are capable of using them when they encounter classes characterised by learner-diversity after they complete their training and even in teaching practice. It was clear to the researcher therefore from evidence gathered from the questionnaire, focus group discussions, interviews and analysis of the teachers' scheme-cum-plans, that the teachers did not possess such differentiation skills as very little of it had been done. It was mainly theoretical and not much of hands-on practice had been done.

In responding to Item 16 on whether they considered learning assessment to be an integral part of teaching strategies, 40.0% (16) said they did, 60% (24) indicated they did. This is reflected in Table 4.17.

Table 4-17: Learning assessment as an integral part of teaching strategies

Response	Frequency	Percentage
Strongly agree	14	35.0
Agree	19	47.5
Neutral	2	5.0
Disagree	3	7.5
Strongly disagree	2	5.0
Total	40	100.0

The results indicate that 82.5% (33) of the teachers considered learning to be an integral part of teaching, 5% (2) were undecided over the issue and 12.5% (5) did not consider learning assessment to be an integral part of teaching.

Some teachers who said they were equipped with the skills indicated that they were only exposed to testing as a way of assessing learners and this, they remarked that it was not fair as it did not give them room to use other assessment methods. They indicated that testing was done as the major assessment strategy because of the nature of the primary school curriculum. Therefore, they had no option but to do continuous assessment and final assessment which was based on testing the learners through written tests and exercises as a way of preparing them for examinations. The researcher inferred that this could mean that some learners who had problems of reading and writing could therefore be excluded. There is need for teacher educators to equip trainees with other assessment skills which differentiate the learners according to their abilities, needs and learning styles. Other methods of assessment that could be used include observation in which learners can be assessed through activities such as dramatisation, experimentation, projects, self-assessment and use of portfolios and interview style. Sithole and Mafa (2017) suggest that teacher education should equip pre-service trainees with various testing methods and assessment techniques such as practical, oral, portfolios or written examinations to accommodate learners' multiple intelligences and styles of learning. Such assessment methods are a form of differentiating learners in line with Gardner's multiple intelligences theory discussed in Chapter 2. Price, Pierson and Light (2011) suggest the following as learning assessment strategies that can be used in inclusive classes:

Portfolio assessment which they refer to as a collection of student work gathered over time that is primarily used as a summative evaluation method (Price, et al. (2011, p. 5).

Rubric: These are defined by Rezaei and Lovern in Price, Carroll, Donovan and Rust (2011, p. 3) "as a set of criteria that articulates expectations and describes degree of quality along a continuum." According to Lee and Lee (2009), rubrics are inclusive assessment tools that can be used as class-wide assessment tools to help learners at all levels make meaningful progress towards curricular goals.

Performance-based assessments/project-based assessment. Price et al. state that these are generally used as a summative evaluation strategy to find out what learners know about a topic and also if they can apply the knowledge in a real-world situation.

Peer-assessment: It gives learners a key role in evaluating learning and can be used in situations where teacher – pupil ratio is high.

The teachers were asked to indicate the facilities that were available in their colleges during their training to help them in utilising teaching strategies that accommodated learner-diversity. The teachers indicated the following: overhead projectors, computers as the only facilities available. This contradicted with what some lecturers from one of the colleges said. They revealed that there was a newly established multi-media centre which housed an interactive whiteboard, computers, a television set, DVD and DSTV decoder. All these were facilities student teachers had at their disposal and lecturers were supposed to sensitise pre-service trainees on the use of such facilities to accommodate learner diversity in the inclusive classes. The researcher noted that many of the facilities were established after most of the teachers who participated in this research had left college after completing their training and that they were only available for those who are currently training with the college. The researcher also noted that if the lecturers had adequate time, they would have done a lot of hands-on practice on the use of such facilities as the computer programmes that teachers can use in delivering lessons to aid learning for those pupils who face learning difficulties.

4.4.5 Teacher competencies

In responding to the question on what they considered to be teacher competencies in teaching in the inclusive classrooms which they required and had acquired during training (Item 18), the teachers highlighted the following: being patient, accommodative, considerate, knowledgeable on learner diversity, flexible reflective, creative, good communicators. Mafa and Makuba (2013) identified the following:

- Be equipped with theory of education and practical teaching skills.
- Be trained on how to collaborate with other specialists.

- Be attached to experienced teachers during their early years of teaching.
- Be aware of learners' individual needs and diversities.
- Be conversant with appropriate assessment methods.
- Be well-grounded in their special subject areas.

Some of the competencies identified by the teachers can be embedded in the ones identified by Mafa and Makuba (2013) and Sithole and Mafa (2017). The researcher inferred that the teachers had been trained in this area but it was mainly theoretical as stated by the pre-service trainees and the lecturers. The practical element appeared to be lacking as both trainees and lecturers lamented challenges such as the loaded timetable, the nature of the curriculum and inadequate resources for them to be able to practise what they would have done theoretically. One teacher commented in their questionnaires:

The exposure we received from our lecturers during training was mainly theoretical because our timetable was too loaded such that we only practised for 4 weeks - 2 weeks peer teaching and 2 weeks micro-teaching before we were sent out for teaching practice. However, some of the skills we acquired when we were doing teaching practice as we were faced with real life situations.

After further probing during interviews, the teacher commented that when they were faced with real life situations during teaching practice, they had to be resourceful and innovative in dealing with learner-diversity and they ended up improvising. This indicated to the researcher that they were falling back on the skills they were taught during training though these were mainly theoretically, for example, being creative and accommodative. This was reflected in one response noted by the researcher in which the teacher said he fell back on the training received in college as he noted:

I did fall back on the training, truthfully, though it seemed more theoretical than practical.

One other teacher also said she fell back on the training by revising her notes and that has helped her to some extent to deal with certain situations.

In Item 21, the researcher asked the teachers to state any challenges they encountered in terms of teaching strategies in teaching classes characterised by learner diversity and all the responses almost pointed to the same issues. The following are challenges identified:

- There is inadequate time to experiment with strategies such as differentiation, teacher-pupil ratio which hampered any efforts to engage in meaningful activities that catered for learner diversity.
- There are inadequate resources such as Braille machines, enlarged print, hearing aids, talking computers etc. which would, if available, aid the teaching strategies in achieving maximum participation for all and some methods during lesson delivery not suited for certain categories of learners who have learning disabilities.

The teachers suggested the following as ways they employed to try and mitigate the challenges, some of which they had been exposed to during training:

- Remediation and extension work;
- Improvising media;
- Ability grouping;
- Classroom management especially seating arrangement;
- Sourcing of assistive devices from some organisations; and
- Involving learners to assist their peers (peer-tutoring).

The teachers, as with the pre-service trainees, stated that the exposure that they received in college on inclusive teaching strategies was mainly theoretical. They also said that there was need for teacher education to expose trainees to reflective practice, assistive devices, skills to identify learners with learning disabilities, exposure to strategies such as collaboration, peer tutoring and co-teaching. The researcher therefore agrees with the following suggestions identified by Mafa and Makuba (2013) in their research:

- De-congest the teacher education curriculum to make way for more inclusive education topics to be done theoretically and practically. This would create time for lecturers to concentrate more on mainstreaming inclusion.

- Have a clear inclusive education policy for the teacher training colleges to guide teacher development.
- Ensure mainstream inclusion to produce teachers who can teach inclusive classes effectively and competently and get rid of the current situation in which pre-service trainees are sensitised on inclusion through a few topics in certain subject areas.

4.5 Summary

This chapter presented and analysed/discussed the data collected through questionnaires, interviews, focus group discussions and documents. The main objective of the study was to assess the strategies for implementing inclusive education which teacher educators equip pre-service trainees with in two primary teacher training colleges in Zimbabwe. Data were collected from lecturers from two primary teacher training colleges, their final year pre-service trainees and qualified teachers who were former students of the two colleges. The three categories of participants showed general understanding of what inclusive education entails. However, a few of these participants from all the three groups still had the misconception that inclusive education focuses on special needs education, thereby excluding other aspects that are encompassed in the concept. It was observed by the researcher that the participants' understanding of inclusive education had some influence on how they considered teaching strategies to be inclusive or non-inclusive.

Basically, findings from the data collected indicated that the three categories of participants agreed that the teaching strategies were not being adequately addressed and therefore this affected their effectiveness. The main reasons behind this were that teacher education in Zimbabwe was not focusing on training pre-service trainees for inclusive teaching in all aspects, including the teaching strategies to the extent that would benefit the graduates of its system due to a host of challenges. These challenges include the loaded curriculum which does not afford teacher educators the time to practise inclusive teaching strategies with their trainees; inadequate resources that would allow trainees to practise use of multi-sensory technology and assistive devices; lack of coordination and integration of inclusive education topics in all subject areas; lack of knowledge and inadequate

inclusive skills amongst the lecturers; lecturer-student ratio which limits those lecturers that are pro-inclusive education to effectively practise the use of inclusive teaching strategies with their pre-service trainees and inadequate time in primary schools for pre-service teachers to practise the use of inclusive teaching strategies in a single lesson.

The findings also revealed that there was not much of differentiation done between inclusive teaching strategies and those for a regular or mainstream class; hence, some trainees and qualified teachers were not very clear about which strategies worked best in classrooms characterised by learner diversity.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary of the study draws conclusions and makes recommendations based on the findings of the study and for further study. The chapter begins with highlights of the key issues from the first four chapters followed by a summary of the major findings of the study.

The study aimed at assessing the strategies for implementing inclusive education with which teacher educators equip their pre-service teacher trainees in teacher training colleges in Zimbabwe. The main question that guided the study was: How effective are the strategies currently being used in implementing inclusive education in schools by graduate teachers from teacher training colleges in Zimbabwe? The sub-questions drawn from this question were:

- How does the curriculum for initial teacher education equip trainees with strategies for implementing inclusive education?
- What are the strengths and limitations of these strategies in implementing inclusive education?
- How can pre-service teacher education develop effective strategies for the successful implementation of inclusive education in schools?
- What framework can be developed from the findings of the study on the strategies for implementing inclusive education in teacher education?

5.2 Summary of key ideas from each chapter

Chapter 1 provided the background of the study in which the researcher focused on the international scene on inclusive education, the regional scene (Africa) and then the Zimbabwean situation as this is where the study was done. The chapter also discussed teacher education in relation to inclusive education in general, and in Zimbabwe in particular. The chapter then moved on to highlight the statement of the problem state the main research question, sub-questions and research objectives. Furthermore, the chapter highlighted the purpose of the study, significance of the

study, delimitations of the study and definition of key terms used in the study. The chapter ended by outlining the organisation of the study.

Chapter 2 focused on the review of related literature. The chapter discussed the theoretical framework underpinning the study. Gardner's multiple intelligences theory (MI) and Vygotsky's socio-cultural theory were the theories that underpinned the present study. Gardner's multiple intelligence theory is a theory that differentiates intelligence into specific modalities (Lunenburg & Lunenburg, 2014). This means that intelligence should not be seen as dominated by a single general ability. Gardner identified nine different intelligences which are: verbal-linguistic, logical-mathematical, spatial, bodily-kinaesthetic, musical, interpersonal, intrapersonal, naturalist and existential (Murray & Moore, 2012; Lunenburg & Lunenburg, 2014). This is relevant to inclusive education because it entails focusing teaching strategies on learners as individuals who are diverse in terms of ability and learning styles. In inclusive education, learner diversity is a key element to be considered for effective teaching and learning. Vygotsky's (1978) socio-cultural theory focuses on the interaction of individual learners with their social and cultural contexts. The theory advocates inclusion based on positive differentiation (Gindis, 2003) and the importance of looking at each individual child as an individual who learns distinctively (Dahms et. al., 2007). The major elements of this theory, i.e. the Zone of Proximal Development (ZPD) and the more knowledgeable other (MKO) were discussed.

The chapter moved on to discuss the concept of teaching strategies in which the following were explained: traditional teaching strategies: lecturing, demonstration, story-telling, drilling. Modern teaching strategies which include discovery, problem based learning, project-based learning, group work, question and answer, role play, discussion were also examined. The weakness and strengths of these strategies were highlighted.

The concept inclusive education was discussed focusing on the different perspectives provided in different societies, the rationale for inclusive education, benefits of inclusive education and goals of inclusive teacher education. The chapter proceeded to discuss strategies for implementing inclusive education which are: differentiation, co-teaching and collaboration. Furthermore, the chapter discussed the profile of inclusive teachers and inclusive teacher competencies, inclusive

teacher education training techniques, indicators of inclusive teaching and learning and techniques for assessing inclusive teacher practice. The final section of the chapter focused on findings from other studies (empirical studies) related to the present study.

Chapter 3 discussed the research methodology used in the study in which the following were presented: research paradigm, research approach, research design, population, sample and sampling procedures, data collecting instruments, issues of validity, reliability and trustworthiness, data collecting procedures, data analysis and ethical considerations. The chapter discussed the pragmatism paradigm which guided the study through the use of the mixed methods approach. This was done to enable the researcher to contextualise information, to take a macro-picture of a system and add information about individuals (Plano Clark, 2010) in relation to inclusive teacher education in Zimbabwe. The chapter discussed how data were collected through the use of questionnaires, interviews, focus group discussions and documents. In addition, data analysis procedures were highlighted.

Chapter 4 focused on data presentation and analysis/discussion. The researcher decided it was best to present the data collected and immediately analyse/discuss them as a way of avoiding the unnecessary repetition that often characterises work in which data presentation, analysis/discussion are separated into two chapters. Data from the questionnaires guided the presentation while data from the interviews, focus group discussions and document analysis augmented them. This was done as a way of triangulating the data in line with the mixed methods approach (Plano Clark, 2010; Creswell & Plano Clark, 2007).

The chapter was divided into three sections. Part 1 presented and analysed/discussed data collected from teacher educators (lecturers), Part 2 focused on findings from pre-service teacher trainees and Part 3 focused on presenting and analysing data from qualified teachers who were former students of the two colleges under study. Each of these sections began by presenting the biographic information of the participants which was done as a way of ensuring the collection of views from different categories of the participants in terms of gender and age for pre-service trainees and gender, age, experience and qualifications for lecturers and qualified teachers.

The presentation and analysis/discussion of data then moved on to focus on the items in the questionnaires which were augmented by data from the interviews, focus group discussions and documents. This was done in line with the questions posed in the study.

5.3 Summary of findings

The aim of the first sub-question of the study was to find out how initial teacher education equips pre-service teacher trainees with strategies for implementing inclusive education in Zimbabwe. To find this out, the researcher had to start by establishing the teacher educators' (lecturers') understanding of inclusive education as she felt this had some influence on how they equipped their trainees with strategies for implementing inclusive education in schools. The researcher also had to ascertain the pre-service trainees' understanding of inclusive education as she felt this would determine their reception of the strategies they were equipped with and also the attitudes they developed in using these strategies while teaching inclusive classes. The researcher also felt this would have a bearing on the effective application of the strategies for meaningful learning to take place in inclusive settings.

Generally, the lecturers, pre-service trainees and those qualified teachers who trained in the two colleges under study had an understanding of what inclusive education entails. Although some of the definitions/explanations provided were limited to special needs education, the researcher noted that there was a general understanding of inclusive education among the participants. It emerged from the findings that the participants agreed with the definition advanced by UNESCO (2009) which indicates that inclusive education is an issue of social justice and that no child should therefore be excluded from acquiring education. It also emerged from the participants' definitions that they were fully aware that the 21st century classroom was characterised by learner-diversity which required teacher education to produce teachers who are accommodative, flexible reflective in their practice (Rembe et al., 2016). To this end, Chireshe (2013) states that if teachers are properly trained in inclusive education practices, they will have skills, knowledge and competence to be able to run an inclusive system in the general system of education.

It emerged from the study that lecturers in Zimbabwe's teacher training colleges were aware of different teaching strategies that pre-service trainees can be equipped with and exposed to for effective teaching and learning to take place. The study saw that most of them did not differentiate between those strategies for a regular classroom and those for inclusive settings. The study established that this was mainly due to the lack of coordination and integration of topics on inclusive education in the different subject areas the pre-service trainees studied at college (Chimhenga, 2016, Jenjekwa et al., 2013). It emerged from the findings that only some topics on inclusive education were taught in the Theory of Education and Professional Studies Syllabus A components of the teacher education curriculum. All the other subject areas did not teach any topic on inclusive education and the lecturers operating in these subject areas were sensitised on inclusive education through workshops.

The study revealed that the participants were conversant with those teaching strategies that were effective in teaching inclusive classes which include co-operative learning, collaboration, peer-tutoring which the participants identified as learner-centred or modern teaching strategies. The participants seemed to agree with the theories discussed in Chapter 2 (Gardner's theory of multiple intelligences and Vygotsky's socio-cultural theory) which put the learner at the centre of all learning activities.

The study established that in equipping pre-service trainees with strategies for implementing inclusive education, lecturers focus on the theoretical aspects of the strategies at the expense of the hands-on or practical aspect. The researcher found out that this was caused by a number of challenges which include the following:

5.3.1 Inadequate resources

The findings of the study have indicated that there are inadequate resources in colleges for lecturers to help pre-service trainees engage in hands-on activities in the use of assistive devices/technology which have become a key component of effective implementation of inclusive education (Rembe et al., 2016). It was established in the study that in some cases, there were no resources such as Braille machines, hearing aids, computers with special software for those with hearing and visual impairment for the pre-service trainees to practise using them as a way of familiarising with such devices. Where these are available, they are not adequate for

the large numbers of pre-service trainees to engage in meaningful practise of using them. The study unearthed that, specialist devices are also not always available in the colleges.

The study revealed that inadequate resources are also a problem in the primary schools where the pre-service trainees do their practicum. The researcher found out that this means that pre-service trainees do not get to use assistive devices as part of their teaching strategies to aid learning in the inclusive classroom. As a result, they end up with just the theoretical aspect of the strategies and this hampers the effectiveness of those strategies.

5.3.2 High lecturer-student ratio

It was unearthed in the findings of the study that the high lecturer-student ratio hampered efforts to equip pre-service trainees with strategies for effective teaching in inclusive classrooms. Mass lectures that are carried out in subject areas like Theory of Education and Professional Studies Syllabus A are an indication of how lecturers deal with large numbers of pre-service trainees. Sithole and Mafa (2015 pp. 12–38) also unveiled this in their study when they said, “the impersonality of mass lectures which are the main mode of lesson delivery in the Theory of Education department and the pressure to complete the syllabus work against inclusive education.” This leaves the lecturers with little opportunity to equip their pre-service teacher trainees with skills to use various teaching strategies and assistive devices available on a one-to-one basis.

5.3.3 Nature of the teacher education curriculum and the loaded timetable

It was unearthed in the study that due to the nature of the teacher education curriculum, it was rather difficult for lecturers in their training of pre-service to experiment with strategies that required a lot of time. The teacher education curriculum in Zimbabwe is focused on examinations. The limited time caused by the loaded time table therefore hampered lecturers’ efforts to effectively equip their pre-service trainees with inclusive teaching strategies. Mafa and Makuba (2013) also found out that in order to cover the syllabi in time for examinations, lecturers resorted to giving pre-service trainees notes in the form of handouts. As a result, this did not give much time for the trainees to do hands-on practise of the various teaching

strategies imparted to them before going for teaching practice and even after their practicum.

5.3.4 Lack of adequate time for teaching inclusive education

The study revealed that inclusive education was not being given enough time due to lack of coordinated syllabi and integration of topics in the various subjects syllabi. It emerged from the findings that inclusive education was taught as different topics only in the Theory of Education and Professional Studies Syllabus A subject area. Even with that, there appeared to be no coordination in these subject areas. Therefore, there was no link with other subject areas whose lecturers equipped pre-service trainees with strategies for teaching in general regular classroom which do not necessarily work well in inclusive classrooms. To this end the strategies that the lecturers equip their trainees with may not be effective in the classrooms with diverse learner populations. To add to the above, inclusive education in these subject areas is taught “through a theory-based curriculum not a practice-based one as it should have been (Sithole & Mafa, 2017).

5.3.5 Lack of knowledge and inadequate inclusive skills among lecturers

The study revealed that most lecturers in the teacher training colleges in Zimbabwe lack exposure to inclusive teaching strategies with which they were supposed to equip their trainees. It was revealed from the findings that although lecturers were aware of what inclusive education entails, most of them were not well trained to be able to impart inclusive teaching strategies to their trainees as they lacked exposure to such strategies. As a result, most lecturers resorted to the strategies they themselves had been exposed to during their training which work for regular classrooms. Therefore, pre-service trainees did not get much in terms of acquiring skills that required them to be flexible accommodative and reflective in the teaching strategies they employed during and after teaching practice which would enable them to cater for learner diversity.

The second research question aimed to find out the strengths and limitations of the strategies that teacher educators equip their pre-service trainees with. It emerged from the findings of the study that the major strength of these strategies was that most were learner-centred, for example, dramatisation small group discussions,

whole class discussions, debate, project based learning, experimentation. However, it appeared that even though those strategies were learner-centred, there was need for the lecturers to train their trainees to be reflective in the manner in which they employed such strategies in inclusive classroom.

It was revealed in the study that training pre-service trainees to be reflective in the way they employed teaching strategies in inclusive classrooms was lacking in lecturers. Being reflective would mean being capable of using differentiated instruction to address the learners' different intelligences as advocated by Gardner's theory of intelligences. It would also mean training the pre-service trainees to be collaborative in the way they employed the teaching strategies in line with Vygotsky's 1978 socio-cultural theory which advocates the use of the more knowledgeable other to meet the learner in the Zone of Proximal Development. In addition, it would mean training the pre-service trainees to be able to collaborate with their colleagues in the form of co-teaching as they employ the various learner-centred strategies. Furthermore, it could mean that pre-service trainees should be trained to acquire skills in differentiated learner assessment as it emerged that assessment is an integral part of the teaching strategies.

The study revealed that lecturers did not train their trainees to acquire skills to differentiate learner assessment as a way of acknowledging learner diversity in terms of background ability, needs and learning styles. It was unearthed from the findings of the study that lecturers equipped their trainees with the usual assessment skills of testing yet this may be a way of excluding some learners. The trainees were not equipped with other assessment modes such as portfolios, projects, or practicals such as dramatisation. In view of this, the researcher concluded that although the trainees were equipped with learner-centred strategies of teaching, these were employed as if the trainees would be teaching in regular classrooms with the composition of the learners being average. However, this turned out to be a limitation as the nature of the 21st century classroom was such that its composition was diverse. This diversity is supposed to be addressed in the way teaching strategies are used (Grimes, 2014).

The study established that although the pre-service trainees were equipped with varied learner-centred teaching strategies, these were limited to the average child in

the manner in which they were used. Yet, inclusive classrooms call for reflective, flexible practice which can be achieved through differentiated instruction, collaboration, co-teaching, differentiated assessment methods and application of various assistive devices or technologies that enable the learners to be involved in their learning.

The study unveiled participants' perspectives on how teacher education can develop effective strategies for the successful implementation of inclusive education in schools. The major aspect that they suggested was to transform the teacher education curriculum to be more flexible than it is at present. The study revealed that it would be of benefit to learners in inclusive settings if more time was allocated for inclusive education lectures by decongesting the curriculum (Mafa & Makuba, 2013). It also emerged from the findings that to improve the strategies and make them more effective, inclusive education should be taken as a stand-alone subject. It was revealed that inclusive education should not be taught theoretically but should be made more practical by engaging pre-service trainees in hands-on-experiences while in college and also during their teaching practice. This would allow every student to gain experience in the teaching of learners in inclusive settings.

Furthermore, the study revealed that the curriculum for pre-service teacher education should incorporate the ability to use assistive technology (including specialised devices) as a pre-requisite of the teaching course. The curriculum needs to change in terms of assessment strategies that pre-service trainees are exposed to and equipped with to include other more accommodative and flexible strategies that cater for learner diversity. The participants also added that lecturers themselves should be fully trained in inclusive education so they become more confident and accommodative when they train their pre-service trainees to become inclusive practitioners.

In view of the findings gathered in the study, the following aspects were drawn as making up the framework for the strategies for implementing inclusive education in teacher education in Zimbabwe.

- Change the way teacher educators, pre-service trainees and teachers perceive inclusive education.

- Focus on effective practice in initial teacher education in the curriculum, teaching practice and assessment.
- Develop in teacher education the ability to instil teacher competencies that enable teachers to identify diverse learner needs, backgrounds, abilities and learning styles so as to be able to accommodate every learner in their classrooms (Chimhenga, 2016).
- Develop in teacher education the ability to train teachers who develop skills in providing individualistic instruction through differentiated instruction and assessment strategies.

5.4 Conclusions

The findings of the study suggest that the strategies for implementing inclusive education that teacher educators in Zimbabwean teacher training colleges equip their pre-service trainees with are not very effective. The study established that this was caused by a host of challenges. The study unearthed that the majority lecturers, pre-service trainees and teachers have narrow views of what inclusive education entails. As a result, this may affect their understanding of inclusive teaching strategies for the effective implementation of inclusive education. It was established that the majority of these participants viewed inclusive education as special needs education which only focuses on learners with learning disabilities. This means that other factors which should be considered in learner diversity such as gender, language issues, ethnicity socio-cultural background, learning styles and abilities are ignored.

High lecturer-student ratio in the teacher training colleges was observed as one of the challenges that hampered the effectiveness of the strategies for implementing inclusive education that pre-service trainees were equipped with. The majority of lecturers lamented the large numbers of pre-service trainees they had to handle during training. This was seen as a limitation as it strained the little resources available to enable the lecturers to engage trainees in hands-on activities. Moreover, the high-teacher pupil ratio in the primary schools where the trainees practise teaching hampered their efforts to experiment with more inclusive teaching strategies.

The situations were worsened by the inadequate resources especially in the form of assistive devices/technology. The lecturers, teachers and pre-service trainees lamented the inadequate provisions of assistive devices that could aid the teaching and learning of learners in inclusive setting. The inclusive teaching strategies work more effectively if aided by assistive devices like computers with specialised software, the interactive white board, etc.

Lecturers' lack of expertise in teaching inclusive education was one challenge that was unearthed in the study. It was observed from the findings that most lecturers were not trained in inclusive education as they were sensitised about it through some workshops. Some lecturers believed that inclusive education was taught in the Theory of Education and Professional Studies Syllabus A subject areas. Hence, lecturers from other subject areas did not bother much about teaching inclusive education. There was also lack of coordination and integration of the various subjects in the teacher education curriculum. In the areas where inclusive education was focused on, it was mainly theoretical and lacked the practical aspect that would make it more effective.

The study established that the nature of the teacher education curriculum and the loaded time table hampered efforts to make the teaching strategies inclusive. It was unearthed that the lecturers focused on making pre-service trainees complete the syllabi in time for examination. This led to the lecturers ignoring the hands-on practice that would enable pre-service trainees to be more effective in the way they employed the teaching strategies.

5.5 Recommendations based on the findings of the study

Based on the above findings and conclusions, the researcher recommends the following:

- Teacher training colleges should adequately prepare and train pre-service trainees to be flexible, accommodative and reflective in their practice.
- Lecturers must equip pre-service trainees with skills to enable them to use differentiated instruction through use of varied teaching strategies that call for them to engage every learner in active participative learning.

- Teacher training colleges should review the teacher education curriculum to make it more flexible in accommodating inclusive education through coordinated and integrated subject areas.
- Given that the study found out that teacher educators are not themselves fully trained in inclusive education, there is need for the Government to ensure that all teacher educators (lecturers) are fully trained in inclusive education.

5.6 Recommendations for future research

The study focused on the strategies for implementing inclusive education that teacher educators equip their pre-service trainees with in primary teacher training colleges in Zimbabwe. The study unearthed that these are challenges that hamper the effectiveness of these strategies in catering for learner diversity in the inclusive classrooms. The researcher suggests that the following as areas for future research:

- Research study on strategies for implementing inclusive education in secondary teacher training colleges and universities using larger samples.
- A study on possible ways of reviewing the teacher education curriculum so that it caters for fully-fledged inclusive education practices.

5.7 New Knowledge

This study will be contributing new knowledge in terms of differentiating content, teaching strategies and assessment methods in the training of preservice teacher trainees in teacher education in Zimbabwe. The result may be that curriculum issues in teacher education be reconsidered to take care of the ever increasing diversity in learners whose learning is in the hands of the teachers who themselves are products of teacher education.

REFERENCES

- Adebyo, A.S. & Ngwenya, K. (2015). Challenges in the implementation of inclusive education at Elulakeni cluster primary schools in Shiselwen district of Swaziland. *European Scientific Journal*, 11(13), 246-261.
- Ahmad, F.K. (2015). Use of assistive technology in inclusive education: Making room for diverse learning needs. *Transcience*, 6(2), 62-77 Retrieved from https://www.2.hu-berlin.de/ahmadt2015+assistive=technology/vol6_no2
- Ahsan, M. T., Sharma, N. & Deppeler, J. M. (2012). Exploring pre-service teachers' perceived teaching-efficacy, attitudes and concerns about Inclusive education in Bangladesh. *International Journal of Whole Scholing*.8(2), 1-20.
- Alexander, R.J. (2008). Education for All: The quality imperative and the problem of pedagogy (CRCATE research Monograph 20), 50. *Consortium for research on educational access, transitions and equity*. Retrieved from <http://www.create-rpc.org/pdfdocuments/PTA20pdf on 16 May 2016>.
- Almalki, S. (2016). Integrating Quantitative and Qualitative data in mixed methods research challenges and benefits. *Journal of Education and Learning*, 5(3), 288-296.
- Alston, J., English, C.W., Graham, A., Wakefield, D. & Farbotko, F. (2011). A perceptual analysis of the benefits and barriers to creating all-inclusive learning environments in secondary Agricultural education programs. *Online Journal of Workforce Education and Development*, (1), 1-14.
- Anderson, K.M. (2007). Differentiating instruction to include all students: Preventing School Failure, 51(3), 49-54.
- Armitage, A (2004) Mutual Research design: Redefining mixed methods research design. Paper presented at the British Education Research Association annual conference, Institute of education, University of London, 5-8 September 2007.
- Armitage, A. (2007). Mutual research designs: Redefining mixed methods research design. *Paper presented at the British educational Research Association Annual Conference, Institute of Educational*, University of London, 5-8 September 2007.
- Armstrong, T. (2009). *Multiple intelligences in the classroom*. (3rded.). Alexandria: ASCD.
- Babbie, E. & Mouton, J. (2008). *The practice of social research*. Cape Town: Oxford University Press.
- Barker, R. (2004). *Progressive teaching in the primary school*. Harare: College Press.
- Belavsky, N. (2006). Revisiting Vygotsky and Gardner: Realising human potential. *The Journal of Aesthetic Education*, 40(2), 1-11. Retrieved on January 2017 <http://muse.jhu.edu/journals/jae/summary/v040/40.2belavsky.html>
- Bennett, R. (2011). Formative assessment: A critical review. *Assessment in Education*, 18(1), 5-25.

- Bennett, R.E. (2011). Preparing for the future: What educational assessment must do. *The Gordon Commission on the future assessment in education*.
- Bentar, O. & Cameron, R. (2015). Design and implementations of a mixed method research study in project management. *Electronic Journal of Business research methods*, 13(1), 1-15. Retrieved from www.ejbrm.com on 12 May 2016.
- Bergman, M.M. (2009). *Introduction: Wither mixed methods. Advances in mixed methods research*. Thousand Oaks: Sage.
- Best, J. W. & Kahn, J. V. (2006). *Research in education*, (10thed.). Boston: Pearson.
- Bhattacharjee, S. & Ghosh, S. (2013). *Usefulness of role-playing in construction education: A systematic Review*, 49th ASC Annual International Conference Proceedings. Retrieved from <http://ascpro0.ascweb.org/archives/cd/2013/paper/ceue112002013.pdf> on 6 May 2016
- Bindal, S. & Sharma, S. (2010). Inclusive education in India context. *Journal of Indian Education*, 35(4), 34-45.
- Bless, C. Higson-Smith, C. & Kagee, A. (2006). *Fundamentals of social research methods. An African perspective*. Cape Town: Juta.
- Borg, W., Gall, M. D. & Gall, J. P. (2006) *Educational research*. (8th ed.). New York: Pearson Education. Inc.
- Borich, G.D. (2014). *Effective teaching methods: Research-based practice* (8thed.). New Jersey: Pearson.
- Bryman, A. (2004). *Social research methods*. New York: Oxford University Press Inc.
- Bryman, A. (2006). Integrating quantitative and qualitative research: How is it done? *Qualitative Research* 6(1), 97-114.
- Bryman, A. (2012). *Social research methods*. (4thed.). New York: Oxford University Press.
- Burnstein, N., Sears, S., Wilcxoen, A., Cabello, B. & Spagna, M. (2004). Moving towards inclusive practices. *Remedial and Special Education*, 25(2), 104-116.
- Bustos, R. Lartec, J., De Guzman, A.J., Casiano, C., Carpio, D. & Tongyofen, H.S. (2012). Integration of inclusive education subject in the curriculum of preservice teachers towards transformation: Exploring its impact and effectiveness. *The Asian Conference on Education 2012. Official Conference Proceedings 2012*.
- Butcher, S.E. (2006). Narrative as a teaching strategy. *Journal of Correctional Education* , 57, 195-208.
- Cameron, R. (2009). A sequential mixed research design: Design, analytical and display Issues. *Online International Journal of Multiple Research Approaches*, 3(2), 140-152.
- Cameron, R. (2011). *Mixed methods research: The five P's framework*. Gladstone: Central Queensland University.

- Cardona, C. M. (2009). Teacher education students' beliefs of inclusion and perceived competence to teach students with disabilities in Spain. *Journal of the International Association of Special Education*, 10(1), 33-41
- Carrington, S. & Robinson, R. (2004). A case study of inclusive school development: *A Journal of Learning. The International Journal of Inclusive Education*, 8(2), 141-153.
- Chaula, G. J. (2014). Challenges teachers face in implementation of inclusive education in primary schools in Tanzania: *A case study of two primary Schools in Tanzania*: Hedmark University College.
- Chidindi, J. (2007). *Challenges in teaching methods for classrooms: A case study of high and low density suburb primary schools in Harare, Zimbabwe*. (Unpublished M.Phil thesis). University of Oslo.
- Chikuni, B. (2003). *The teachers' handbook: A practical approach to teaching*. Gwanda, Flame Publishers.
- Chikwature, W., Oyedele, V. & Ntini, R. (2016). Incorporating inclusive education in the pre-service teacher education curriculum in Zimbabwe Teachers' Colleges. *European Journal of Research and Reflection in Educational Science*, 4(4), 1-19.
- Chimhenga, S. (2016), Resource material barriers: The challenge of implementing inclusive education in Primary schools of Zimbabwe. *Global Journal of Advanced Research*, 3(6), 526-532.
- Chimhenga, S. (2016). Inclusive education in Zimbabwe: The need for teachers to be trained in assisting learners with learning disabilities in mainstreaming primary schools of Bulawayo Province. *The international Journal of Humanities and Social Studies*, 4(6), 239-244.
- Chireshe, R. (2011). Trainee special needs education teachers' attitudes towards inclusive education in Zimbabwe. *Journal of Social Sciences*, 27(3), 157-164.
- Chireshe, R. (2011). Special Needs Education In-Service Teacher Trainees' Views on Inclusive Education in Zimbabwe. *Journal of Social Sciences*, 27(3), 157-164.
- Chireshe, R. (2013). The State of Inclusive Education in Zimbabwe: Bachelor of Education (Special Needs Education) students' perceptions. *Journal of Social Sciences* 34(3), 223-228
- Chirinda, A. (2011). *Teaching methods in Grade 7 in Shurungwi District, Zimbabwe*. UNISA (Un published Master of Education thesis).
- Cohen, L., Manion, L. & Morrison, K. (2011). *Research methods in education*. (7th ed.). New York: Routledge.
- Cohen, L., Manion, L. & Morrison, K. (2007) *Research methods in education*. (6th ed.). London: Routledge.
- Corbett, J. (2001). *Supporting inclusive education: A Connective Pedagogy*. London: Routledge.
- Creswell, J.W. (2013). Steps in conducting a scholarly mixed methods study. DBER Speaker series, 11(14). Retrieved from <http://digitalcommons.unl.edu/dberspeakers/48> on 6 January 2017

- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Creswell, J.W. & Plano Clark, N.L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, C.A: Sage.
- Creswell, J.W. & Plano Clark, V.L. (2011). *Designing and conducting mixed Methods Research*. (2nd ed.), London: Sage Publication Ltd.
- Creswell, J.W. (2003). *Designing and conducting mixed methods research*. Thousand Oaks. London: Sage Publications.
- Creswell, J.W. (2003). *Research design: Qualitative, quantitative and mixed approaches*. Thousand Oaks, CA: Sage Publications.
- Creswell, J.W. (2008). *Educational Research: Planning, conducting and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson. Merrill Education.
- Creswell, J.W. (2009). *Research design: Qualitative, quantitative and mixed methods approaches*. (3rded.) Thousand Oaks: Sage.
- Creswell, J.W. (2012). *Educational research: Planning, conducting and evaluating quantitative and qualitative research*. (4thed.). Boston: Pearson Education, Inc.
- Creswell, J.W. (2014). *Research design: Qualitative, quantitative and mixed methods approaches*. (4th ed.), London: Sage Publications Ltd.
- Creswell, J.W., Plano Clark, V.L, Gutman, M.L. & Hanson, W.E. (2003).Advanced Mixed Methods Research designs.In A. Tashakkori and C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research* (pp. 209-240). Thousand Oaks, CA: Sage.
- Dahms, M., Geonnotti, K., Passalacqua, D., Schilk, J. N., Wetzel, A. & Zulkowsky, M. (2007).*The educational theory of Lev. Vygotsky: An analysis*.Available at www.aiz.vic.edu.au.
- Damodharan, V.S. & Rengarajan, V. (2008).Innovative methods of teaching. Retrieved from http://math.arizona.edu/~atpmena/conference/proceedings/Damodharan_innovative_methods.pdf on 6 May 2016.
- Das, A.K., Sharma, S. & Singh, V.K. (2012). Inclusive education in India: A paradigm shift in roles, responsibilities and competencies of regular school teachers. *Journal of Indian Education*.
- Das, A.K., Kuyini, A.B. & Desai, I.P. (2013). Inclusive education in India: Are teachers prepared? *International Journal of Special Education*, 28(1), 27-36.
- De Lisie, J. (2011). The benefits and challenges of mixing methods and methodologies: Lessons learnt from implementing qualitatively led mixed methods research designs in Trinidad and Tobago. *Caribbean Curriculum*, 18, 87-120.
- Deakin-Crik, R. (2008). Pedagogy for Citizenship. In F. Oser & W. Vengeler (Eds.), *Getting involved: Global citizenship development and sources of moral values*. Rotterdam: Sense Publishers.

- Dejana, B. (2013). Some aspects of collaboration in Inclusive Education-teachers' experiences. *CEPS Journal*, 3(2), 93-117.
- Deluca, M., Tramontano, C. & Kett, M. (2014). Including children with disabilities in primary school: The case of Mashonaland, Zimbabwe. *Working paper 26*. Harare: Leonard Cheshire Disability and Inclusive Development Centre.
- Denzin, N. K. & Lincoln, Y. (2005). *Collecting and interpreting qualitative materials*. Thousand Oaks: Sage.
- Denzin, N. K. & Lincoln, Y. (Eds). (2005). *The Sage handbook of qualitative research*. (3rded.). Thousand Oaks, CA: Sage.
- Denzin, N.K. & Lincoln, Y.S. (2008). *The landscape of qualitative research*. Los Angeles: Sage Publications.
- Dewey, J. (1920). *Reconstruction in Philosophy*. Retrieved from <http://dx.doi.org/10.1080/05568640902933510> on 15 May 2016.
- Dewey, J. (1920). *Reconstruction in philosophy*. In J.A. Boydston (Ed.) *John Dewey: The middle works*, volume 10. Carbondale: University of South Illinois Press.
- Dilshad, R.M. & Latif, M.I. (2013). Focus group interviews as a tool for qualitative research: An analysis. *Pakistan Journal of Social Sciences*, 33(1), 191-198.
- Dixon, R. M. & Verenikina, I. (2007). Towards inclusive schools: An examination of socio-cultural theory and inclusive practices and policy in New South Wales DET Schools. *Learning and Socio-cultural Theory: Exploring Modern Vygotskian Perspectives International Workshop 2007*, 1(1) available at: <http://ro.uow.edu.au/urg/vol.1/iss1/13>
- Domelly, V. (Ed.), (2010). *Teacher education for inclusion: International literature review*. Brussels. Europe Agency for Development in Special Needs Education.
- Donnelly, V. (2010). *Teacher education for inclusion: International literature review*. Brussels: European Agency for Development in special Needs Education.
- Donnelly, V. (2011). *Teacher education for inclusion across Europe: Challenges and opportunities*. Brussels: European Agency for Development in special Needs Education.
- Donohue, D. & Bernman, J. (2014). The challenges of realising inclusive education in South Africa. *South African Journal of Education*, 34.
- Doyle, L., Brady, A. & Byrne, G. (2009). An overview of mixed methods research. *Journal of Research in Nursing*, 14(2), 175-185.
- Drake, M. & Jackson, M.J. (2016). Lesson planning within a learning centred context. In C. Okeke, I. Abongdia, E.O. Adu, M. Van Wyk, & C. Wolhuter (Eds.), *Learn to teach: A handbook for Teaching Practice*. Cape Town: Oxford University Press.
- Dujmovic, M. & Paula, V. (2011). Story telling as a method of EFL teaching. *Pregledni rad: UDK: 371.3.811.111.126*.

- Etikan, I., Musa, S.A. & Alkassim, R.S. (2015). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied statistics*, 5(1), 1-4.
- European Agency for development(2007).Assessment in inclusive settings: Key issues for policy and practice. Odense: European Agency for development in special needs education.
- Farnan, K. (2009). Multiple intelligence in the economic classroom. *Journal of International business research*, 8(1), 61-67.
- Farrell, P. & Ainscow, M. (2002).*Making special education inclusive: From research to practice*. London: David Fulton Publishers.
- Feilzer, M.Y. (2010). Doing mixed methods research pragmatically. Implications for the rediscovery of pragmatism as a research paradigm. *Journal of Mixed Methods Research*, 4, 6-16.
- Flick, U., Von Kardorff, E. & Steinke, I. (2004).*A Companion to qualitative research*. London: Sage Publications Limited.
- Florian, L. & Black-Hawkins, K. (2011). Exploring inclusive pedagogy. *British Educational Research Journal*, 37 (5), 813-828.
- Florian, L. & Rouse, M. (2009).*Teacher education for inclusion: International literature review*. Brussels: European Agency for Development in Special Needs Education
- Florian, N. & Black-Hawkins, K. (2011).Exploring inclusive pedagogy. *British Educational Research Journal*, 37(5), 813-828. Online DOI: 10.1080/01411926.2010.501096. Retrieved on 16 May 2016.
- Forlin, C. (2012). Changing paradigms and future directions for implementing inclusive education in developing countries. *Asian Journal of Inclusive Education*, 1(2), July 2013, 19-31.
- Forlin, C. (2012). Responding to the need for inclusive teacher education: Rhetoric or reality? In C. Forlin (Ed.), *Future directions for inclusive teacher education*, 3-12. New York: Routledge.
- Forlin, C., Loreman, T., Sharma, U.& Earle, C. (2009). Demographic differences in changing pre-service teachers' attitudes, sentiments and concerns about inclusive education. *Special Education and Counselling* 13(2),195-209.
- Friend, M. & Cook, L. (2010).*Interactions: Collaboration skills for school professionals*. New Jersey: Pearson Education INC.
- Friend, M., Cook, L., Hurley-Chamberlain, D. & Shamberger, C. (2010).*Online Journal of Educational and Psychological Consultation*, 20, 9-27.
- Gall, M.D., Gall, J.P. & Borg, W.R. (2007).*Educational research: An introduction*, (8th ed.). Boston: Pearson.
- Gangadevi, S. & Ravi, D. (2014). Multiple intelligence based curriculum to enhance inclusive education to bring out human potential. *Online International Journal of Advanced Research*, 2(8), 619-626. Retrieved from <http://www.journalijar.com> on 16 January 2017.

- Gardner, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York: Harper Collins Publishers.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York: Basic Books.
- Gardner, H. (1999). *The disciplined mind: What all students should understand?* New York: Simon and Schuster.
- Gardner, H. (2006). *Multiple intelligences: New horizons*. New York: Basic Books.
- Garrett, T. (2008). Student-centred and teacher-centred classroom management: A case study of three elementary teachers. *Journal of Classroom interaction*, 43(1), 35-47.
- Gay, L.R., Mills, G.E. & Airasian, P. (2009) *Educational research: Competencies for analysis and applications*. New Jersey: Pearson Education.
- Giffen, M. (2011). *The definition of inclusive learning*. Retrieved from www.classroom.synonym.com/definition-inclusivelearning-646086.html on 10 February 2017.
- Gill, P., Stewart, K., Treasure, E. & Chadwick, B. (2008). Methods of data collection in qualitative research: Interviews and focus groups. *Online British Dental Journal*, 204, 291-295.
- Gindis, B. (2003). Remediation through education: Socio-cultural theory and children with special needs. In A.Kozulin, B., Gindis, V. S., Ageyer, S. M. Miler (Eds.), *Vygotsky's educational theory in cultural context*. New York: Cambridge University Press.
- Gorman, G.E. & Clayton, P. (2005). *Qualitative research for the information professional: A practical handbook* (2nded.). London: Facet Publishing.
- Grace, D. (2014). *Intersectionality-informed mixed methods research: A primer*. London: The Institute for intersectionality research and Policy, SFU.
- Greene, J.C. (2008). Is mixed methods social inquiry a distinctive methodology? *Journal of Mixed Methods Research*, 2(1), 7-22.
- Grimes, P. (2014). Teachers, inclusive, child-centred teaching and pedagogy. *Webinar12: Companion Technical Booklet*. New York: UNICEF.
- Guloba, M.M., Wokadala, J. & Bategeka, L. (2010). *Does teaching methods and availability of teaching resources influence pupils performance: Evidence from our districts in Uganda*. Research series no. 77. Economic Research Centre. Retrieved from <http://ageconsearch.umn.edu/bitstream/127537/series77.pdf> on 6 May 2016.
- Haines, C. (2011). Value added by mixed methods research: A multiphase mixed methods design. *Public access thesis and dissertations from the College of Education and Human Science Paper 114*. Retrieved from <http://digitalcommons.unl.edu/cehsdiss/114> on 12 May 2016.
- Hamilton, M. & Weiss, M. (2005). *Children tell stories: Teaching and using story-telling in the classroom*. (2nded.) New York: Richard C. Owen.

- Hanafin, J. (2014). Multiple intelligences theory, action research and teacher professional development: The Irish MI project. *Australian Journal of Teacher Education*, 39(4), 126-142.
- Harrell, M.C. & Bradley, M.A. (2009). Data collection methods: Semi-structured interviews and focus groups. Santa Monica: RAND Corporation. Retrieved from www.rand.org on 9 May 2016.
- Harry, B., Rueda, R. & Kalyanpur, M. (1999). Cultural reciprocity in social-cultural perspective: Adapting the normalization principle for family collaboration: *Exceptional Children*, 66(1), 123-136.
- Harwell, M.R. (2011). Research design: Qualitative, quantitative and mixed methods. In C. Conrad and R.C. Serlin (Eds.). *The Sage handbook for research in education: Pursuing ideas as the keystone of exemplary inquiry* (2nded.). Thousand Oaks CA: Sage.
- Henning, E., Van Rensburg, W. & Smit, B. (2004). *Finding your way in qualitative research*. Pretoria: Van Schaik.
- Hernandez, S.J. (2013). Collaboration in special education: Its history, evolution and critical factors necessary for successful implementation. *US-China Education Review B*, 3(6), 480-498.
- Hlatywayo, L. & Muranda, Z.A. (2014). An evaluation of the Leonard Cheshire Zimbabwe Trust (LCZT) pilot inclusive education programme in Zimbabwe: The perspective of teachers and heads (PART A). *TOSR Journal of Humanities and Social Science*, 19(11), 124-138.
- Hollenweger, J., Pantic, N. & Florian, L. (2015). *Tool to upgrade teacher education practices for inclusive education*. Brussels: European Union.
- Hossain, M. & Shaidullah, (2012). *An overview of inclusive education in the United states*
- Hunter-Johnson, Y., Newton, N. G. L. and Cambridge-Johnson, J. (2014). What does teachers' perception have to do with Inclusive Education: A Bahamian Context. *International Journal of Special Education*, 29(1), 143-157.
- Ihuah, P. & Eaton, D. (2013). An evaluation of the public housing estates beneficial sustainability factors in the Niger Delta of Nigeria. *The Built and Human Environment Review*, 7, 1-17.
- Ivankova, N.V Creswell, J.W. & Plano Clark, V.L (2007) Foundations and approaches to mixed methods research. In Maree, K. (ed.), (2012) *First steps in research*. Pretoria, Van Schaik Publishers.
- Ivankova, NV., Creswell, J.W. & Plano Clark, V.L. (2012). Foundations and approaches to mixed methods research. In K.Maree (Ed.), *First steps in research*. Pretoria: Van Schaik Publishers.
- Jacob, U.S. & Olisaemeka, A.N. (2016). Inclusive education in the 21st century: Parameters and opportunities for learners with special needs. *European Scientific Journal*, 12(10).Retrieved from <http://dx.doi.org/10.19.44/esj.2016.v12i710.188-196>. On 10 June 2016.

- Jenjekwa, V., Rutoro, E. & Runyowa, J. (2013). Inclusive education and the primary school teacher education curriculum in Zimbabwe: The need for a paradigm shift. *The International Journal of Humanities and Social Studies*, 1(3), 21-28.
- Johnson, B. & Christensen, L.B. (2012). *Education research: Quantitative, qualitative and mixed methods*, (4thed.). Thousand Oaks, CA: SAGE Publications.
- Johnson, R., Onwuegbuzie, A. & Turner, L. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, 1(2), 112-133.
- Johnson, R.B. & Onwuegbuzie, A. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researchers*, 33(7), 14-26.
- John-Steiner, V. & Mahn, H. (1996). Sociocultural approaches to learning and development: A Vygotskian framework. *Educational Psychologist*, 31(3), 191- 206.
- Jonhson, R.B. & Onwuegbuzie, A.J. (2004) Mixed methods research: A research paradigm whose time has come. *Educational Research* 33, 14-26.
- Jordan, A., Schwarts, E. & McGhie-Richmond, D. (2009). Preparing teachers for inclusive classrooms. *Teaching and Teacher Education*, 25, 535-542. retrieved from www.researchgate.net/publication/222971576-preparing-readers-for-inclusive-classrooms on 12 February 2017.
- Jorgensen, C.M, McSheehan, M., Schuh, M. & Sonnemeir, R.M. (2012). Essential best practices in inclusive schools. Durham. *National centres on inclusive education*. Retrieved from <http://www.iod.unh.edu> on 10 June 2016.
- Joubish, M. F., Ashraf, M., Ahmed, A., Fatima, S. T. & Haider, K. (2011). Paradigms and characteristics of a good qualitative research. *World Applied Sciences Journal*. 12(11), 2082-2087.
- Kaplan, I. & Lewis, I. (2013). *Promoting inclusive teacher education: Methodology*. Bankok: UNESCO.
- Kasa, C. & Causton-Theoharis, J. (2010). Strategies for success: Creating inclusive classrooms that work. *Colarado PA Developmental Disabilities Council*.
- Kasambira, K. P. (2004). *Teaching methods*. Harare: College Press (Pvt) Ltd.
- Killen, R. (2007). *Effective teaching strategies: Lessons from research and practice* (4thed.). Smith Melbourne: Thomson Social Science Press.
- Kim, J. R. (2010). Influence of teacher preparation programmes on pre-service teachers' attitudes toward inclusion. *International Journal of Inclusive Education*, 1-23.
- Krippendorff, K.H. (2012) *Content analysis: An introduction to its methodology*, (3rd ed.)Thousand Oaks: Sage publication.
Thousand Oaks, CA: Sage Publications.
- Kurebwa, M., Majaha, N. & Nyika, N. (2014). Primary school teacher perceptions on the challenges of implementing the inclusive education programme: A case of Gweru urban. *Scholars Journal of Arts, Humanities and Social Sciences*, 2(6A), 895-899.

- Kusuma, A. & Ramadevi,(2013) K. Inclusive education Teacher competencies. *Shanlax International Journal of Education*, 1(3), 24-40.
- Kuyini, A. B. & Desai, I. (2007).Principals' and teachers' attitudes and knowledge of inclusive education as predictors of effective teaching practices in Ghana. *Journal of Research in Special Education Needs*, 7(2), 104-113
- Kuzu, A. (2007). Views of pre-service teachers on blog use for instruction and social interaction. *Turkish Online Journal of Distance education-TOJDE* July 2007, 8(3) Article 2.
- Kvale, S. and Brinkmann, S. (2009). *Interviews: Learning the craft of qualitative research interviewing*, (2nded.). Thousand Oaks, CA: Sage.
- Leach, N.L. and Onwuegbuzie, A.J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly*, 22(4), 577-584.
- Least, S.K (2014). *Differentiated instruction: Its effect on proximal development. Master's thesis: State University of New York*. Retrieved from digitalcommons.brockport.edu/ehd_thesis on 10 February 2017.05.24
- Lee, E & Lee, S. (2009). Effects of instructional rubrics on class engagement behaviour and the achievements of lesson objectives by students with mild mental retardation and their typical peers. *Education and training in developmental disabilities*, 44(3), 396-408.
- Leonard Cheshire Zimbabwe Trust (2011). *Breaking down barriers to inclusive education in Zimbabwe: A teacher's handbook*. Harare: Ministry of Education, Sport, Art and Culture.
- Lewis, I. & Bagree, S. (2013). *Teachers for all: Inclusive teaching for children with disabilities*, Brussels: IDDC.
- Long, M., Wood, C., Littleton, K., Passenger, T. & Sheehy, K. (2011). *The psychology of education* (2nded.) New York: Routledge.
- Loreman, T., Deppeler, J. & Harvey, D. (2005). *Inclusive education: A practical guide to supporting diversity in the classroom*. London: Routledge Falmer.
- Loreman, T., Deppeler, J. & Harvey D, (2010). *Inclusive education: Supporting diversity in the classroom*. London: Routledge.
- Lunenburg, F.C. & Lunenburg, W. (2014).Applying multiple intelligences in the classroom: A fresh look at teaching writing. *International Journal of Scholarly Academic Intellectual Diversity*, 16(1), 1-14.
- Mackenzie, N. & Knipe, S. (2006). *Research dilemmas: Paradigms, methods and methodology. Issues in Educational research*, 16(2), 193-205. Retrieved from <http://www.iier.org.au/iier16mackenzie.html> on 20 May 2016
- Mafa, O. & Chaminuka, L. (2012).Perceptions of teacher trainees towards their teacher education curriculum in the context of inclusion. *Online Journal of Education Research*, 1 (2), 36-43.
- Mafa, O. & Makuba, E. (2013).Mainstreaming inclusion in teacher education in Zimbabwe. *The International Journal of Engineering and Science*, 2(5), 27-32.

- Mafa, O. (2012). Challenges of implementing inclusion in Zimbabwe's education system. *Online Journal of Education Research*, 1(2), 14-22.
- Mafa, O. & Makuba, E. (2013). Mainstreaming inclusion in teacher education in Zimbabwe. *The International Journal of Engineering and Science*, 2(5), 27-32.
- Mahn, H. (1999). Vygotsky's methodological contribution to socio-cultural theory. *Remedial and Special Education*, 20(6), 341-350.
- Makoelle, T.M. (2014). Inclusive education: Are we there? Some global challenges, contradictions and anomalies. *Journal of Sociology and Social Anthropology*, 5(3), 303-309.
- Makoelle, T.M. & Malindi, M. (2015). Resilience: A framework for inclusive pedagogy in a South African context. *Electronic Journal for Inclusive Education*, 3(3), 1-16.
- Makinen, M. & Makinen, E. (2011). Teaching in inclusive setting: Towards collaborative scaffolding. *Dossier*, 55(3), 57-74.
- Malak, S. (2013). Inclusive education reform in Bangladesh: Pre-service teachers responses to include students with special educational needs in regular classrooms. *International Journal of Instruction* 6(1), 195-214. Retrieved from www.e-iji.net on 15 August 2016.
- Malawi Institute of Education (2004). *Participatory teaching and learning: A guide to methods and techniques*. Domasi: MIE.
- Mandina, S. (2012). Bachelor of Education in service teacher trainee's perceptions and attitudes on inclusive education in Zimbabwe. *Asian Social Science*, 8(13), 227-232.
- Mann, S. & Walsh, S. (2013). *RP or 'RIP': A critical perspective on reflective practice: Applied linguistics. Review*, 4(2), 291-315.
- Marczak, M. & Sewell, M. (2007). Using focus groups for evaluation. (Online) retrieved from <http://ag.arizona.edu/fcs/cyfernet/cyfar/focus.htm> on 8 May 2016.
- Maree, K. (2012). *First steps in research*. Pretoria: Van Schaik Publishers.
- Maree, K. (Ed.), (2007). *First steps in research*. Pretoria: Van Schaik.
- Mariga, L., McConkey, R. & Myezwa, H. (2014). *Inclusive education in low-income countries: A resource for development workers*. Cape Town: Atlas Alliance and Disability Innovations Africa.
- Marino, T. M. Sameshima, P. & Beecher, C.C. (2009) Enhancing TPACK with assistive technology: promoting inclusive practices in preservice teacher education. *Contemporary issues in technology and teacher education* 9(2).
- Marshall, C. & Rossman, G.B. (2011). *Primary data collection methods. Designing qualitative research*, 137-177. Los Angeles, CA: SAGE.
- Marvasti, A.B. (2004). *Qualitative research in Sociology: An introduction*. London: SAGE Publications.
- Maxcy, S. (2003). Pragmatic threads in mixed methods research in social sciences: The search for multiple modes of inquiry and the end of the philosophy of

- formalism. In A. Tashakkori & C. Teddlie (Eds.). *Handbook of mixed methods in social and behavioural research*. Thousand Oaks, CA: Sage.
- Maxwell, J. A. (2005). *Qualitative research design. An interactive approach*. London: Sage Publications Inc.
- McCarty, K. (2006). *Full inclusion: The benefits and disadvantages of inclusive schooling: An overview*. Azusa Pacific University. Retrieved from <http://files.eric.edu.gov/fulltext/ED496074.pdf> on 2 June 2016.
- Mcgee, D.A. & Hantla, B. (2012). An intelligent critique of multiple intelligences: A Christian review for leaders. *Journal of Biblical Perspectives in Leadership*, 4(1), 3-16.
- Merriam, S.B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey Bass. Wiley imprints.
- Merriam, S.B. (2009). *Qualitative research: A guide to design and implementation* (2nded.). San Francisco, CA: Jossey-Bass.
- Mertens, D.M. (2005). *Research and evaluation in education and psychology: Integrating diversity with quantitative and mixed methods*. California: Sage Publications.
- Migiro, S.O. & Magangi, B.A. (2011). Mixed methods: A review of literature and the future of the new research paradigm. *African Journal of Business Management*, 5(10), 3757-3764.
- Miles, S. & Singal, N. (2009). The education for all and inclusive education debate: Conflict, contradiction or opportunity? *International Journal of Inclusive Education*, 2009, 1-15.
- Miller, P.J. & Cameron, R. (2011). *Mixed methods research designs: A case study of their adoption in a doctor of business administration program*. Southern Cross Business School.
- Miller, E. (2015). Ways storytelling can be used for teaching and learning. *Chennai storytelling festival 2015*, 4-15 February. Story telling for teaching and training, Chennai.
- Morgan, D.L. (1998). Practical strategies for combining qualitative and quantitative methods: Applications to health research. *Qualitative Health Research*, 8(3), 362-376.
- Morgan, D.L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. *Journal of Mixed Methods Research*, 1(1), 48-76.
- Morgan, D.L. (2013). Pragmatism as a paradigm for social research. *Qualitative Inquiry*, 20(10), 1-9.
- Morgan, D.L. (2014) *Integrating qualitative and quantitative methods: A pragmatic approach*. Thousand Oaks, CA: Sage.
- Moss, P.A., Pullin, D.C., Gee, J.P., Haertel, E.H. & Young, L.J. (Eds.), (2008). *Assessment, equity and opportunity to learn*. Cambridge University Press.
- Motitswe, J.M.C. (2012). *Teaching and learning methods in inclusive classrooms in the foundation phase*. Master's thesis: UNISA.

- Mpofu, C. E., Kasayira, J., Mhaka, M. M., Chireshe, R. & Maunganidze, L. (2007) Inclusive education in Zimbabwe. In P. Engelbrecht, & L. Green, (Eds.), *Responding to the challenges of inclusive education in South Africa*. Pretoria: Van Schaik Publishers, 66-79.
- Mpofu, E., Mutepfa, M.M. & Chataika, T. (2007). Inclusive education in Zimbabwe: Policy, curriculum, practice , family and teacher education issues. *Childhood Education: International Focus* Issue, 2007. Available at: <http://www.tandfonline.com/loi/uced20>
- Mukhopadhyay, S., Nenty, J. & Abosi, O. (2012). *Inclusive education for learners with disabilities in Botswana primary schools*. Retrieved from <http://sgo.sagepub.com> on 2 April 2016.
- Murray, S. & Moore, K. (2012). Inclusion through multiple intelligences. *Journal of Student Engagement: Education Matters*, 2(1), 42-48.
- Musengi, M. & Chireshe, R. (2012). Inclusion of deaf students in mainstream rural primary schools in Zimbabwe: Challenges and opportunities. *Stud Tribes Tribals*, 10(2), 107-116.
- Mutepfa, M.M, Mpofu, E. & Chataika, T. (2007). Inclusive Education in Zimbabwe: policy, curriculum, practice, family and teacher education issues. *Journal of the Internation Association for Childhood Education International: International Focus* Issue 2007, Vol1. 83, No.6 pp. 342-346.
- Mutisya, C. M. S. (2010). *Factors influencing inclusion of learners with special needs in regular primary schools in Rachuongo District, Kenya*. Unpublished Master's thesis. Kenyatta University.
- Muyungu, E.G. (2015). *Towards inclusive education in Tanzania: A study of pre-service students teachers training and perceived needs to practice inclusive education* (unpublished Masters' Thesis, University of Oslo.
- Mutisya, C.M.S. (2010) *Factors influencing inclusion of learners with special needs in regular primary schools in Rachuonyo District, Kenya*: Unpublished Master's thesis.
- Nienwenhuis, J. (2012). Qualitative research designs and data gathering techniques. In K. Maree (Ed.), *First steps in research*. Pretoria: Van Schaik Publishers.
- Nieuwenhuis, J. (2007). Analysing qualitative data. In K. Maree (Ed.). *First steps in research*. Pretoria: Van Schaik.
- Nieuwenhuis, J. (2007). Qualitative research designs and data gathering Techniques In K. Maree (2007), *First steps in research*. Pretoria: Van Schaik Publishers.
- Neuman, L. (2003). *Social research methods: Quantitative and qualitative approaches*. Boston: Ally and Bacon.
- Neuman, L. (2006). *Social research methods: Quantitative and qualitative approaches*, (7th ed.). Boston: Ally and Bacon.
- Nickols, F. (2012). *Strategy: Definitions and meanings*. Retrieved from www.nickols.us on 06 May 2016

- Nyaruwata, L.T. (2013). Quantitative, qualitative and mixed methods approaches to research. In S.M. Thichapondwa (Ed.), *Preparing your dissertation at a distance. Vancouver: Virtual University for small states of the commonwealth*. Retrieved from <http://creativecommons.org/licences/by-as/30> on 12 May 2016
- Olsen, W.K. (2004). Methodological triangulation and realist research: An Indian case study. In C. New & B. Carter (Eds.), *Making Realism work: Realist social theory and empirical research*. London: Routledge.
- Onwuegbuzie, A.J. & Collins, K.M.T. (2007). A typology of mixed methods sampling designs in social science research. *The Qualitative Report*, 12(2), 281-316.
- Onwuegbuzie, A.J. & Combs, J.P. (2010). Emergent data analysis techniques in mixed methods research: A synthesis. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research* (pp. 397-439). Thousand Oaks, CA: Sage.
- Onwuegbuzie, A.J. & Combs, J.P. (2011). Data analysis in Mixed Research: A Primer. *International Journal of Education*, 3(1), 1 E13.
- Otukile-Mongwaketse, M.E. (2011) *Primary School settings. An exploration of teachers' understandings of curriculum, curriculum adaptations and children who have learning difficulties*. Unpublished PhD thesis in Special Education needs.
- Owen, G. (2013). *Qualitative methods in higher education policy analysis: Using interviews and document analysis*. Atlanta: Georgia Inst. of Technology.
- Pantic, N & Florian, L. (2015). Developing teachers as agents of inclusion and social justice. *Education inquiry*, 6(3), 333-351. Retrieved from DOI:10.3402/edui.v6.27311 on June 2016.
- Parahoo, K. (2006). *Nursing research: Principles process and issues*. (2nded.). Palgrave: McMillan, Houndsmill.
- Patel, P. (2009). *Introduction to quantitative methods: Empirical law seminar*. Havard Law School. Retrieved from hishavard.edu/quantitative-methods-1.pdf on 6 January 2017
- Patton, M. (2002). *Qualitative research evaluation methods*. (3rded.) Thousand Oaks: Sage Publications Inc.
- Payne-Akinhanmi, A. (2015). *Differentiated strategies to promote inclusion*. London: Excel.
- Peebles, J. & Mendaglio, S. (2014). Preparing teachers for inclusive classrooms: Introducing the individual direct experience approach. *Learning Landscapes* 7(2), 245-257.
- Plano Clark, V.L. (2010). The adoption and practice of mixed methods: U.S. trends in federally funded health-related research. *Qualitative inquiry*, 6(6), 428-440.
- Plowright, D. (2011). *Using mixed methods: Frameworks for an integrated methodology*. Los Angeles: Sage.
- Polit, D.F. & Beck, C.T. (2008). *Nursing research: Generating and assessing evidence for nursing practice*. Philodephia: Wolters Klower/Lippincolt Williams and Wilkins.

- Price, M.J., Carroll, B., Donovan, O. & Rust, C. (2011). If I was going there I wouldn't start from here: A critical commentary on current assessment practice. *Assessment and evaluation in higher education* 33(2), 143-154.
- Pritchard, A. (2009). *Ways of learning*. (2nd ed.). London: Routledge.
- Punch, K. F. (2009). *Introduction to research methods in education*. Thousand Oaks, California: Sage Publications Inc.
- Punch, K.F. (2005). *Introduction to social research: Quantitative and qualitative approaches*. London: Sage.
- Punch, K.F. (2009). *Research methods in education*. London: Sage Publications Inc.
- Quane, M. (2008). Working memory training as a behavioural intervention for male secondary boardingschool students with attention deficits. Unpublished MSc thesis. Mary Immaculate college of education, Limerick.
- Rabiee, F. (2004). Focus-group interview and data analysis. *The Nutrition Society Online*, 63(4), 655-660. Retrieved from <https://doi.org/10.1079/PNS2004399> on 18 May 2016
- Rapp, W. & Arndt, K. L. (2012). Eds.). *Teaching everyone*: Baltimore: Brookes Publishing.
- Rembe, S., Shumba, J., Maphosa, C. & Musesengwe, E. (2016). Change Theory The teacher as reflective and change agent. In C. Okeke, I. Abongdia, E.O. Adu, M. Van Wyk, & C. Wolhuter (Eds.), *Learn to teach: A handbook for teaching practice*. Cape Town: Oxford University Press.
- Reynolds, M. (2009). Education for inclusion: Teacher Education and the Teacher training agency standards. *Journal of In-service Training*, 27(3), 465-476.
- Rief, S.F. & Heimbuge, J.A. (2006). Reaching all students through differentiated instruction. In S.F. Rief & J.A. Heimbuge (Eds.), *How to reach and teach all children in the inclusive classroom: Practical strategies, lessons and activities* (2nd ed.), 3-10, San Fransisco: Jossey-Bass.
- Rieser, R. (2008). *Implementing Inclusive Education: A Commonwealth guide to implementing Article 24 of the UN Convention on the rights of people with disabilities*. London: Commonwealth secretariat.
- Reiser, R. (2013). *Teacher Education for children with disabilities: Literature review*. UNICEF REAP Project.
- Rodina, K. A. (2006.) *Vygotsky's social constructionist view on disability: A methodology for inclusive education*. Oslo: University of Oslo.
- Romi, S. & Leyser, Y. (2006). Exploring inclusion pre-service training needs: A study of variable associated with attitudes and self-efficacy beliefs. *European Journal of Special education*, 21(1), 85-105.
- Rouse, M. (2006) *Developing inclusive practice: A Role for teachers and teacher education?* London: University of Aberdeen.
- Rouse, M. (2008) *Developing inclusive practice: A role for teachers and teacher education?* *Education in the North*, 16, 6-11.
- Sakarneh, M. (2009). *Effective teaching in inclusive classrooms: Literature review*. Available at <http://www.aure.edu.au/04pap/sak04009.pdf>.

- Salend, S.J. (2008). *Creating inclusive classrooms: Effective and reflective practices*. New Jersey: Pearson Prentice Hall.
- Samkange, W. (2013). Inclusive education at primary school: A case study of one primary school in Glen View/Mufakose Education District in Harare, Zimbabwe. *International Journal of Social Science and Education*, 3(4)
- Sapon-Shevin, M. (2005). Ability differences in the classroom: Teaching and learning in inclusive classrooms. In D. Byrnes and G. Kiger (Eds.) *Common bonds: Anti-bias teaching in a diverse society*, (3rded.). Wheaton, M.D.: Association for childhood education international.
- Schreier, M. (2012) *Qualitative content analysis in practice*. London: Sage Publications
- Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating to ontology and epistemology to the methodology and methods of the scientific, interpretive and critical research paradigms. *English Language Teachings*, (9), 9-16.
- Scrivener, J. (2005). *Learning Teaching*. Oxford: Macmillan.
- Sharma, U., Forlin, C., Deppeler, J. & Guang-xue, Y. (2013).Reforming teacher education for inclusion in developing countries in the Asia-Pacific Region. *Asia Journal of Inclusive Education*, 1 (1), 3-16.
- Sharma, U., Forlin, C., Deppeller, J. & Guang-Xue, Y. (2013).Reforming teacher education for inclusion in developing countries in the Asia-Pacific region. *Asia Journal of Inclusive Education*, 1(1), 3-16.
- Shaw, R. (2011). Employing universal design for instruction. *New Directions for Student Services*, 134, 73-94.
- Shevlin, M., Winter, E & Flym, P. (2013). Developing inclusive practice: Teacher perceptions of opportunities and constraints in the Republic of Ireland. *International Journal of Inclusive Education*, 17(10), 1119-1133.
- Shumba, J.M. (2011). *Secondary school children's experiences of bereavement: Implications for school counselling in Harare Metropolitan Province*. (Unpublished Doctoral thesis).
- Simui, F. (2009, December). Preparing teachers for inclusive education: A study of the English approach. Paper presented at the SANORD 2nd International Conference: *Inclusive and Exclusion in Higher Education*. Rhodes University, Gramstown, South Africa.
- Singal, N. (2008). *Working towards inclusion: Reflections from the classroom*. *Teaching and Teacher Education*, 24(2008), 1516-1529.
- Singh, J.D. (2016). Inclusive education in India-concept, need and challenges. *Scholarly Research Journal for Humanity Science and English Language*, 3(13), 3222-3232.
- Sithole, E.S. & Mafa, O. (2017).An assessment of the theory and practice of inclusive education, with special reference to secondary teacher education in Zimbabwe. *Online International Journal of Science and Research*, 6(4), 1230-1241.

- Slee, R. (2001). Social justice and the changing directions in education research: The case of inclusive education. *International Journal of Inclusive Education*, 5(2/3), 167-177.
- SMART Technologies (2009). *Creating classrooms for everyone.: How interactive white boards support universal design for learning*.
- Smith, D.D. & Tyler, N.C. (2011). Effective inclusive education: Equipping education professionals with necessary skills and knowledge. *Prospects*, 41(3), 323-339. Doi:10.1007/s11125-011-9207-5.
- Solis, M., Vaughn, S., Swanson, E. & McCulley, L. (2012). Collaborative models of instruction: The empirical foundations of inclusion and co-teaching. *Psychology in the Schools*. 49(5), 498-511.
- South African Basic Education (2011). *Guidelines for responding to learner diversity in the classroom through curriculum and assessment policy statement*. Pretoria.
- Subban, P. & Sharma, U. (2006). Teachers' perceptions of inclusive education in Victoria, Australia. *International Journal of Special Education*, 21(1), 42-52.
- Sudjainark, S. (2013). *Enhancing knowledge and attitudes towards play and the play environment among Thai nursery workers*. University of Southampton, Doctoral thesis, p.427.
- Tashakkori, A. & Teddlie, C. (2008). Quality inferences in mixed methods research. In M. Bergman (Ed.) *Advances in mixed methods research: Theories and applications*. London: Sage. pp. 101-119.
- Tashakkori, A. & Teddlie, C. (2010). Overview of contemporary issues in mixed methods research. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural research*, pp.1-41. Thousand Oaks, CA: Sage Publications.
- Taylor, B., Kermode, S. & Roberts, R. (2007). *Research in nursing and health care: Evidence for practice*. (3rded.) Sydney: Thompson.
- Teddlie, C. & Tashakkori, A. (2003). Major issues and controversies in the use of mixed methods in the Social and Behavioural Science. In A. Tashakkori & C. Teddlie (Eds.), *Handbook of mixed methods in social and behavioural Research* (pp3-50). Thousand Oaks, CA: Sage.
- Teddlie, C. & Tashakkori, A. (2009). *Foundations of mixed methods research: Integrating quantitative and qualitative approaches in the social and behavioural science*. Thousand Oaks, CA: Sage.
- Terrell, S.R. (2012). Mixed methods research methodologies. *The Qualitative Report*, 17(1), 254-280.
- Thakur, K. (2014). Differentiated instruction in the inclusive classroom. *Research Journal of Educational Science*, 2(7), 10-14.
- Thakur, U.S. (2016). Use of multimedia technology in libraries. *Research gate*. Retrieved from <https://www.researchgate.net/publication/303549082> on 6 January 2017.
- ThiNguyet & Thu Ha. (2010). *Preparing teachers for inclusive education*. Vietnam: Catholic Relief Services.

- Tomlison, C.A. (2008). *The goals of differentiation. Educational Leadership*, 66(3), 26-30.
- Tomlison, C.A. (2011). Differentiating instruction academic diversity. In J.M. Cooper (Ed.), *Classroom teaching skills* (9thed.). Belmont: Wadsworth.
- Trochim, W.M. (2006). *The research methods knowledge base* (2nded.). Retrieved from <http://www.socialresearchmethods.net/kb/> on 18 May 2016.
- Tshuma, R. & Mafa, O. (2013). Research design. In S.M. Tichapondwa (Ed.). *Preparing your dissertation at a distance: A research guide*. Vancouver. Virtual University for small states of the Commonwealth.
- Turuk, M.C. (2008). The relevance and implications of Vygotsky's sociocultural theory in the second language classroom. *ARECLS*, 5, 244-262.
- Uljets, M. (1997). *Didactics: Theory, reflection and practice*. Lund: Student literature.
- UNESCO (2008) Defining an inclusive education agenda: reflections around 48th of the international conference on education. Paris: UNESCO.
- UNESCO (2004). *Inclusive education in Southern Africa: Responding to diversity in Education*. Harare: UNESCO.
- UNESCO (1990). *The world declaration of education for all*. Paris: UNESCO.
- UNESCO (2005). *Guidelines for inclusion: Ensuring access to Education for All*. Paris: UNESCO.
- UNESCO (2009). *New UNESCO Guidelines on inclusive education*. Paris: UNESCO.
- UNESCO (1994). The Salamanca statement and framework for action on special needs education. *World Conference on Special Needs education: Access and quality*, Salamanca, Spain, 7-10 June 1994.
- UNESCO (2009). *Towards inclusive education for children with disabilities: A guideline*. Bank: UNESCO.
- UNESCO (2009). *Policy guidelines on inclusion in education*. Paris: UNESCO.
- UNICEF (2010). *Inclusive education as part of a child-friendly schools framework: Results and recommendations from a study in Macedonia*. C.I.P. UNICEF.
- University of Zimbabwe (2013). *Handbook for Quality Assurance in Associate Teachers' Colleges*. Harare: Department of Teacher Education.
- US Department of Education (2008). *Education and inclusion in the United States: An overview*. Jessup, M.D: US Department of Education.
- Valliant, D. (2011). Preparing teachers for inclusive education in Latin America. *Prospects Quarterly Review of Comparative Education*. DOI 10.1007/511125-011-9196-4. UNESCO.
- Van Garderen, D. & Whittaker, C. (2006). Planning differentiated multicultural instruction for secondary inclusive classrooms. *Teaching exceptional children*, 38(3), 12-20.
- Van Wyk, M & Ndamba, G. (2016). Portfolios in teaching practice-paper-based versus e-based portfolios. In C. Okeke, J. Abongdia, E.O. Adu, M. van

- Wyke & C. Wolhuter (Eds.), *Learn to teach: A handbook for teaching practice*. Cape Town: Oxford University Press.
- Van Wyk, M. & Steyn, H. (2016). Electronic learning aids and social media in teaching. In C. Okeke, J. Abongdia, E. Adu, M. Van Wyk, & Wolhuter (Eds.), *Learning to teach: A handbook for teaching practice*. Cape Town: Oxford University Press.
- Van Wyk, M., Galloway, G. & Okeke, C (2016). Basic classroom management. In C. Okeke, J. Abongdia, E.O. Adu, M. Van Wyk & Wolhuter. (Eds.). *Learn to teach: A Handbook for Teaching Practice*. Cape Town: Oxford University Press Southern Africa.
- Vayrynen, S. (2000). *Inclusive Education: A challenge, a process*. Paper presented at ISEC, 2000: Including the excluded, University of Manchester, Manchester, UK, 24-28. July 2000. Retrieved from http://www.isec.org.uk/abstract/papers_v/vayrynen-1.htm. On 05 February 2017.
- Vijialakshimi, J. (2009). *An exosystemic perspective on the raising of deaf children by hearing parents in South Africa: A mixed methods study*. Doctoral thesis. University of KwaZulu-Natal.
- Vygotsky, L. S. (1978). *Mind in Society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Vygotsky, L. S. (1993). The Fundamentals of defectology (Abnormal Psychology and learning disabilities). In R. W. Rieber & A. S. Carton (1993). *The collected works of L. S. Vygotsky 2*. New York: Plenum Press.
- Wah, L.L. (2010). Different strategies for embracing inclusive education: A snap shot of individual cases from three countries. *International Journal of Special Education*, 25(3), 98-109.
- Walvoord, B.E. (2004). *Assessment clear and simple: A practical guide for institutions, departments and general education*. San Francisco, CA Jossey-Bass.
- Watkins, A. (Ed.) (2012). *Teacher education for inclusion: Profile of inclusive teachers*. Brussels: European Agency for Development in special Needs Education.
- Weaver, K. & Olson, J. K. (2006). Understanding paradigms used for nursing research. *Journal of Advanced Nursing*, 53(4), 459-469.
- Welman, C. Kruger, F. & Mitchell, B. (2009). *Research methodology*, (4thed.). Cape Town: Oxford University Press.
- Welman, C., Mitchel, B. & Kruger, F. (2005). *Research methodology*. (3rded.). Cape Town: Oxford University Press.
- Westwood, P. (2008). *What teachers need to know about teaching methods*. Amberwell, Vic: ACCER Press.
- Westwood, P. (2013). *Inclusive and adaptive teaching: Meeting the challenge of diversity in the classroom*. Oxon: Routledge.
- Wilson, L. (2014). *Practical teaching: A guide to teaching in the educational and training sector* (2nded.) Hampshire: Cengage learning EMEA.

- Winter, E. & O' Raw, P. (2010). *Literature review of the principles and practices relating to inclusive education for children with special educational needs*. Trim: National Council for Special Education.
- Woolfolk, A. (2014). *Educational Psychology*. Boston: Pearson.
- Yang, J. (2011). Storytelling as a teaching method in ESL classrooms. *Applied Linguistics*, 2, 159-169.
- Yin, R. K. (2003). *Case study research: Design and methods*. (3rd ed.), Thousand Oaks: CA: Sage.
- Zikmund, W.G., Babin, B.J., Carr, J.C. & Griffin, M. (2010). *Business research methods*, (8th ed.). Mason, HO: Cengage learning.
- Zohrabi, M. (2013). Mixed method research: Instruments, validity, reliability and reporting findings. *Theory and Practice in Language Studies*, 3(2), 254-262.
- Zundans-Fraser & Lancaster, J. (2012). Enhancing the inclusive self-efficiency of preservice teacher through embedded course design. *Education Research International* Volume 2012, Article ID 581352. Retrieved from <http://www.hindawi.com/journal/edri/2012/581252/> on 5 May 2016.
- Zwozdiak-Myers, P. (2011). Reflective practice for professional development. In A. Green. *Becoming a reflective teacher* (pp. 26-42). London: Open University Press.

List of Appendices

Appendix A: Ethical Clearance certificate

Appendix A



University of Fort Hare
Together in Excellence

ETHICAL CLEARANCE CERTIFICATE
REC-270710-028-RA Level 01

Certificate Reference Number: MUS121SMAK01

Project title: **An assessment of the strategies for implementing Inclusive Education in Teacher Education in Zimbabwe.**

Nature of Project: PhD in Education

Principal Researcher: Ellen Makiwa

Supervisor: Prof T.D Mushoriwa
Co-supervisor: N/A

On behalf of the University of Fort Hare's Research Ethics Committee (UREC) I hereby give ethical approval in respect of the undertakings contained in the above-mentioned project and research instrument(s). Should any other instruments be used, these require separate authorization. The Researcher may therefore commence with the research as from the date of this certificate, using the reference number indicated above.

Please note that the UREC must be informed immediately of

- Any material change in the conditions or undertakings mentioned in the document
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research

The Principal Researcher must report to the UREC in the prescribed format, where applicable, annually, and at the end of the project, in respect of ethical compliance.

Special conditions: Research that includes children as per the official regulations of the act must take the following into account:

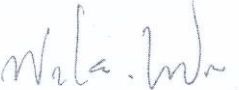
Note: The UREC is aware of the provisions of s71 of the National Health Act 61 of 2003 and that matters pertaining to obtaining the Minister's consent are under discussion and remain unresolved. Nonetheless, as was decided at a meeting between the National Health Research Ethics Committee and stakeholders on 6 June 2013, university ethics committees may continue to grant ethical clearance for research involving children without the Minister's consent, provided that the prescripts of the previous rules have been met. This certificate is granted in terms of this agreement.

The UREC retains the right to

- Withdraw or amend this Ethical Clearance Certificate if
 - Any unethical principal or practices are revealed or suspected
 - Relevant information has been withheld or misrepresented
 - Regulatory changes of whatsoever nature so require
 - The conditions contained in the Certificate have not been adhered to
- Request access to any information or data at any time during the course or after completion of the project.
- In addition to the need to comply with the highest level of ethical conduct principle investigators must report back annually as an evaluation and monitoring mechanism on the progress being made by the research. Such a report must be sent to the Dean of Research's office

The Ethics Committee wished you well in your research.

Yours sincerely


Professor Wilson Akpan
Acting Dean of Research

24 January 2017

Appendix B: Permission to carry out research

*All communications should be addressed to
"The Secretary for Primary and Secondary Education"
Telephone: 799914 and 705153
Telegraphic address: "EDUCATION"
Fax: 791923*

Reference: C/426/3 Harare
Ministry of Primary and Secondary Education
P.O Box CY 121
Causeway
Harare

10 October 2016

Ellen Makiwa
Flat No. 8
Rosewell Mansions
15 Wembley Crescent
Eastlea
Harare

**RE: PERMISSION TO CARRY OUT RESEARCH DAVID LIVINGSTONE,
MOFFAT,NETTLETON,ZRP BREASIDE, HATFIELD JUNIOR,EASTRIDGE,
CHIRODZO, STMARTIN,ST PETERS MBARE, AND SUNNINGDALE 1
PRIMARY SCHOOLS: HARARE CENTRAL DISTRICT: HARARE PROVINCE**

Reference is made to your application to carry out a research at the above mentioned schools in Harare Province on the research title:

**"AN ASSESSMENT OF THE STRATEGIES FOR IMPLEMENTING INCLUSIVE
EDUCATION IN TEACHER EDUCATION IN ZIMBABWE".**

Permission is hereby granted. However, you are required to liaise with the Provincial Education Director Harare Province, who is responsible for the schools which you want to involve in your research. You should ensure that your research work does not disrupt the normal operations of the school. You are required to seek consent of the parents/guardians of all learners who will be involved in the research.

You are required to provide a copy of your presentation and a report of what transpired to the Secretary for Primary and Secondary Education by December 2016.

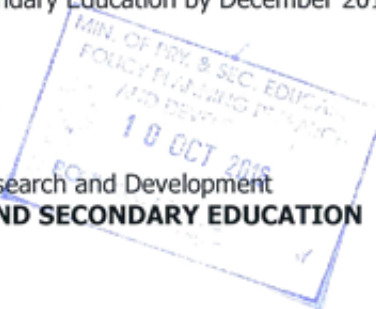
F. Fundira

F. Fundira (Mrs)

Acting Director: Policy Planning, Research and Development

For: SECRETARY FOR PRIMARY AND SECONDARY EDUCATION

cc: PED – Harare Province



Appendix C: Request of authority to carry out research

All official communications should be addressed to:
"The Secretary for Higher & Tertiary Education
Telephones: 795891-5, 796441-9, 730655-9
Fax Numbers: 792109, 728730, 703957
E-mail: thesecretary@mhet.ac.zw
Telegraphic address: "EDUCATION"



Reference:

MINISTRY OF HIGHER AND TERTIARY
EDUCATION, SCIENCE AND
TECHNOLOGY DEVELOPMENT
P. BAG CY 7732
CAUSEWAY

04 October 2016

No 8
Rosewell Mansions
15 Wembley Crescent, Eastlea
HARARE

Dear Mrs Makiwa,

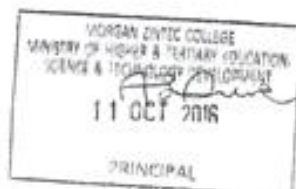
REQUEST OF AUTHORITY TO CARRY OUT A RESEARCH ON "AN ASSESSMENT OF THE STRATEGIES FOR IMPLEMENTING INCLUSIVE EDUCATION IN TEACHER EDUCATION IN ZIMBABWE"

Reference is made to your letter, in which you requested for permission to carry out a research on "An assessment of the strategies for implementing inclusive education in teacher education in Zimbabwe" Ministry of Higher and Tertiary Education, Science and Technology Development.

Accordingly please be advised that the Head of Ministry has granted permission for you to carry out the research.

It is hoped that your research will benefit the Ministry and it would be appreciated if you could supply the office of the Permanent Secretary with a final copy of your study, as the findings would be relevant to the Ministry's strategic planning process.

HP: mbecks
Mavhondo P. (Mr)
Acting Director - Human Resources
FOR: PERMANENT SECRETARY



Appendix D: Information letter for participants

Dear Colleagues

My name is Ellen Makiwa (nee Musesengwe), a doctoral student in the Faculty of Education at the University of Fort Hare. I am kindly requesting you to participate in my research study in which I am assessing the strategies for implementing inclusive education in teacher education in Zimbabwe. I am particularly interested in understanding what teaching strategies pre-service teacher trainees are equipped with and exposed to in preparation for them to teach learners from diverse backgrounds and with diverse needs and abilities, how adequately they are prepared to handle classes with such learners, how effective the strategies are and challenges (if any) that they encounter in using these strategies.

You are therefore requested to participate by completing questionnaires and taking part in focus group discussions. Some of you will also be interviewed. Your participation in this study is completely voluntary and information obtained during the study will be kept confidential. You are free to withdraw from participating at any time and for any reason without consequences. Your identity will be kept confidential through the use of pseudonyms.

I do not anticipate any risk to you greater than your everyday college activities during your participation. My hope is that the results of this study will improve teacher preparation for inclusive education in terms of teaching strategies. You are requested to complete the consent form provided if you agree to participate in the study.

Your cooperation is greatly appreciated.

Appendix E: Consent by participants

Consent by participants

The purpose of the study and the extent to which I will be involved was clearly explained to me. I have understood the essence of the study and the extent of my involvement. As such I voluntarily consent to take part in this study. I understand that I am free to withdraw from participating in the study at any given time without penalty. I further agree to being audio-taped during my participation. In addition, I understand that any information I provide will remain confidential and that upon completion of the study, I will be given feedback on the findings of the study. As a way of showing my willingness to participate in this study I give my name, signature and contact details.

Name.....Signature.....Date.....

Email address.....Cell number.....

Appendix F: Questionnaire for lecturers

Questionnaire for lecturers

This questionnaire is part of a study that is looking at the strategies for implementing inclusive education in teacher education in Zimbabwe. The aim of the study is to establish the effectiveness of the teaching strategies that teacher educators equip pre-service teacher trainees with in teaching inclusive education in regular classes in the primary schools. The study also aims to establish how adequately pre-service teacher trainees are equipped with these strategies and if there are any challenges encountered in using these strategies.

You as a teacher educator are requested to assist by completing the questionnaire. To ensure that your identity remains anonymous, do not write your name. You are assured of confidentiality as your responses will not be divulged to anyone and anywhere except for the purpose of this study. Your honest opinions are sincerely sought in each instance.

Thank you for sparing your valuable time to respond to this questionnaire

Section A: Biographic information

Insert an X for the appropriate response

Write your pseudonym.....

1. Gender

Male	Female
1	2

2. Age

20-30	31-40	41-50	51-60	Above 60
1	2	3	4	5

3. Lecturing experience in teacher education (in years).

1-5	6-10	11-15	16-20	Over 20
1	2	3	4	5

4. Your qualification

PhD	Master's degree	Bachelor's degree	Diploma in education	Certificate in education	Other (Specify)
1	2	3	4	5	6

5. State your current job title

.....

6. Name your department

.....

7. For how long have you served in the current position in terms of years?

1-5	6-10	11-15	16-20	Over 20
1	2	3	4	5

Section B: Knowledge of inclusive education.

8. What do you understand by inclusive education?

.....
.....
.....
.....

9. What is your opinion concerning inclusion in the regular classroom?

.....

.....

.....

.....

10. To what extent do your subject syllabi embrace inclusive education?

.....

.....

.....

.....

11. Differentiate between teaching strategies for a regular class and those for an inclusive class that are in your syllabus

.....

.....

.....

.....

Section C: Implementation of inclusive education

Insert an X for the appropriate response.

12. Rate the teaching strategies you equip you pre-service teacher trainees with before and after teaching practice.

Poor	Average	Satisfactory	Good	Very good
1	2	3	4	5

13. Rate the availability of assistive technology in your college and your students' exposure to such devices

Poor	Average	Satisfactory	Good	Very good
1	2	3	4	5

14. What teaching strategies do you equip your pre-service teacher trainees with to enable them to effectively handle inclusive classes?

.....

.....

.....

.....

15. What is your opinion concerning the adequacy of these strategies?

.....

.....

.....

.....

16. How far do you consider assessment of learners to be an integral part of teaching strategies?

.....

.....

.....

.....

17. Pupils' assessment is focused upon setting specific and realistic targets that lead to improvements in learning.

Strongly agree	Agree	Neutral	Disagree	Strongly disagree
1	2	3	4	5

18. In view of the above, what assessment strategies do you equip your pre-service trainees with to prepare them for an inclusive environment?

.....

.....

.....

.....

19. Do you think pre-service teacher trainees should be exposed to differentiation as a teaching strategy and why?

Yes	No
1	2

If 'yes' give reasons for your answer

.....

.....

.....

20. What structures or mechanisms are in place in your college to allow pre-service trainees to practise differentiated instruction?

.....

.....

.....

.....

21. What structures or mechanisms are in place in your college to help pre-service trainees to practise handling inclusive classes?

.....

.....

.....

.....

22. How do you help pre-service trainees acquire skills in using inclusive teaching methods.

.....

.....

.....

.....

23. When you assess pre-service trainees during their teaching practice how far do you consider their ability to accommodate learner diversity in their teaching strategies?

Fully	To some extent	Not sure	To a lesser extent	Not at all
1	2	3	4	5

24. Have you ever considered equipping your students with collaborative skills in preparing them for inclusive classroom?

Yes	No
1	2

If 'yes' please explain

.....

.....

.....

.....

25. What do you consider as teacher competencies to be able to handle inclusive classrooms?

.....

.....

.....

.....

26. Give your opinion of the view that pre-service teacher trainees need to be given skills which consider academic diverse background, needs and abilities to enable them to take a holistic view of learners.

.....

.....

.....

.....

27. Comment on the effectiveness of the strategies you equip pre-service teacher trainees with in handling classes characterised by diversity.

.....

.....

.....

.....

28. Given a chance, how would you improve the strategies for the implementation of inclusive education in your training of pre-service teacher trainees?

.....

.....

.....

.....

29. Any other comments on strategies for implementing inclusive education.

.....

.....

.....

.....

Appendix G: Questionnaire for pre-service teacher trainees

Questionnaire for pre-service teacher trainees

Instructions

This questionnaire aims to establish the strategies for implementing inclusive education that you are equipped with during your residential period in college. Please answer all questions to the best of your ability. If a written answer is required please print and if only an X is required, select only one answer per question.

Demographic data

1. Please indicate your gender

Male	Female
1	2

2. Please indicate your age

21-25	26-30	31-35	36-40	Above 40
1	2	3	4	5

3. Please indicate your knowledge level of inclusive education

Very high	High	Average	Not sure	Low	Very low
1	2	3	4	5	6

Knowledge of inclusive education

4. What do you understand by inclusive education?

.....

.....

.....

.....

5. Comment on how you feel about teaching in a class characterised by learner diversity.

.....

.....

.....

.....

6. What is your opinion concerning inclusive education?

.....

.....

.....

.....

Strategies for implementing inclusive education

7. What teaching strategies were you equipped with in college? (Lecturing, demonstrating, projects, dramatization, etc.)

.....

.....

.....

.....

8. Which of these strategies do you feel are most appropriate to use in teaching classes with learner diversity?

.....

.....

.....

.....

9. How did you accommodate learners who experienced barriers to learning in your class during your Teaching Practice?

.....

.....

.....
.....

10. Do your lecturers differentiate between strategies for teaching in a regular class and those for teaching in an inclusive class? Yes/No

If your answer to the above is 'yes', please explain

.....
.....
.....
.....

11. Explain how you accommodated the different learning styles learners possess in your class during your Teaching Practice

.....
.....
.....
.....

12. Did you maintain the use of the strategies your lecturers equipped you with during your Teaching Practice? Yes/No

13. Did you, in any way try new strategies in your approach to teaching classes with learner diversity? Yes/No

If your answer is 'yes', please elaborate

.....
.....

.....

.....

14. Please indicate whether your lecturers sensitised you to the use of technology assistive devices in your teaching during your residential period in college.

Always	Almost always	Rarely	Very rarely	Never
1	2	3	4	5

15. What challenges did you meet in trying to accommodate learner diversity through teaching strategies during your Teaching Practice?

.....

.....

.....

.....

16. Explain how you tried to overcome these challenges

.....

.....

.....

.....

17. Did you make use of technology and or any assistive devices in teaching your classes during your Teaching Practice? Yes/No

If 'yes', how did this improve children's learning?

.....

.....

18. During your Teaching Practice did you feel competent to teach classes characterised by learner diversity? Yes/No

If 'yes', explain why

.....
.....
.....
.....

19. Do you feel your lecturers adequately exposed you to the knowledge and skills of using teaching strategies to enable you to handle inclusive classes?

If 'yes', please explain why

.....
.....
.....
.....

20. What facilities are available in college to help you in utilising teaching strategies that accommodate learner diversity?

.....
.....
.....
.....

21. What do you consider to be teacher competencies in teaching classes characterised by learner diversity?

.....
.....
.....
.....

22. Please make overall comments based on the exposure you have received in college in terms of teaching strategies for addressing learner diversity in inclusive classes.

.....

.....

.....

.....

Thank you for sparing your valuable time to respond to this questionnaire.

Appendix H: Questionnaire for teachers (Former students of the two colleges under study)

Questionnaire for teachers (Former students of the two colleges under study)

Instructions

This questionnaire aims to establish the strategies for implementing inclusive education that you were equipped with during your training in college. Please answer all questions to the best of your ability.

Demographic data

1. Please indicate your gender

Male	Female
1	2

2. Please indicate your age

21-25	26-30	31-35	36-40	Above 40
1	2	3	4	5

3. For how long have you been teaching after finishing your training?

1 Year	2 Years	3 Years	4 Years	Above 4 Years
1	2	3	4	5

Knowledge of inclusive education

4. What do you understand by inclusive education?

.....

.....

.....

.....

5. Do you have any background in inclusive education? Yes/No

If 'yes', explain

.....

.....

.....

.....

6. How long have you been teaching in an inclusive classroom?

.....

.....

.....

.....

7. Which teaching strategies were you equipped with during your training in college? (Lecturing, demonstration, project, dramatization, etc.

.....

.....

.....

.....

8. Explain how you have used strategies to meet the diverse needs and abilities of your learners

.....

.....

.....

.....

9. Which teaching strategies do you normally use in order to improve the abilities of your learners?

.....
.....
.....
.....

10. How do you accommodate learners who experience barriers to learning in your class when conducting lessons?

.....
.....
.....
.....

11. Do you feel you were adequately equipped during your training in college to be able to teach inclusive classes in terms of teaching strategies? Yes/No

If 'yes', explain

.....
.....

12. Have you been using any other strategies beside those you were exposed to in college to meet the diverse needs and abilities of the learners? Yes/No

Give reason for your answer

.....
.....
.....
.....

13. During your training were you exposed to any forms of assistive devices that can help learners improve their ability during the teaching/learning process? Yes/No

If 'yes', please explain

.....
.....

14. Do you have any assistive devices that you use to facilitate learning of pupils?

Yes/No

How do you use these during lesson presentation to accommodate diverse learning and abilities?

.....
.....
.....
.....

15. During your training in college were you ever exposed to differentiation as a way of accommodating diversity of learning needs and abilities? Yes/ No

If 'yes', explain

.....
.....
.....
.....

16. Do you consider learning assessment to be an integral part of teaching strategies? Yes/No

If 'yes' how were you equipped with assessment strategies for learners with diverse needs and of diverse abilities during your training?

.....
.....
.....
.....

17. During your training, what facilities were available in your college to help you in utilising teaching strategies that accommodate learner diversity?

.....

.....

.....

.....

18. What do you consider to be teacher competencies in teaching inclusive classes?

.....

.....

.....

.....

19. How far were you exposed to these competencies during your training as a way of equipping you to teach in inclusive classrooms?

.....

.....

.....

.....

20. Do you feel you were adequately equipped with the knowledge and skills for using teaching strategies that enable you to handle inclusive classes? Yes/No

If 'yes', explain why

.....

.....

21. What challenges, if any, have you encountered (in terms of teaching strategies) in teaching classes characterised by learner diversity?

.....

.....

.....

.....

22. How did you try to solve those challenges?

.....

.....

.....

.....

23. Did you, by any chance, fall back on the training you received in college in trying to solve the challenges and how helpful was it?

.....

.....

.....

.....

24. Please make general suggestions that you think about the exposure you received during your training in inclusive education in terms of teaching strategies.

.....

.....

.....

25. Any other comments related to the above

.....

.....

.....

Thank you for sparing your valuable time to respond to this questionnaire.

Appendix I: Interview guide for lecturers

1. What is your understanding of inclusive education? (Depending on the responses, further prompts will be made)
2. How does inclusion and mainstreaming influence education for learners with diverse needs and abilities?
3. Do you have any background on inclusive education?
4. For how long have you been a teacher trainer?
5. During this period, what teaching strategies have you equipped your pre-service trainees with?
6. May you briefly explain how you differentiate the teaching strategies for a regular classroom and for an inclusive one?
7. Which strategies do you find as being most effective in teaching in a 21st century classroom characterised by learner diversity?
8. Do you consider differentiation and co-teaching as important strategies for teaching in an inclusive classroom? (Depending on the response, further prompts will be made)
9. Do you expose your trainees to any assistive technology/devices that can assist them in teaching learners of diverse needs and abilities? (Depending on the response further prompts will be made)
10. During your teaching practice supervision how do you assess pre-service trainees' capability to cater for learner diversity through the teaching strategies they use?
11. Do you consider learner assessment as part of teaching strategies and how can this be used to incorporate learner diversity? (Further prompts will be made depending with the responses)
12. What aspects of teacher education do you think need to be considered to adequately prepare pre-service trainees to be able to handle learner diversity in terms of teaching strategies?

Appendix J: Interview guide for pre-service teacher trainees

1. What is your understanding of inclusive education?
2. What are the teacher competencies required for teaching in an inclusive classroom?
3. How did your training prepare you to meet the diverse needs and abilities of learners?
4. What teaching strategies were you equipped with and exposed to before you were deployed for teaching practice?
5. Did your lecturers differentiate between the strategies for teaching in a regular classroom and those for an inclusive classroom?
6. What assistive devices/technology were you exposed to in college that enables you to improve learner ability in an inclusive classroom?
7. During your teaching practice were these devices available for use and how did they enhance the effectiveness of the teaching strategies?
8. What assessment strategies were you exposed to in college and did these help you in dealing with learners in their diversity?
9. Do you feel you were adequately equipped (in terms of teaching strategies) to handle learners in their diversity during teaching practice? (Further prompts depending with the response).
10. What aspects of teacher education do you think need consideration to prepare pre-service teacher trainees to meet the challenges of inclusive classes?

Appendix L: Focus group discussions (Lecturers)

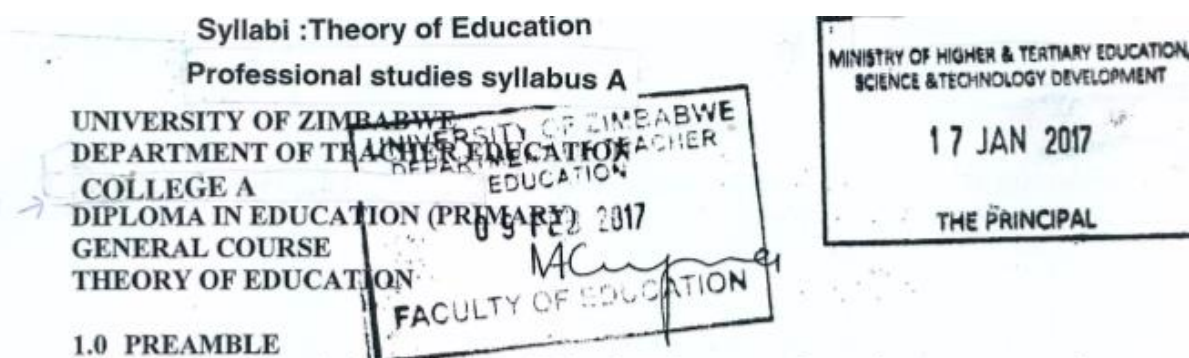
1. What do you understand by inclusive education?
2. What teaching strategies do you equip pre-service teacher trainees with?
3. Do you feel these strategies will enable them to effectively handle inclusive classes?
4. What are your experiences with teacher competencies for inclusion?
5. Do you consider the training that students receive to be relevant and sufficient in preparing them for encountering inclusive classes?
6. What is your assessment of pre-service trainees' ability to handle inclusive classes in terms of teaching strategies?
7. Have you exposed your pre-service trainees to the use of assistive technology to help learners understand concepts during their training?
8. Do your students use any assistive devices in their teaching practice in inclusive classrooms?
9. How effective do you consider the strategies for teaching that you equip the student with are in terms of catering for learners in their diversity?

Appendix M: Focus Group discussions (Pre-service trainees)

Guiding questions

1. What do you understand by inclusive education?
2. What teaching strategies were you equipped with during your residential terms in college?
3. Do you feel these strategies were relevant and adequate in enabling you to implement inclusive education during your teaching practice?
4. Did you have any room to use assistive technology in your teaching of classes characterised by diversity?
5. In using the various teaching strategies did you by any chance consider Howard Gardner's theory of multiple intelligences?
6. What challenges (if any) did you encounter in using the teaching strategies you were equipped with while teaching classes characterised by diversity?
7. What are your suggestions (if any) for the improvement of the strategies for implementing inclusive education that pre-service trainees are equipped with during their training?

Appendix N: Theory of education Syllabus



1.0 PREAMBLE

The syllabus is designed for post 'O' level students pursuing a three-year pre-service course for Diploma in Education (Primary). The course is structured as follows: two terms first residential phase, five terms teaching practice phase and two terms final residential phase (2-5-2). Areas covered are Psychology of Education and inclusive education, Sociology of Education and educational administration, Philosophy of Education / Curriculum issues to inculcate creativity, innovativeness, problem solving and entrepreneurship.

2.0 AIMS

The course aims to:

- 2.1 develop in student teachers an awareness of social, political, socio cultural and socio economic factors that influence education in Zimbabwe;
- 2.2 enhance student teachers' awareness of the relationship between education and society;
- 2.3 develop in student teachers the necessary skills such as critical thinking, reflection, innovativeness, judgment, decision making and creativity;
- 2.4 inculcate in student teachers the knowledge, of how primary school children develop and learn and
- 2.5 promote in student teachers an understanding of educational principles as they relate to the specific environment of the Zimbabwean communities.

3.0 THE OBJECTIVES ARE TO:

Enable student teachers;

- 3.1 demonstrate an understanding of child development in Zimbabwe;
- 3.2 articulate variables that affect teaching and learning;
- 3.3 use educational media and technology in learning and teaching;
- 3.4 expose students to various cultures in Zimbabwe;
- 3.5 compare and contrast a wide range of educational systems;
- 3.6 demonstrate knowledge and skills of education and their implications on teaching and learning and
- 3.7 show the importance of contemporary social issues in education.

4.0 CONTENT

4.1 PSYCHOLOGY OF EDUCATION

- 4.1.1 conceptual analysis

4.2 CHILD DEVELOPMENT

- 4.2.1 Physical development
- 4.2.2 Theory of physical and motor development
- 4.2.3 Development of loco - motor skills

4.3 SOCIAL AND EMOTIONAL DEVELOPMENT

- 4.3.1 Indigenous knowledge social and emotional development

4.3.2 Theories of social and emotional development

4.4 DEVELOPMENT OF COGNITION

4.4.1 Indigenous knowledge on cognition

4.4.2 Theories of cognitive development

4.5 MORAL DEVELOPMENT

4.5.1 Indigenous knowledge on moral development

4.5.2 Theories of moral development

4.6 PERSONALITY DEVELOPMENT

4.6.1 Indigenous knowledge on personality development

4.6.2 Theories of personality development

4.7 INTELLIGENCE CREATIVITY

4.7.1 Nature versus nurture

4.7.2 A comparison between intelligence and creativity

4.8 THEORIES OF LEARNING

4.8.1 Traditional ways of learning

4.8.2 Behaviourist theories of learning

4.8.3 Cognitivist theories of learning

4.8.4 Humanist theories of learning

4.8.5 Constructivist theories of learning

4.8.6 Social learning theories

4.9 INCLUSIVE EDUCATION/CHILDREN WITH SPECIAL NEEDS

4.9.1 Auditory

4.9.2 Visual

4.9.3 Physical

4.9.4 Mental

4.9.5 Gifted children

4.9.6 Slow learners

4.10 THEORIES OF MOTIVATION

4.10.1 Humanist

4.10.2 Behaviourist

4.11 GUIDANCE AND COUNSELING.

4.11.1 Traditional ways of counseling

4.11.2 Psychoanalysis

4.11.3 Humanist approach

4.11.4 Behaviour modification

4.11.5 Cognitive approach

4.12 PSYCHOLINGUISTIC

4.12.1 language learning theories

4.12.2 nativism

4.12.3 behaviorism

4.12.4 cognitivism

4.12.5 social learning theory

5.0 SOCIOLOGY OF EDUCATIONCONCEPTUAL ANALYSIS

5.1 Sociological perspectives and education

5.2 African perspectives

5.3 Functionalist perspective

5.4 Conflict perspective

5.5 Symbolicinteractionist perspective

6.0 CONCEPTS AND EDUCATION.

6.1 Culture and society

6.2 Social class

6.3 Social stratification

6.4 Social mobility

7.0 SOCIALISATION AND EDUCATION

7.1 Early childhoodsocialisation

7.2 Agents of socialization

7.2.1 Home/family

7.2.2 School

7.2.3 Peer group

7.2.4 Mass media

8.0 THE SCHOOL AS AN ORGANISATION

8.1 Sociology of the school

8.2 Communication systems within the school

8.3 Sociometry and its uses in the classroom

8.4 Peer group functions and significance in the school

8.5 Group dynamics

9.0 EDUCATION AND INEQUALITY

9.1 Gender

9.2 Ethnicity

9.3 Class

9.4 Educational access

9.5 Opportunity/achievement

9.6 Achievement

9.7 Contemporary issues

9.7.1 Child abuse

9.7.2 Substance abuse

9.7.3 HIV and AIDS

9.7.4 Poverty

9.7.5 Gender based violence

10.0 EDUCATIONAL ADMINISTRATION AND MANAGEMENT

10.1 THEORIES OF ADMINISTRATION AND MANAGEMENT CONCEPTUAL ANALYSIS

10.1.1 conceptual analysis

10.1.2 beaurocracy

10.1.3 motivational theories

10.2 LEADERSHIP STYLES

10.2.1 democratic / authoritative

10.2.2 autocratic / Authoritarian

10.2.3 laissezfaire

10.3 COMMUNICATION

10.3.1 vertical communication

10.3.2 horizontal

10.3.3 barriers of communication

10.3.4 solutions to barriers of communication

11.0 PHILOSOPHY OF EDUCATION

11.1 African indigenous philosophy

11.2 Conceptual analysis

11.2.1 Formal

11.2.2 Informal

11.2.3 Non-formal

11.2.4 Community Education

12.0 PHILOSOPHIES OF EDUCATION

12.1 Indigenous knowledge

12.2 Idealism

12.3 Realism

12.4 Perennialism

12.5 Essentialism

12.6 Pragmatism

12.7 Progressivism

12.8 Reconstructivism

12.9 Unhuism/Ubuntuism

13.0 EDUCATION IN ZIMBABWE

13.1 Pre-colonial

13.2 Colonial

13.3 Post-colonial

13.4 contemporary issues

14.0 COMPARATIVE EDUCATION

Comparative education of SADCC Countries of African countries

14.1 Cuba

14.2 Tanzania

14.3 United Kingdom

14.4 United States of America

14.5 China

15.0 CURRICULUM STUDIESCONCEPTUAL ANALYSIS

15.1 Conceptualanalysis

15.2 Determinants/Foundations of curriculum

15.3 Curriculum planning and development

- 15.4 Curriculum models
- 15.5 Problems/barriers and solutions
- 15.6 Teacher's role
- 15.7 Curriculum change and innovation
- 15.8 Curriculum evaluation

16.0 APPROACHES

- 16.1 Lectures
- 16.2 Tutorials
- 16.3 Discussions
- 16.4 Open Distance learning
- 16.5 Assignments
- 16.6 Multimedia
- 16.7 Field trips
- 16.8 Research
- 16.9 Problem solving

17.0 ASSESSMENT

- 17.1 Assessment is based on coursework and examination.
- 17.2 Coursework 30%
 - 17.2.1 Open distance learning assignment, and two assignments done during the final residential phase
 - 17.2.2 Coursework includes the file.
 - 17.2.3 Students who do not pass the course work will not write the examination.
 - 17.2.4 Students to pass both coursework and exams separately.
- 17.3 Examination (70%)
 - A three hour paper comprising three sections i.e, educational psychology and inclusive education, sociology of education and educational administration and educational philosophy and curriculum issues.
- 17.4 To pass, a candidate must score 50% or better in coursework and examination.

Reviewed February 2016

UNIVERSITY OF ZIMBABWE
DEPARTMENT OF TEACHER EDUCATION
COLLEGE A
DIPLOMA IN EDUCATION (PRIMARY)
GENERAL COURSE
PROFESSIONAL STUDIES SYLLABUS 'A'

1.0 PREAMBLE

The Professional Studies Syllabus 'A' is designed for post 'O' level students pursuing a three-year pre-service course for Diploma in Education (Primary). The focus of the programme is to produce competent and innovative teachers with professional knowledge and skills necessary for teaching in the primary school. The course is structured as follows: two terms first residential phase, five terms teaching practice phase and two terms final residential phase (2-5-2). The syllabus is designed to cover the following areas:

- Class/classroom Management and School Administration,
- Methodology and
- Instructional media

2.0 AIMS

This syllabus enables student teachers to:

- 2.1 acquire knowledge and develop skills, attitudes teaching and learning
- 2.2 be imaginative, resourceful, innovative, reflective and self-reliant in their approaches to teaching;
- 2.3 use instructional media in teaching and learning and
- 2.4 promote a research culture in teaching and learning.

3.0 OBJECTIVES

- 3.1** interpret syllabus documents, draw up schemes of work, plan and
- 3.2** prepare lessons
- 3.3** evaluate teaching and learning processes;
- 3.4** employ a variety of methods, strategies and techniques in teaching and learning
- 3.5** assess and evaluate learners' performance through the construction and
- 3.6** use of valid instruments;
- 3.7** develop administrative skills through record keeping;
- 3.8** utilise the physical and social environment for effective teaching and learning;
- 3.9** marry research findings with practical teaching.

4.0 CONTENT

4.1 EDUCATIONAL MANAGEMENT

- 4.1.1 Conceptual analysis
- 4.1.2 Theories of Educational Administration
- 4.1.3 Leadership styles
- 4.1.4 Principles of Management
- 4.1.5 School organizational structure
- 4.1.6 Performance Management

4.2 The primary school curriculum:

- 4.2.1 Interpreting syllabus documents*
- 4.2.2 Formulating aims and objectives
- 4.2.3 Scheming, planning and evaluating
- 4.2.4 Chalkboard writing skills
- 4.2.5 Preparation and use of audio-visual aids

4.3 MANAGEMENT OF AN EFFECTIVE LEARNING ENVIRONMENT

- 4.3.2 group dynamics
- 4.3.3 Motivation
- 4.3.4 Discipline
- 4.3.5 Inclusive Education

4.4 ASSESSMENT MEASUREMENT AND EVALUATION

- 4.4.1 Records
- 4.4.2 Reflective practice
- 4.4.3 Formative and summative evaluation

4.5 CONDITIONS OF SERVICE

- 4.5.1 appointment, advancement, promotion.
- 4.5.2 Teacher ethics and teacher professionalism
- 4.5.3 Policy

4.6 MANAGING CHANGE, CONFLICT AND STRESS.

- 4.6.1 Communication
- 4.6.2 Types, causes and ways of managing stress
- 4.6.3 Conflict management
- 4.6.4 Change management

4.7 EDUCATIONAL MEDIA AND TECHNOLOGY/ instructional media

- 4.7.1 conceptual analysis
- 4.7.2 What is instructional media / technology
- 4.7.3 Models of Educational Media and Technology
- 4.7.4 Categories of media

1.7.5 Computer Based Teaching/Learning

- 1.7.5.1 Rationale for using computers

- 4.7.5.2 Computers as teaching and learning tools
- 4.7.5.3 E- learning

4.8 METHODOLOGY

- 4.8.1 Traditional methods
- 4.8.2 Progressive methods

5.0 APPROACHES

- 5.1 Workshops and Seminars
- 5.2 Lectures
- 5.3 Presentations
- 5.4 Discussions
- 5.5 Library
- 5.6 Research
- 5.7 EMT
- 5.8 Assignments
- 5.9 E- Learning
- 5.10 Practical work
- 5.11 Problem solving
- 5.12 Field trips

6.0 OPEN AND DISTANCE LEARNING EDUCATION

- 6.1 Tutorials
- 6.2 Demonstrations
- 6.3 Observations
- 6.4 Supervision
- 6.5 Project work
- 6.6 Workshops and seminars

*

7.0 ASSESSEMENT PROCEDURES

7.1 Final assessment will be based on coursework and a written examination.

7.1.1 Coursework assignments:

7.1.1.1 One distance education assignment

7.1.1.2 Two assignments during final residential phase

7.1.2 Final Examination:

7.1.2.1 One three hour paper of nine questions,

7.1.2.2 Three questions from each section of the syllabus.

8.0 Weighting:

8.1 Coursework 30%

8.2 Examination 70%

To pass, a candidate must score a minimum of 50% in both coursework and examination.

A candidate cannot sit the examination before passing coursework.

Reviewed July 2016

UNIVERSITY OF ZIMBABWE
DEPARTMENT OF TEACHER EDUCATION
COLLEGE A

DIPLOMA IN EDUCATION (PRIMARY)
EARLY CHILDHOOD DEVELOPMENT (ECD)
PROFESSIONAL STUDIES SYLLABUS 'A'

FACULTY OF EDUCATION

MINISTRY OF SCIENCE & TECHNOLOGY DEVELOPMENT

17 JAN 2017

THE PRINCIPAL

1.0 PREAMBLE

The syllabus is designed for post "O" Level students pursuing a three year pre-service course for Diploma in Education (Primary). The course follows a 2-5-2 model: first two terms residential, five terms attachment practicum and final two terms residential. The syllabus exposes student teachers to ECD management and organisational skills, attitudes and values to enable them to become competent ECD teachers for children (0-8 years) from diverse contexts of development.

2.0 AIMS

This course aims to help student teachers to:

- 2.1 develop knowledge, skills, values and attitudes appropriate in managing, organizing and administration of ECD programmes for children aged zero to eight years (0-8 years);
- 2.2 design, implement and evaluate ECD programmes;
- 2.3 foster inter-personal relationship skills and organizational attributes that enable them to work with colleagues, children, parents and communities and
- 2.4 apply appropriate methodologies to ECD children of various age groups.

3.0 OBJECTIVES

By the end of the course the student teachers should be able to:

- 3.1 interpret syllabi, draw up timetables, schemes of work and prepare lessons plans;
- 3.2 develop teaching and learning resources;
- 3.3 use valid and appropriate instruments to assess and evaluate the children's development;
- 3.4 demonstrate knowledge and skills needed for working with diverse communities;
- 3.5 design appropriate activities for ECD children and
- 3.6 employ various ways of promoting services for children aged zero to eight years (0-8 years)

4.0 CONTENT

CLASSROOM MANAGEMENT AND ECD LEARNING CENTRE/SCHOOL ADMINISTRATION

4.1 ECD LEARNING CENTRE/SCHOOL ADMINISTRATION

- 4.1.1 Theories of Educational Management
- 4.1.2 ECD learning centre structure
- 4.1.3 Duties and attributes of a teacher / caregiver ,supervisor parents and community
- 4.1.4 ECD school as an organization
- 4.1.5 Duties and responsibilities of human resources, class teacher, teacher – in – charge, deputy head and school head.
- 4.1.6 Leadership styles
- 4.1.7 ECD school as a safe zone for young children

- 4.1.8 Conditions of service e.g. appointment, leave, advancement and acts of misconduct
- 4.1.9 Teacher ethics and professionalism.

4.2 ECD LEARNING AREAS AND CLASSROOM MANAGEMENT

- 4.2.1 School orientation e.g. colour discrimination, left to right orientation, visual/memory and auditory analysis etc
- 4.2.2 School, child, family, community
- 4.2.3 ECD group dynamics and classroom interaction
- 4.2.4 Discipline and motivation
- 4.2.5 ECD policy statements in Zimbabwe
- 4.2.6 Reflective practice in teaching and learning
- 4.2.7 Integral issues during toddlerhood/preschool infant school child eg teacher, strategy outcome.
- 4.2.8 Class displays and learning areas
- 4.2.9 ECD learning areas /environment
- 4.2.10 Setting the stage of learning
- 4.2.11 Research methods
- 4.2.12 Action research
- 4.2.13 Child study

4.3 HEALTH, SAFETY AND NUTRITION ISSUES

- 4.3.1 Health education
- 4.3.2 Safety education
- 4.3.3 Nutrition
- 4.3.4 Childhood illnesses

4.4 METHODOLOGY

- 4.4.1 Introducing, developing and conducting lessons
- 4.4.2 Integrated approach
- 4.4.3 Play
- 4.4.4 Role play/simulation
- 4.4.5 Imitation
- 4.4.6 Exploration
- 4.4.7 Experimentation
- 4.4.8 Games and quizzes
- 4.4.9 Field trips , outreach programmes
- 4.4.10 Discussion
- 4.4.11 Group work
- 4.4.12 Resource persons eg health personnel
- 4.4.13 Inductive and deductive learning
- 4.4.14 Computer learning
- 4.4.15 Demonstration skills
- 4.4.16 Story telling across the curriculum: dramatization

- 4.4.17 Questioning
- 4.4.18 Inquiry and problem solving
- 4.4.19 Stimulus variation techniques

4.5 PREPARATION FOR TEACHING

- 4.5.1 Interpretation of syllabus documents
- 4.5.2 Scheming, lesson planning and evaluation
- 4.5.3 Drawing, designing timetables/routines, daily schedules
- 4.5.4 Instructional design models: ASSURE; GERLACK and ELY
- 4.5.5 Chalkboard writing skills
- 4.5.6 Use of instructional media
- 4.5.7 Use of electronic media projector, transparencies, slides, audio recording, television, radio, video equipment, computer

5.0 EDUCATIONAL MEDIA AND TECHNOLOGY (EMT)

5.1 NATURE AND ROLE OF E.M.T

- 5.1.1 Definitions: What is media/technology?
- 5.1.2 Perspectives in EMT; cognitivist, behaviourist, constructivist, socio-psychologist perspectives.
- 5.1.3 Nature of EMT
- 5.1.4 Characteristics of E.M.T
- 5.1.5 Rationale of using media
- 5.1.6 Perception and use of media

5.2 CATEGORIES OF MEDIA

- 5.2.1 Projected media: OHP transparencies, opaque, projection, film strips, computers, T.Vs, videos, VCR, D.V.D and C.Ds
- 5.2.2 Non - projected media: flannel board, flip charts, the chalkboard, two and three dimensional media.
- 5.2.3 Use of projected media

5.3 CONSTRUCTION OF INSTRUCTIONAL MEDIA

- 5.3.1 Commercial and improvised media
- 5.3.2 Health and safety issues in media

6.0 MONITORING, ASSESSMENT AND EVALUTION

- 6.1 Understanding 'measurement' evaluation and 'judgment' in the ECD.
- 6.2 Record keeping at ECD level
- 6.3 Evaluating the programme itself and children
- 6.4 Evaluating classroom practices and teaching
- 6.5 Diagnostic teaching and determining children's needs
- 6.6 Developing developmental checklists and testing for placement.
- 6.7 Types and functions of records
- 6.8 Construction and administration of tests

- 6.9 Assessment of pupils developmental levels eg physical, cognitive, social, emotional; language, health and safety
- 6.10 Observing, analyzing and recording pupils' behaviour (0-5/6 years)
- 6.11 Analysis and remediation of pupils with special needs
- 6.12 Compiling and maintaining ECD class records eg register, anecdotal, checklist, block plan, individual, social, progress, remedial, extension and pre-reading.

7.0 APPROACHES

- 7.1 Lectures
- 7.2 group discussions
- 7.3 resource persons
- 7.4 individual and group research
- 7.5 multi –media
- 7.6 tutorial letters
- 7.7 model lessons
- 7.8 observations
- 7.9 project work
- 7.10 seminars
- 7.11 community outreach
- 7.12 field trips

8.0 ASSESSMENT PROCEDURES

- 8.1 The final assessment will be based on coursework and a written examination.
- 8.2 Two (2) written assignments and an integrated kit of equal weighting in the final year.
- 8.3 Final examination: one three (3) hour paper with three questions of equal weighting.

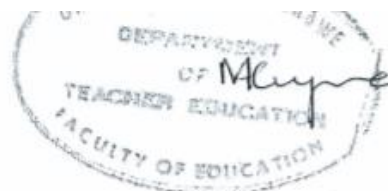
8.4 Weighting

- 8.4.1 Coursework 50%
- Examination 50%

To pass, a candidate must score 50% or better in both coursework and the examination
 Syllabus 'A' and Syllabus 'B' each constitutes 40% of the marks in Section Four while syllabus 'C' constitutes 20%. Students should pass syllabus 'A' and syllabus 'B' with a minimum of 50% and Syllabus C with a minimum of 40%.

Reviewed February 2016

**UNIVERSITY OF ZIMBABWE
DEPARTMENT OF TEACHER EDUCATION
COLLEGE B
DIPLOMA IN EDUCATION (PRIMARY)
GENERAL COURSE
THEORY OF EDUCATION SYLLABUS**



1.0 PREAMBLE

The Theory of Education syllabus is designed for post 'O' level student teachers pursuing a three year pre-service course for the Diploma in Education (Primary). The course comprises Philosophy of Education, Educational Psychology, Sociology of Education, Educational Management and Administration as well as Curriculum Issues. The structure of the course is as follows: an initial two term residential phase, a five term open and distance learning during teaching practice, and a final two term residential phase.

2.0 AIMS

The course aims to:

- 2.1 expose student teachers to the relationship between theory and practice of education;
- 2.2 expose student teachers to the role of education as a vehicle for socio-economic development;
- 2.3 sensitise student teachers on the aims and objectives of the Zimbabwean education system;
- 2.4 inculcate in student teachers an appreciation of ethics, moral values, culture and integrity;
- 2.5 inculcate scientific and critical thinking in student teachers; and
- 2.6 conscientise student teachers on physical, social, emotional, mental and moral factors in the development of children.

3.0 OBJECTIVES

The objectives of the course are to enable student teachers to:

- 3.1 understand the aims, concepts and functions of education;
- 3.2 assess the socio-political, socio-economic and socio-cultural values of education;
- 3.3 examine contemporary educational issues in Zimbabwe;
- 3.4 apply sociological, psychological and philosophical perspectives and methodologies in the analysis of the school system;
- 3.5 analyse educational theories and their implications for teaching and learning;
- 3.6 appreciate the critical role of theory of education in influencing teaching and learning across the teacher education curriculum; and
- 3.8 identify children with diverse needs and design appropriate intervention strategies in the regular classroom situation.

4.0 CONTENT

FIRST RESIDENTIAL PHASE

4.1 PHILOSOPHY OF EDUCATION AND CURRICULUM ISSUES

4.1.1 Conceptual Analysis

- 4.1.1.1 The nature and purpose of Philosophy of Education

- 4.1.1.2 The meaning of education
- 4.1.1.3 The determination of educational values and aims

4.1.2 Development of Educational Ideas

- 4.1.2.1 Evolution of educational ideas
- 4.1.2.2 Theories/ beliefs
 - 4.1.2.2.1 Essentialism from Idealism and Realism
 - 4.1.2.2.2 Perennialism from Realism
 - 4.1.2.2.3 Progressivism from Pragmatism
 - 4.1.2.2.4 Reconstructionism from Pragmatism

4.1.3 Curriculum Issues in Zimbabwe

- 4.1.3.1 Conceptual analysis of curriculum
- 4.1.3.2 Nature and purpose of curriculum studies
- 4.1.3.3 Curriculum planning/designing
- 4.1.3.4 Curriculum interpretation and implementation
- 4.1.3.5 Curriculum innovation and change
- 4.1.3.6 Curriculum evaluation

4.1.4 Development of Education in Zimbabwe

- 4.1.4.1 Ideology and Education
- 4.1.4.2 Philosophical basis of pre-colonial education
- 4.1.4.3 Philosophical basis of colonial education
- 4.1.4.4 Philosophical basis of post-colonial education

4.2. SOCIOLOGY OF EDUCATION AND EDUCATIONAL MANAGEMENT

4.2.1 Conceptual Analysis

- 4.2.1.1 Origins of Sociology of Education
- 4.2.1.2 Nature and purpose of Sociology of Education

4.2.2 Sociological Perspectives and Theories

- 4.2.2.1 African sociological perspectives
- 4.2.2.2 Macro-sociological perspectives: Functionalism and Marxism
- 4.2.2.3 Micro-sociological perspective: Symbolic Interactionism
- 4.2.2.4 Feminism: Liberal, Radical, Marxist, and Socialist feminism
- 4.2.2.5 Postmodernism

4.2.3 Culture, Socialisation and Education

- 4.2.3.1 The relationship between culture and education
- 4.2.3.2 Primary and secondary agents of socialisation
- 4.2.3.3 Multicultural education

4.2.4 Role of Education in Society

- 4.2.4.1 Functionalist view
 - 4.2.4.2 Marxist – conflict view
 - 4.2.4.3 Feminist view
-

4.2.4.4 Interactionist view

4.2.5 Family and Education

4.2.5.1 Family structures

4.2.5.2 Role of the family in education

4.2.5.3 Family background and educational achievement

4.3 EDUCATIONAL PSYCHOLOGY

4.3.1 Conceptual analysis

4.3.1.1 The nature and purpose of Educational Psychology

4.3.2 Human Development

4.3.2.1 Theoretical issues in human development

4.3.2.2 Physical development

4.3.2.3 Social development

4.3.2.4 Cognitive development: Piaget, Bruner

4.3.2.5 Language development: Skinner, Chomsky

4.3.2.6 Moral development: Piaget, Kohlberg

4.3.3 Learning Theories

4.3.3.1 Behavioural learning theories

4.3.3.2 Information processing theories

4.3.3.3 Cognitive learning theories

4.3.3.4 Social learning theory

4.3.3.5 Humanistic approach to learning

4.3.3.6 Constructivism

4.3.4 Inclusive Education

4.3.4.1 Conceptual analysis of Inclusive Education

4.3.4.2 Nature and purpose of Inclusive Education

4.3.4.3 Categories of exceptionalities: Intellectual, hearing, visual, physical and motor impairment

OPEN AND DISTANCE LEARNING

4.4 PHILOSOPHY OF EDUCATION AND CURRICULUM ISSUES

4.4.1 Critical Issues in Education

4.4.1.1 Discipline and punishment

4.4.1.2 Freedom and authority

4.4.1.3 Indoctrination and education

4.5 SOCIOLOGY OF EDUCATION AND EDUCATIONAL MANAGEMENT

4.5.1 Sociology of the School

4.5.1.1 The formal curriculum and the hidden curriculum

4.5.1.2 The relationship between school and community

- 4.5.1.2 Role of the teacher in school and community
- 4.5.1.3 Role of parents in school and community

4.6 EDUCATIONAL PSYCHOLOGY

4.6.1 Inclusive Education

- 4.6.1.1 Categories of exceptionalities
 - 4.6.1.1.1 Emotional and behavioural disorders
 - 4.6.1.1.2 Health related conditions
 - 4.6.1.1.3 Speech, language and communication disorders
 - 4.6.1.1.4 Gifted, talented and creative pupils
 - 4.6.1.1.5 Children in difficult circumstances
- 4.6.1.2 Curriculum issues in Inclusive Education
 - 4.6.1.2.1 Sign language
 - 4.6.1.2.2 Curriculum planning and management
 - 4.6.1.2.3 Informal and formal assessment

FINAL RESIDENTIAL PHASE

4.7 PHILOSOPHY OF EDUCATION AND CURRICULUM ISSUES

4.7.1 Application of Philosophical Perspectives

- 4.7.1.1 Progressive thinkers in western society: Locke, Dewey, Froebel, Rousseau, Pestalozzi, Montessori, Satre
- 4.7.1.2 Critical thinking in philosophy for children
- 4.7.1.3 Third- world educational thinkers: Freire, Castro, Nyerere, Nkrumah, Samkange
- 4.7.1.4 Morality and the development of a nation: hunhu/ubuntu in Zimbabwe

4.8. SOCIOLOGY OF EDUCATION AND EDUCATIONAL MANAGEMENT

4.8.1 Sociology of the School

- 4.8.1.1 Group dynamics and sociometry
- 4.8.1.2 Deviance in school and society
- 4.8.1.3 Determinants of academic achievement

4.8.2 Social Stratification and Education

- 4.8.2.1 Theories of social stratification
 - 4.8.2.1.1 The functionalist theory
 - 4.8.2.1.2 The Marxist theory
 - 4.8.2.1.3 The feminist theory
 - 4.8.2.1.4 The Weberian theory
- 4.8.2.2 Social mobility and education

4.8.3 Social change, Development and Education

- 4.8.3.1 Theories of social change and development
 - 4.8.3.1.1 The functionalist theory
 - 4.8.3.1.2 The modernisation theory
 - 4.8.3.1.3 The Marxist theory

4.8.3.2 The role of education in social change and development

4.8.4 Contemporary Issues in Education

- 4.8.4.1 Nature and purpose of Human Rights
- 4.8.4.2 The rights and responsibilities of the child
- 4.8.4.3 Poverty
- 4.8.4.4 Child abuse
- 4.8.4.5 Gender issues in education
- 4.8.4.6 School dropout
- 4.8.4.7 Substance abuse
- 4.8.4.8 HIV and AIDS
- 4.8.4.9 Orphaned and vulnerable children

4.8.5 Educational Management, Administration and Organisation

- 4.8.5.1 Conceptual analysis
- 4.8.5.2 Relationships among management, administration and organisation
- 4.8.5.3 Theories of educational management
- 4.8.5.4 Leadership styles
- 4.8.5.5 School as a bureaucratic organisation
- 4.8.5.6 Traditional management systems
- 4.8.5.7 Conflict management

4.9 EDUCATIONAL PSYCHOLOGY

4.9.1 Human Development

- 4.9.1.1 Personality development:
 - 4.9.1.1.1 Psychoanalytic approach
 - 4.9.1.1.2 Psychosocial approach
 - 4.9.1.1.3 Behaviourist approach
 - 4.9.1.1.4 Humanist approach

4.9.2 Psychological Differences

- 4.9.2.1 The nature and measurement of intelligence
- 4.9.2.2 Creativity
- 4.9.2.3 Innovation/ change
- 4.9.2.4 Cognitive styles/ learning styles
- 4.9.2.5 Concept formation
- 4.9.2.6 Human motivation
- 4.9.2.7 Measurement and evaluation

4.9.3 Guidance and Counselling

- 4.9.3.1 Nature of Guidance and Counselling
- 4.9.3.3 Purpose of Guidance and Counselling
- 4.9.3.4 Theories of Guidance and Counselling
- 4.9.3.5 Traditional Guidance and Counselling

4.9.4 Learning disabilities/difficulties

- 4.9.4.1 Dyscalculia
- 4.9.4.2 Dyslexia
- 4.9.4.3 Dysgraphia
- 4.9.4.4 Aphasia

5.0 APPROACHES

- 5.1 The following methods are used:
 - 5.1.1 Mass lectures
 - 5.1.2 Team teaching
 - 5.1.3 Seminars / Tutorials
 - 5.1.4 Learning visits
 - 5.1.6 Assignments
 - 5.1.7 Use of technology e.g. films, videos, internet
 - 5.1.8 Resource Persons
 - 5.1.9 Open Distance Learning
 - 5.1.10 Vacation Course
 - 5.1.11 Problem Solving
 - 5.1.12 Research

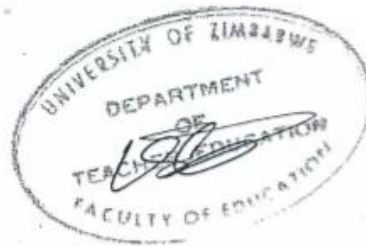
6.0 ASSESSMENT

- 6.1 Final assessment consists of coursework and examination
 - 6.1.1 **Coursework**
 - 6.1.1.1 Coursework is made up of three assignments: one distance education assignment and two during the final residential phase
 - 6.1.1.2 For a candidate to proceed to write the examination they need to pass coursework in each of the assignments at 50% or better
 - 6.1.2 **Examination**
 - 6.1.2.1 Examination consists of a three hour paper

7.0 WEIGHTING

- 7.1 The two components will be weighted as follows:
 - 7.1.1 Coursework 30%
 - 7.1.2 Examination 70%
- 7.2 Candidates are required to pass both components separately with a 50% or better
- 7.3 Candidates are not allowed to write the final examination before satisfying coursework requirements.

UNIVERSITY OF ZIMBABWE
DEPARTMENT OF TEACHER EDUCATION
COLLEGE B



DIPLOMA IN EDUCATION [PRIMARY]
PROFESSIONAL STUDIES SYLLABUS 'A' GENERAL COURSE

1.0 PREAMBLE

Professional Studies Syllabus [A] is designed for Post 'O' Level student teachers to become life long competent professional teachers of primary school pupils. The 3 year pre-service course integrates educational theory and educational practice with the students' own reflective teaching experience. The structure of the course is as follows: General course; two terms residential phase, five terms of teaching practice attachment and two terms final residential phase.

2.0 AIMS

The course aims to:

- 2.1 promote and sharpen student teachers intellectual and practical classroom skills;
- 2.2 develop a student teacher who appreciates educational and societal values and ethics of the teaching profession; and
- 2.3 develop a competent professional teacher who is reflective, innovative and effective in the teaching-learning situation.

3.0 OBJECTIVES

By the end of the course, student teachers should be able to:

- 3.1 demonstrate both knowledge and practice of effective teaching and learning in the primary school;
- 3.2 identify and explain the variables that influence and determine the teaching/learning situation;
- 3.3 formulate, implement and evaluate appropriate teaching/ learning programmes for primary school pupils;
- 3.4 explain the role and varieties of educational media and technology in teaching/ learning situations;
- 3.5 select and modify appropriate teaching methods, media and teaching/learning materials from the environment, for use in effective classroom instruction;
- 3.6 justify the teaching principles and practices involved in the profession ;and

- 3.7 evaluate the impact and effectiveness of instruction and plan for improvement .

4.0 CONTENT

4.1.0 PROFESSIONALISM AND PROFESSIONALISATION OF TEACHING.

- 4.1.1 The nature and purpose of Professional Studies
- 4.1.2 The concept of teaching as a profession
- 4.1.3 Professional autonomy and public accountability
- 4.1.4 Professional ethics : ethical, spiritual and aesthetic values
- 4.1.5 The role of professional teacher organisations
- 4.1.6 Continuing professional development and education

4.2.0 PRIMARY SCHOOL CURRICULUM

- 4.2.1 Rationale for the primary school curriculum
- 4.2.2 Approaches to curriculum implementation e.g. modular, disciplinary, integrative
- 4.2.3 Principles and skills of curriculum and syllabus interpretation
- 4.2.4 Principles of scheming for effective planning
- 4.2.5 Principles of lesson planning for effective teaching
- 4.2.6 Evaluation for the improvement of teaching and learning –schemes of work and lesson plans.

4.3.0 EFFECTIVE PRIMARY SCHOOL TEACHING

- 4.3.1 Context , process and product variables of the teaching /learning situation
- 4.3.2 Characteristics/ qualities and skills/abilities of an effective primary school teacher
- 4.3.3 Didactic principles for effective teaching
- 4.3.4 Action research for effective teaching
- 4.3.5 Providing good quality education
- 4.3.6 Reflective teaching

4.4.0 CLASS AND CLASSROOM MANAGEMENT

- 4.4.1 The conceptual framework of class and classroom management.
- 4.4.2 Performance skills of teaching:
 - 4.4.2.1 voice, manner and pose –set induction-lesson development
 - 4.4.2.2 stimulus variation-motivation
 - 4.4.2.3 interaction patterns –feedback
 - 4.4.2.4 closure Skills
- 4.4.3 Principles of grouping and organization for learning
- 4.4.4 Managing the individual child and individual differences
- 4.4.5 Children's learning difficulties and teacher intervention

- 4.4.6 Discipline in the classroom
- 4.4.7 Principles and skills of record- keeping
- 4.4.8 Managing of teaching / learning resources: time ,space, material and human
- 4.4.9 Class learning centres
- 4.4.10 Individualized instruction/learning

4.5.0 GENERAL TEACHING METHODS AND APPROACHES

- 4.5.1 Teacher-centred and child –centred methods
- 4.5.2 Inductive and deductive learning
- 4.5.3 Discussion method
- 4.5.4 Story –telling
- 4.5.5 The lecture method
- 4.5.6 Demonstration
- 4.5.7 The question method
- 4.5.8 Discovery method
- 4.5.9 Role- play, Drama and Games
- 4.5.10 Problem solving
- 4.5.11 Field Trips
- 4.5.12 Thematic approach
- 4.5.13 Resource person
- 4.5.14 Project method

4.6.0 EDUCATIONAL ADMINISTRATION

- 4.6.1 School organizational structure and functions of members
- 4.6.2 Education and Law- Education Acts, Education policies and Public Service Regulations
- 4.6.3 Planning and managing professional meetings
- 4.6.4 The school mission statement ,vision and client charter
- 4.6.5 Managing change and conflict
- 4.6.6 Procurement and allocation of resources
- 4.6.7 Leadership styles
- 4.6.8 Effective organizational communication
- 4.6.9 Organizational evaluation and improvement
- 4.6.10 Performance Management

4.7.0 ASSESSMENT AND EVALUATION

- 4.7.1 Nature and purpose of assessment
- 4.7.2 Nature and purpose of evaluation
- 4.7.3 Assessment devices ; types of tests, test items and exercises
- 4.7.4 Evaluation techniques
- 4.7.5 Constructing test items e.g. objective, subjective tests
- 4.7.6 Marking pupils' work
- 4.7.7 Internal and external tests/examination

- 4.7.8 Interpreting tests/examination results
- 4.7.9 Reporting on pupils' performance

4.8.0 EDUCATIONAL MEDIA AND TECHNOLOGY [EMT]

- 4.8.1 Nature and role of educational media and technology
 - 4.8.1.1 Definitions of Educational Media and Technology
 - 4.8.1.2 The problem solving approach
 - 4.8.1.3 The four phases of Educational Media and Technology
 - 4.8.1.4 Communication in EMT- theories, models and barriers
- 4.8.2 Visual Literacy and Perception
 - 4.8.2.1 Views on perception e.g. Gestalt
 - 4.8.2.2 Depth perception
 - 4.8.2.3 Perceptual constancies
- 4.8.3 Designing visuals for instruction
 - 4.8.3.1 Types of pictures :descriptive, study and emotive
 - 4.8.3.2 Aspects to consider about pupils when selecting and making visuals e.g pictures
 - 4.8.3.3 Types of charts : teaching and learning
 - 4.8.3.4 Types of arrangements of elements on a chart, posters, flash cards, presentation boards, etc
- 4.8.4 Instructional Design [ID] Models
 - 4.8.4.1 The ASSURE model
 - 4.8.4.2 Gerlach and Ely model
- 4.8.5 Chalkboard skills
 - 4.8.5.1 Graphology
 - 4.8.5.2 Teaching points about handwriting
 - 4.8.5.3 Handwriting practice exercises
 - 4.8.5.4 Uses of the chalkboard
- 4.8.6 ICT
 - 4.8.6.1 What computers are
 - 4.8.6.2 Use of computers in the teaching and learning process
- 4.8.7 Reprographic
 - 4.8.7.1 The overhead projector [OHP] and transparencies
 - 4.8.7.2 Radio and audio recording
 - 4.8.7.3 Television and vision
 - 4.8.7.4 Use of a photocopier, printer, duplicators
 - 4.8.7.5 Scanning

5.0 APPROACHES

- 5.1 Mass lectures
- 5.2 Group and panel discussions
- 5.3 Debates
- 5.4 Seminars and reports
- 5.5 Library research
- 5.6 Project work
- 5.7 Films and videos
- 5.8 Resource persons
- 5.9 Demonstrations/practical lessons
- 5.10 Assignments
- 5.11 Class teaching experience in schools
- 5.12 Micro/peer group teaching
- 5.13 Distance education materials

6.0 Assessment

- 6.1 Assessment is on coursework and examination.

6.2 Coursework 50%

- 6.2.1 One practical assignment while the student is on Distance Education and teaching practice.

6.2.2 Two written assignments which can be in the form of essays or objective item tests during the final residential phase

6.3 EXAMINATION 50%

This consists of one three hour paper

A candidate must pass at 50% or better in each of the above components weighted 12.5% of the total overall percentage in section iv, i.e. 25% in all.

DIPLOMA IN EDUCATION (PRIMARY)

PROFESSIONAL STUDIES SYLLABUS 'A' GENERAL COURSE

ADDENDUM

4.6.0 EDUCATIONAL ADMINISTRATION AND MANAGEMENT

- Theories of Administration e.g. Taylor, Fayol and Weber.
- Theories of Leadership e.g. Trait Theory and Contingency Theory.
- Motivation and Leadership in Education e.g. Adams, Herzberg and Atkinson theories.

6.0 ASSESSMENT

6.1 Assessment is based on coursework and examination.

6.2 Coursework 30%

6.2.1 One practical distance education assignment while the student teacher is on Teaching Practice.

6.2.2 Two written assignments during the final residential phase.

6.3 EXAMINATION 70% *

This consists of one three hour paper.

6.4 A Candidate must pass at 50% or better in each of the above components weighted 12.5% of the total overall percentage in section IV, Professional Studies i.e. 25% in all.

DIPLOMA IN EDUCATION (PRIMARY)

PROFESSIONAL STUDIES SYLLABUS 'A' GENERAL COURSE

ADDENDUM

4.6.0 EDUCATIONAL ADMINISTRATION AND MANAGEMENT

- Theories of Administration e.g. Taylor, Fayol and Weber.
- Theories of Leadership e.g. Trait Theory and Contingency Theory.
- Motivation and Leadership in Education e.g. Adams, Herzberg and Atkinson theories.

6.0 ASSESSMENT

6.1 Assessment is based on coursework and examination.

6.2 Coursework 30%

6.2.1 One practical distance education assignment while the student teacher is on Teaching Practice.

6.2.2 Two written assignments during the final residential phase.

6.3 EXAMINATION 70%

This consists of one three hour paper.

6.4 A Candidate must pass at 50% or better in each of the above components weighted 12.5% of the total overall percentage in section IV, Professional Studies i.e. 25% in all.

Appendix O: Pre-Service teacher trainee schemes of work

View all photos					
Share Zoom Slideshow Draw Edit Rotate ...					
Week 1 9 september 2016	CONTENT ORAL Stories from pictures Oral discussion on iron hunt Answering oral questions A rhyme	During the week pupils will: Appreciate stories from the picture Develop the knowledge on how to answer comprehension questions Develop skills on passage reading Realise that objects have different sizes, shapes, height,	Primary English syllabus Grade2 unit 5a	Flash cards with new words, different sizes, lengths and heights sentence strips with comparison sentences	METHODS Demonstration on how to read a paragraph Explaining on new vocabulary Comparing objects in terms of sizes Discussion on comparison
	Reading picture reading new words comprehension passage, 'iron hunt'	develop an understanding on how to read sentences correctly acquire knowledge on fluent reading from left to right	Step in New primary English Grade 2 page 25-27 New primary English grade 2 teacher's book page 71	chart showing different objects in sizes	ACTIVITIES -pupils identifying stories from pictures -pupils reading comprehension or sentence strips -pupils reading the passage from left to right -pupils writing correct spellings -pupils completing sentences
	Writing Spellings Completing comprehension questions Eg the ruler is---than a pen The tallest boy in our class is--- My father is ---than me SKILLS Identifying Describing comparing	Understand how to write correct sentences Acquire knowledge on how to compete sentences in correct spellings Develop creative skills of writing by recognising words with the same sound			

WEEK ENDING	TOPIC /CONCEPT/CONTENT/ SKILL	WEEKLY AIMS	SOURCE OF MATTER	MEDIA	METHODS /ACTIVITIES	LANGUAGE REGISTER
WEEK 8 28 October 2015	Topic Weather Key concept Weather changes from time to time Sub concepts 1. each season has its own weather condition 2. each own season has its own temperature 3. there are clothes worn to suite the weather condition Skills i. observing ii. describing iii. comparing	During the week pupils will: - acquire knowledge on how does the weather changes - develop an understanding that weather changes over a period of time - insul a better understanding on weather conditions	a) Environmental Science primary syllabus page 33 b) Step In Environmental Science pupils book grade 2 page 61-68 Step in e,steacheras book grade 2 page 35-42	Chart showing pictures with weather conditions Words on flash cards Work cards	Methods - Description - Discussion - identification Activities - teacher describing the weather - pupils discussing the vegetation appearance - pupils observing pictures of weather conditions - pupils comparing weather conditions	i. season ii. temper e iii. clothes

Appendix P: Editor's Certificate

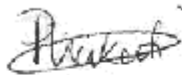
58 Essenhout Drive, Randpark Ridge, 0632739957, pmmakati@gmail.com

29 May 2017

TO WHOM IT MAY CONCERN

I hereby declare that the thesis titled "An assessment of the strategies for implementing inclusive education in Teacher Education in Zimbabwe" by Mrs E Makiwa has been thoroughly edited and proofread. I have checked for language use, corrected spellings and grammatical errors, and ensured logical flow of text.

Yours Sincerely,



Dr Pamela Makati
Academic Editor/Proofreader

Editing Proofreading Document Formatting