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Teachers' Experiences with Strategies for Teaching Learners with Visual Impairments in Oshana Education Region-Namibia

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STATEMENT OF ORIGINALITY

I, Elina Ileimo Shiininge-Tobias, would like to declare that the thesis titled: "Teachers' Experiences with Strategies for Teaching Learners with Visual Impairment in Oshana Education Region-Namibia" is my own work, and has not been submitted for another qualification to any other institution. The study was conducted between August, 2013 and May, 2017. I am the principal researcher responsible for designing, conducting and writing up the qualitative study. Wherever other authors' ideas and concepts were used, I have duly acknowledged that. However, quotations from this thesis are allowed with special permission in respect of acknowledgements.

Tobiass — 07.06.2017

Researcher's Signature — Date

DEDICATION

This work is dedicated to my precious husband, Ismael Tobias and sons, Twapamekwa, Twahafifwa and Tunomukwafi.

And in memory of my late father, Reverend Samuel Kombili Shiininge, father- in-law, Tobias Mwanyangapo, and sister- in- law Magdalena Mwanyangapo.

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ABSTRACT

Teaching learners with disabilities has been a worldwide concern. Through discussions and interventions by various stakeholders, learners with disabilities gained access to formal education; firstly, in isolated, segregated places, and then in special schools and lately, in inclusive schools. Although learners with disabilities have gained access to education, it has been observed that learners with visual impairments (LVI) in special and inclusive classrooms in Namibia are underperforming. The purpose of this study was to explore the teachers' experiences in using strategies for teaching LVI, as well as to identify effective teaching methods and strategies for use with LVI. It further looked at the support offered to teachers when teaching LVI and how to strengthen the teaching of learners with visual impairments.

This study utilised Vygotsky's theory of social constructivism and Bronfenbrenner's model of bio-ecological systems as a theoretical grounding. Employing an interpretivist research paradigm, the study adopted a qualitative approach with a phenomenological design. Two secondary schools were selected as research sites. Utilising purposive sampling, fifteen (15) academic staff teaching LVI, school principals and teacher assistants were engaged in in-depth one-on-one interviews and focus group discussions. In addition, non-participant classroom observation, documents analysis and field notes were used as data sources. The data were analysed using NVivo11 qualitative software. The data generated from various sources were triangulated and analysed using thematic analysis.

The study revealed that teachers in the schools had general teaching qualifications. Therefore, they lacked the passion, skills and knowledge required to use teaching methods and strategies specifically for teaching LVI. However, the study identified effective teaching methods for use with LVI, such as, group work, pair work, individual work and peer tutoring. Furthermore, effective teaching strategies were identified: storytelling, use

of voice intonation and facial expression, use of LVI names, use of Braille resources, Braille text materials, utilisation of models and tactile materials, use of audio recordings and ICTs, creating a mobility friendly environment, open communication and the use of outreach and experience. The study noted that teaching methods work hand-in-hand with teaching strategies for effective and efficient delivery of lessons.

Broadly, the reason for teachers' inability to apply effective methods and strategies for teaching LVI was attributed to a disconnection between passion, skills and knowledge to create, adapt and, or modify the strategies accordingly. Furthermore, the findings of this study revealed that teachers faced various challenges in teaching LVI and sighted learners. These challenges included providing adequate time, teaching resources, and Braille materials. Problems relating to mobility, orientation and the use of Braille, which is the main form of communication, also have to be overcome. However, based on the findings of the study, an evaluation of teacher preparation and continuous professional development in inclusive methods and strategies of teaching LVI was recommended. In addition, the study provides significant knowledge that could inform policy formulation while assisting training institutions and teacher educators on best practice.

Key words: Teaching strategies, special and inclusive teachers, learners with visual impairments, phenomenology design.

TABLE OF CONTENTS

LIST OF ACRONYMS

AT	Assistive Technology
ADL	Activities of Daily Living
BETD	Basic Education Teachers Diploma
CPD	Continuous Professional Development
EFA	Education for All
ELCIN	Evangelical Lutheran Church in Namibia
ETSIP	Education and Training Sector Improvement Progress
FGD	Focus Group Discussion
GTISS	Gabriel Taapopi Inclusive Secondary School
LCA	Learner Centred Approach
LSEN	Learners with Special Educational Needs
LVI	Learners with Visual Impairments
MoE	Ministry of Education
MBEC	Ministry of Basic Education and Culture
MKO	More Knowledgeable Other
NIED	National Institute for Educational Development
NPST	National Professional Standard for Teachers
NSA	Namibia Statistics Agency
ORD	Office of Research and Development
OTRC	Ongwediva Teachers Resource Centre
PSCD	Playtime is Science for Children with Disabilities
SCFISE	Supplementary Curriculum Framework for Inclusive and Special Education
SL	Sighted Learners
SPIE	Sector Policy on Inclusive Education
STSEN	Student Teachers with Special Educational Needs

VI	Visual Impairments
UN	United Nations
UNAM	University of Namibia
UNESCO	United Nations Educational Scientific and Cultural Organisation
UDL	Universal Design of Learning
ZPD	Zone of Proximal Development

LIST OF TABLES

TABLE OF FIGURES

CHAPTER 1

INTRODUCTION AND BACKGROUND TO THE STUDY

Introduction

Visual impairment is a condition that affects vision in such a way that, even with correction, it adversely affects a child's educational performance (Individuals with Disability Act, 2004; Ministry of Education, 2014). Therefore, teaching learners with visual impairments (LVI) requires a teacher with knowledge of how a loss of vision affects the learning process (Sacks & Silberman, 1998). Visual information can be crucial in helping LVI observe and interpret what happens in the environment. Thus, teaching LVI requires specialised teaching techniques and equipment to enhance learning. However, the skills relevant in teaching and using special techniques can only be attained through special training.

The current national and international education systems demand that LVI should be taught alongside their counterparts (Ministry of Basic Education and Culture, 1993; UNESCO, 1990). Therefore, this makes it even more important for specialised and general teachers to have adequate knowledge to support LVI in real classroom environments. In some cases, this has not been the case. LVI are faced with the difficulty of being taught in inappropriate ways and with a lack of resources to learn effectively. Therefore, this study explores the teachers' experiences in using strategies for teaching LVI in special and inclusive schools. The study further identified effective teaching strategies that can be used when teaching LVI. For the purpose of this study, LVI are learners who have a loss of sight (total blindness) that is preventing them from accessing visual information and who were accommodated at Eluwa special school and Gabriel Taapopi inclusive secondary school in Oshana Educational Region, Namibia.

Setting the Problem

Historically, in Namibia, learners with disabilities were denied access to education. As such, their rights to education were violated. Later on, educational provisions were made, mostly in isolated and segregated special institutions (Bruhns, Murray, Kangueehi & Nuukuawo, 2007; Naidoo, 2005; Omvig, 2014). This state of affairs continued for some years. But soon after independence in 1990, the Government of the Republic of Namibia prioritised the education of its citizens when the Ministry of Basic Education and Culture implemented its first education policy in 1993. It focussed on the education of all children, including learners with disabilities. It was recommended that learners with disabilities be educated with their peers without disabilities in regular schools (Ministry of Basic Education and Culture, 1993). Josua (2013) claims that, although the policy enhanced access to education for learners with disabilities in general, the education of LVI did not receive adequate support from the government and other stakeholders. At the same time, the quality of teaching provided in these institutions was seriously compromised (Kahikuata-Kariko, 2003). Researchers (Josua, 2013; Kahikuata-Kariko, 2003; Mostert, 2002) point out that the majority of teachers in regular schools are not trained to teach learners with disabilities. As a result, some writers suggest a causal link between this situation and the large number of LVI who are underperforming in the national examinations.

Table 1 displays the examination records of LVI from 2008 to 2016. It clearly indicates that in the years 2009 and 2010 there were no Grade 10 learners with visual impairments who met the minimum promotional requirements for Grade 11.

Table 1:

LVIs Performance in Nine Consecutive Years

Year	ESS Grade 10 Enrolment	Pass	Fail	GTISS - Grade 11	Grade 12	Pass	Fail
2008	9	3	6				
2009	6	0	6	3	-	-	-
2010	8	0	8	0	3	1	2
2011	11	3	8	0	0	-	-
2012	10	6	4	3	0	-	-
2013	10	3	7	6	3	2	1
2014	8	7	1	3	6	2	4
2015	8	5	3	7	3	0	3
2016	8	1	7	5	7	2	5

(Source: Mkize, teacher assistant, GTISS, 2014-2016)

Researchers linked the poor performances to the teacher training. For example, Haihambo (2013) argues that from 1995 to 2008, the Faculty of Education at the University of Namibia offered a stand-alone specialised programme in special and inclusive education with the purpose of training student-teachers to gain the necessary skills and understanding on how to work with learners with special educational needs when they enter the profession. Although efforts were made to implement the course, some graduates, in personal discussions, claimed that the course was too theoretical and lacked practical activities (Haihambo, 2013). The researcher for the current study, therefore, suggests that teachers in special and inclusive schools need to learn how to teach and deal with LVI.

Several writers and researchers also argue that, general education teachers lack adequate knowledge and skills to accommodate learners with diverse educational needs in their classrooms (Das, Gichuru & Singh, 2013; Gronlund, Lim & Larsson, 2010; Josua, 2013; Mwakyeja, 2013; Mukhopadhyay & Musengi, 2012). In addition, the Global

Campaign for Education and Education International (2012) stresses that high quality education requires sufficient recruitment of teachers who are trained and continue to be supported through continuous professional development in inclusive and special education issues. Haihambo (2013) as well as Josua (2013) report that special and inclusive school teachers were provided with basic training in practical skills, such as, orientation and mobility, sign language and para-occupational therapy skills. Although research report that teachers were provided with basic training in specific skills, strategies for teaching LVI were not highlighted. The education of learners with special educational needs is important for achieving quality education for all. However, it is not free of challenges, particularly, when it includes LVI. This means that the education of LVI requires extraordinary commitment from all stakeholders as well as effective teaching strategies to address their unique teaching and learning needs, the methods and strategies on how to teach LVI.

Some studies emphasise that the use of tactile and model representations, and providing extra time and Braille materials, increases the chances that LVI will complete their school activities (Ferrel, 2002; Mwakyeja, 2013; Niwagaba, 2014). However, the issue of teachers' experiences in strategies for teaching LVI in special and inclusive schools has not been investigated to any extent in the Namibian context.

Contextual Background

Namibia is situated on the south-western coast of Africa, sharing borders with Angola in the north, Zambia and Zimbabwe in the north-east, Botswana in the east, South Africa in the South and the Atlantic Ocean in the west. Namibia was first colonised by Germany and later was governed by South Africa's apartheid regime. It gained independence from South Africa in March 1990.

Its geographical landscape covers 824, 116 square kilometres. Namibia is divided into 14 administrative regions which accommodate 2.1 million people (Namibia Statistics Agency (NSA), 2013, p. 25). Out of a population of 2.1 million, 98 417 people have disabilities. Visual impairment is the second most frequently occurring disability (17.4%), followed by blindness (11.0%), (Namibia Statistics Agency, 2013, p. 25). It is important to emphasise that cases of blindness are higher among both adults and young people in Africa due to trachoma and glaucoma. Since these are curable visual impairments, most of these individuals are treated during eye campaign operations conducted in Africa and in Namibia, in particular. However, a large number of people in rural areas have not been treated due to the lack of eye care and awareness.

Education of Learners with Special Educational Needs

Namibia became politically independent in 1990, as indicated earlier, after a period of administration under the apartheid system of South Africa which left most of its black population with little or no education (Reynolds & Janzen, 2007). Thus, the history of educating children with disabilities in Namibia is recent and short (Reynolds & Janzen, 2007). According to Bruhns et al. (2007), Namibia established its first special school for children with disabilities, the Dagbreek School in 1970 as a racially segregated facility for white children only. The school opened its doors to children with disabilities of other races after independence. The Eluwa special school for learners with visual impairments and learners with hearing impairments was established at Ongwediva in 1973. The school enrols 20 learners with hearing impairments and 20 learners with visual impairments. The third school, Môreson School for children with severe learning difficulties, was established by the Association for the Handicapped in 1976 and became a government school in 1990. It had 60 learners and seven teachers in 1995 (Bruhns et al., 2007).

Educational Policies and Practices in Namibia

Namibia is a signatory to various international agreements in special and inclusive education, where the education of LVI is practised within the framework of the policy 'Towards Education for All'. This framework guides education in special and inclusive aspects, such as, policy formulation, training of teachers and classroom practices. Immediately after independence in 1990, the Government of the Republic of Namibia abolished the form of education introduced by the South African government, which was based on segregation. Previously, education was provided based on race, religion, ethnic group and gender (Mutorwa, 2002; Reynolds & Janzen, 2007). In 1990, Namibia sent a group of representatives to Jomtien in Thailand to take part in the World Delegation on Education for All (EFA). In 1994, Namibia became a signatory to the Salamanca Statement and Framework for Action on principles, policies and practice in special needs education, as well as access to, and equality in education. The aforementioned framework was informed by the principles of inclusion (Nghipondoka, 2002). Since the ratification of "Education for All" (UNESCO, 1990), Namibia has made great strides in promoting inclusive education by ensuring that all citizens acquire relevant and quality education.

Therefore, as a signatory to various international agreements and conventions, the government is committed to the following:

- UN Convention on the Rights of the Child (1989). This agreement outlines the right to education and training of all children to achieve the greatest degree of self-reliance and social interaction.
- Jomtien World Declaration on Education for All (UNESCO, 1990). This agreement highlights the commitment to child-centred strategies where individual differences are accepted as a challenge and not as a problem.

- Salamanca Statement and Framework for Action (UNESCO, 1994). This agreement reinforces the obligation of schools to accommodate all children regardless of their physical, intellectual, social, emotional, linguistic or other conditions.
- Dakar Framework for Action (Dakar World Education Conference, UNESCO 2000). In *Notes on the Dakar Framework for Action* (2000), the World Education Forum highlights the importance of inclusive education, and reiterates that "the inclusion of children with various educationally disadvantaged positions, such as, children with special needs from ethnic minorities, remote communities, and others who are excluded from education, must be an integral part of strategies to achieve universal primary education."
- Constitution of the Republic of Namibia (Namibia. Ministry of Information and Broadcasting, 1990). Article 20 states that all persons shall have the right to education, and that primary education shall be free and obligatory for all children up to the age of 16. The implementation of Universal Primary Education in Namibia in 2013 is an achievement of these constitutional rights.
- Namibian National Plan of Action for EFA 2001-2015 (2000). The following are among the priorities set down in this plan: equitable access; teacher quality; teacher education and support; physical facilities; efficiency and effectiveness; as well as lifelong learning.
- Namibia Vision 2030: Policy Framework for Long-term National Development (2004). This policy framework explicitly recognises the education and training system in Namibia for Namibians as the key to national growth and development. The policy recommends, inter alia, strengthening the quality of the education and training system, improving its efficiency and eliminating inequalities in the system.

This ‘vision’ is crucial for the successful development and implementation of inclusive education.

- Education and Training Sector Improvement Programme (ETSIP) (2007). This programme sets out to address the key weaknesses in the education sector. Among the critical sector priorities are pro-poor proper expansion of senior secondary education, and building system equity, quality and efficiency. The latter priority, in particular, provides a platform for a sector policy on inclusive education.

Based on the commitment of the Education for All initiative (UNESCO, 1990), Namibia established and released a democratic education system policy document, ’Towards Education for All’, which outlined the philosophy of the learner-centred approach (LCA) and the four major goals on which the Namibian education system is based (Ministry of Basic Education and Culture, 1993). The four major goals are access, democracy, equity and equality. These goals have been used as cornerstones for the reforms that were implemented in the Namibian education system after independence.

The formal school system in Namibia consists of twelve years of schooling at both primary and secondary levels. The first four years of lower primary are Grades 1to 4. In these grades, learners are taught in their mother tongue as a medium of instruction. Thereafter, there are three years of upper primary (Grades 5-7), during which learners are taught through the medium of English. A national Grade 7 examination in Mathematics, English and Science helps to monitor learners’ acquisition of the basic competencies in key subject areas at the end of the primary phase. At the secondary level, learners spend three years in junior school (Grades 8 to 10), and two years in senior school (Grades 11to12). Learners write the Namibia Senior Secondary Certificate at the end of Grade 12. A policy of continuous assessment, based on a set of competencies that learners are expected to acquire, provides the basis for the promotion of learners from one grade level

to the other (Ministry of Basic Education and Culture, 1993. Although Namibia promotes inclusive education, more special schools were established after the ratification of the Salamanca Statement and Education for All as a means to promote access to education for learners with disabilities.

Of the 14 regions in Namibia, six regions have special schools. Six special schools are in the Khomas Region (Windhoek), one in Kavango East Region, one in Ohangwena Region, one in Omusati Region, one in Oshana Region and one in Hardap Region. So far, four official inclusive schools have been identified, namely, two in the Oshana Region (Ongwediva) and two in the Khomas Region (Windhoek). The special and inclusive schools are listed in Table 2.

Table 2:

Special and Inclusive Schools in Namibia and when they were establishment

Region	**Name of the School**	**Category of disability**	**Established**
Special Schools			
Khomas Region	Pioniers Boys Special School	Boys with learning difficulties	1964
	Eros Girls Special School	Girls with learning difficulties	1965
	Dagbreek Special School	Boys and girls with SLD-II	1970
	Môreson Special School	Boys and girls with II impairments	1976
	NISE- National Institute for Special Education	Learners with hearing impairments	1994
	NISE-National Institute for Special Education	Learners with visual impairments	1997
Hardap Region	Klein Aub Special School	Learners with EBD	
Omusati Region	Saara Kuugongelwa Amadhila Resource & Vocational School	Learners with learning difficulties	2008
Oshana Region	Eluwa Special School	LVI and LHI	1973
Ohangwena Region	Usko Nghaamwa Special School	Learners with hearing impairments	2005
Okavango Region	Dr Romanus Kampungu SS	Learners with visual impairments	2008
Inclusive schools			
Oshana Region	Mweshipandeka SSS	LHI and hearing learners	2010
	Gabriel Taapopi ISS	LVI and sighted learners	1995
Khomas Region	Cosmos High School	LHI and hearing learners	1989
	Windhoek Technichon Higher School (HTs)	LVI and sighted learners	2006

Current Education of Learners with Visual Impairments in Namibia

In 1973, as indicated earlier, the Finnish Missionaries established the first special school for Blacks, Eluwa Special School, catering for learners with visual impairment and learners with hearing impairment in the northern part of Namibia (Eluwa Special School, 2000, p. 3; Reynolds & Janzen, 2007). Eluwa Special School caters for LVI from pre-primary grades up to Grade 8. Before independence, when learners with visual impairments had completed Grade 8, they were sent to Engela Rehabilitation Centre, where they were trained to weave and to do domestic work. Currently, the school has up to Grade 10. As Möwes (2002) notes, specialised education was offered only to white children and not to children of other ethnic groups. Haihambo (2010) further notes that there is no evidence showing how education for learners with disabilities was organised. In addition, as Mutorwa (2002) points out access to education before independence was characterised by "unequal access to education and training at all levels, and was inefficient, ineffective, wasteful, fragmented, racial, ethnic and unequal" (p. 7). In 1990 this situation changed since the Namibian Constitution, Article 20, states that "All persons shall have the right to education" (1990, p. 12).

The Gabriel Taapopi Inclusive Secondary School (GTISS) in Ongwediva, Oshana Region had already been established in 1988, and it was, therefore, selected to pilot the inclusion of LVI (Josua, 2013, p. 18). Indeed, GTISS became the first school in Namibia to implement a pilot programme on the inclusion of LVI in 1995 after the ratification of the Salamanca Convention according to Cloete (2002). However, the LVI had to complete their Grade 10 at Eluwa special school in contrast to the earlier situation when they would not have had an opportunity to proceed to senior secondary school, and subsequently to higher education. Currently, GTISS offers these learners the opportunity to proceed to senior secondary education level, that is, grades 11 and 12. Learners with visual

impairments share the same classrooms with other sighted learners (SL), and are taught by teachers with visual impairments as well as sighted teachers. And so, the teachers are expected to provide quality education and support all learners as required. Joshua (2013) explains that since the first enrolment of LVI in 1995, there were regular enrolments of learners with varied visual impairments in GTISS. Despite the large number of LVI, both the number of LVI who enrolled at the secondary inclusive school and the number who were transferred to the school were very low. For details see Table 1.

Special and inclusive schools in Namibia follow the same curriculum as regular schools. However, a Supplementary Curriculum Framework for Inclusive and Special Education (SCFISE) to the Broad National Curriculum for Basic Education was developed and inaugurated in September 2014 by the Minister of Education. The motives for developing the SCFISE emanated from the requirements outlined for the improvement of general education in Namibia under the plan of action of the Education and Training Sector Improvement Plan (ETSIP) (Namibia. Ministry of Education, 2011). In addition, SCFISE had to incorporate inclusive education principles and align it with the broad National Curriculum for Education (Namibia. Ministry of Education, 2011). Furthermore, the SCFISE would allow teachers in special and inclusive education to:

- Improve the teaching and learning process of learners with various disabilities;
- Re-orient teacher education (improve pre- and in-service teacher training);
- Inculcate flexible and differentiated teaching and learning approaches and;
- Develop and strengthen a cycle of collaboration and support on inclusion and other relevant stakeholders.

The implementation of both the Sector Policy on Inclusive Education and the SCFISE is intended to benefit the teachers and to assist them in adapting their teaching methods and strategies to improve the teaching and learning process of LVI.

Teacher Development (General and Special Teacher Education)

In Namibia, the National Institute for Educational Development (NIED) under the Ministry of Education (MoE) has been responsible for pre-service and in-service programmes, specifically in respect of teachers of the primary, junior secondary and senior secondary phases (Namibia. Ministry of Basic Education and Culture, 1993).The University of Namibia (UNAM) is responsible for the secondary school level (Ministry of Basic Education and Culture, 1993). The NIED has a department responsible for producing materials for continuous professional development (CPD) in all schools and for all teacher educators in Namibia.

Prior to 2011, the Ministry of Education managed four colleges of education, which offered a three-year Basic Education Teacher Diploma (Haihambo, 2013). A Cabinet decision in April 2010 resulted in a merger of these colleges with the Faculty of Education of the University of Namibia (Haihambo, 2013). In the past, the University of Namibia has been typically responsible for teacher education for the secondary school phase and specialised postgraduate qualifications only. After the merger, the Department of Educational Psychology and Inclusive Education submitted a request to senate for an inclusive education to offer stand-alone inclusive education courses that were not offered before. Whereas, the NIED, the UNAM, the Education Training Sector Improvement Progress (ETSIP) and National Professional Standard for Teachers in Namibia are required to focus on professional growth, pre and in-service training for teachers in special and regular schools for primary and secondary phases (Government of the Republic of Namibia in 2006, 2011and 2014).

Mostert (2002) conducted a study on teachers' perceptions about the inclusion of learners with special needs (LSEN) in Namibian regular schools. She found that when LSEN were included in regular classrooms, most, if not all, of the teachers were not in a

position to give the necessary support to learners with SEN in the regular school system, because these teachers had little or no training in the area of special education (inclusive education). Recent findings by Haihambo (2013) indicate that, graduates of the Faculty of Education, UNAM who were appointed in special and inclusive schools often reported having difficulties acquiring practical skills that were not included in their pre-service teacher education programmes.

A qualitative study was conducted by Josua (2013) on challenges facing the management of GTISS by the inclusion of LVI. The aforementioned author studied this particular inclusive school as an outsider and explored how the inclusion was managed in that school. He had interviews with LVI, teachers and members of the school management. The study revealed that the school was managing inclusive education as if it was an extra duty. It also revealed that the Ministry of Education did not support the school in terms of provision of staff training and teaching and learning materials for LVI.

Although much has been done to sensitise teachers on the issue of including learners with special educational needs (including LVI) in regular schools, many teachers still have mixed feelings and attitudes about the inclusion of LSEN in their classrooms. Regular classroom teachers continue to express fear of inclusion, believing that they are not adequately prepared to handle special needs education challenges within a regular classroom (Haihambo-Mwetudhana, 1999; Hines & Johnston, 1997). It is also argued that the majority of teachers were inadequately equipped to manage students with diverse educational needs in their classrooms (Chiner & Cardona, 2013; Josua, 2013, Mangope & Mukhopadhyay, 2015). Several studies found that the majority of teachers had not been trained in inclusive and special education during their pre-service teacher training (Holdheide & Reschly, 2008; Mostert, 2002; Philpott, Furey & Penney, 2010). On the other hand, Haihambo (2013) argues that it is unfortunate, in most cases, that many

teachers do not practise what they were taught. However, it is clear from the study of the literature reviewed that there are a number of impediments to the implementation of effective teaching strategies. For example, attitudinal barriers, school and classroom atmosphere, infrastructural and structural barriers and, most important, budgetary constraints, still exist in these institutions. Therefore, it was essential to conduct a study on teachers' experiences in implementing strategies for teaching LVI in special and inclusive schools with the aim of identifying the most effective teaching strategies required for teachers of learners with visual impairments.

Statement of the Problem

As already mentioned, soon after independence, the first policy on education, known as *Towards Education for All* was developed and implemented (Ministry of Basic Education and Culture, 1993). In addition, other policies such as, the Sector Policy on Inclusive Education (Ministry of Education, 2013) and the Supplementary Curriculum Framework for Inclusive and Special Education (2014) were also implemented. All these documents emphasised that all learners should be taught together (in regular classrooms) wherever possible, regardless of any individual differences or difficulties that they may have. Further policies, such as, ETSIP and NPST in Namibia were initiated targeting the training and continuing professional development of educators ultimately to improve the learning capacity of all learners in Namibian schools.

The National Examination records from 2008 to 2016 show that LVI underperformed in the national examinations in grades 10 and 12. Prior to this study, a number of studies on special and inclusive education were conducted in Namibia. For example, Mostert (2002) argues that when the inclusion process at GTISS started, most teachers had little or no training in the area of special needs and were not in a position to give the necessary support to learners with special educational needs in regular schools.

However, Haihambo (2013) points out that teachers were provided with training in sign language and mobility. She further notes that graduates from the Faculty of Education, UNAM appointed in special and inclusive schools often reported having difficulties acquiring practical skills. Such skills were not included in their pre-service teacher education programmes. In addition, Mostert (2002), Haihambo (2013) and Josua (2013) indicate that teachers were not adequately trained to cope with, and teach learners with diverse special educational needs in their classrooms in cases where some of the learners have visual impairments.

While mechanisms for training and continuous professional development for educators are in place, it seems that teachers of LVI at inclusive and special schools still lack the skills and knowledge to accommodate LVI. Yet, they are expected to provide quality education to all learners. This current study was, therefore, motivated by the seeming gap between the policy and practice in regard to improved teaching and learning of all learners. This was done to avert the challenge of underperformance among LVI. Because if special and inclusive school teachers are not well trained and supported, then LVI will continue to perform below their abilities, which eventually might affect them socially and academically and also affect their participation in the labour market.

Purpose of the Study

The purpose of this study was to explore the teachers' experiences with employing teaching strategies for learners with visual impairments in the Directorate of Education: Oshana Region in Namibia. The study further attempted to identify and understand the teaching strategies applied in teaching learners with visual impairments.

Objectives of the Study

The specific objectives of this study were:

1. To describe the teaching methods that teachers employed in teaching LVI

2. To identify teaching strategies that promote the effectiveness of methods used by teachers in teaching learners with visual impairments.
3. To shed light on how the school support systems support teachers in teaching learners with visual impairments to enhance teaching strategies.
4. To suggest better ways for strengthening the teaching strategies to be employed with LVI.

Research questions

The overarching research question for this study was as follows:

What experiences do teachers have in applying strategies for teaching learners with visual impairments in special and inclusive schools in the Directorate of Education: Oshana Region of Namibia?

Sub-Research Questions:

1. What teaching methods do teachers apply when teaching LVI?
2. What teaching strategies do teachers apply to promote effective delivery of the methods used?
3. How does the school system support the teaching strategies to enhance the teaching of LVI?
4. What are the better ways for strengthening the strategies for teaching LVI?

Significance of the Study

Significance for policy: Teaching learners with visual impairments in special and inclusive classes is an on-going activity that focuses on providing the necessary support and reducing the existing barriers to teaching and learning for all children (Ainscow, 2002). Therefore, the results from this study should not only assist in bringing about effective teaching strategies, thus helping teachers of LVI teach more effectively in their classrooms, but could also provide insights for policy-makers in their planning.

Significance for practice: The results may be used in formulating guidelines for assisting all relevant institutional bodies working in collaboration with the Ministry of Education (NIED, ETSIP, NPST and UNAM-CPD Unit) to provide appropriate training to student teachers in regard to LVI as well as teachers who are currently teaching learners with visual impairments in special and inclusive classrooms.

Significance for research: Studies in the field of special and inclusive education in the Namibian context are few. The in-depth interviews provided an opportunity for the teachers' voices to be heard. Therefore, the results added to the new body of knowledge in the field of special and inclusive education, in particular with respect to teaching strategies for learners with visual impairments.

Theoretical Framework

The purpose of this study was to explore teachers' experiences in regard to the teaching strategies which they employed in teaching LVI in special and inclusive classrooms. These strategies are mostly influenced by a number of cultural factors relating to how learners socialise in the teaching and learning environment. This study is based on the work of Vygotsky's (1978) social constructivist theory and Bronfenbrenner's (1979, 1989, 1999) Ecological Systems Theory in its latest iteration of a bio-ecological model. The two theories were seen to supplement each other. As such, they were considered capable of contributing to, and bringing out effective teaching strategies for learners with visual impairments.

Vygotsky's Social Constructivism Theory

The social constructivist theory was introduced by the theorist Lev Vygotsky (1978), and is cited by others in the field of special and inclusive education and disability studies (Macfarlane, 2007; Mahoney & Rueschemeyer, 2003; Rahaman, 2011). The social constructivist theory emphasises that learning takes place in a social and cultural setting

and views learners as actively constructing their own learning. In their studies, Shedish (1995) and Thirteen (2004) define social constructivism as a learning theory and an approach to education that places emphasis on the way teachers of LVI make meanings of their experiences by constructing and interpreting knowledge about the teaching strategies that they employ. In addition, Donald, Lazarus and Lolwana (2012) describe social constructivism as a teaching and learning theory that includes different ways of scaffolding and mediating the learning process. Moreover, social constructivists believe that each individual's experience is unique and, therefore, each person's way of making sense of the world is valid and worthy of respect (Vygotsky, 1978; Crotty, 1998; Rogoff, 1990). Furthermore, social constructivists believe that if learners are actively engaged and properly guided in the learning process with relevant brailed materials, they would be able to construct their own knowledge and understanding about the phenomenon being studied (Ciminelli, 2009; Rogoff, 1990; Wilson & Lianrui, 2007).

A teacher with a constructivist approach plays an important role in adapting teaching strategies to accommodate learners with SEN by teaching and assisting them in discovering new ideas. In addition, constructivist teachers should provide LVI with opportunities to explore new roles, develop new instructional techniques, refine their practices and broaden their knowledge and skills in facilitating learning (Komba & Nkumbi, 2008).

Vygotsky (1978) declares that teaching and learning occurs in a reciprocal manner through social interaction between the teacher and LVI and sighted learners as well as between the learners with visual impairments and the context. Vygotsky (1978) suggests that, opportunities should be provided for learners to learn in any social situation. The researcher agrees with the constructivist view that teachers teaching LVI in special and inclusive schools should apply effective teaching methods and strategies that would enable

LVI to actively engage in their own learning. Social constructivism is guided by several principles, including a zone of proximal development (ZPD), the more knowledgeable others (MKO) and scaffolding and if these principles are well catered for in the teaching and learning process, then learning would take place successfully (Vygotsky, 1978, Rogoff, 1990). The ZPD deals with the variation between what a learner can achieve independently and what he, or she can achieve with the guidance and encouragement from the facilitator or a more skilled partner or peer (Rogoff, 1990; Vygotsky, 1978). As far as the current study is concerned, learners with visual impairments need constant support and guidance from their teachers, as well as from their peers to become independent when engaging in both academic and social activities happening inside and outside the classroom. This is the area where all instructions or guidance are provided in the classroom in order to help all learners develop skills that they will use in real-life situations. In addition, social constructivism encourages learners to reflect on their classroom learning experiences (Johnassen, 1995; Rogoff, 1990; Vygotsky, 1978).

In practice, ZPD implies that, in a constructivist classroom, learning cannot take place in a vacuum. This means that irrespective of his or her abilities and challenges, each learner has to develop some knowledge, opinions and experiences from his or her personal background, which is influenced by the previous knowledge brought to the class or to a group by those learners with visual impairments. Consequently, this knowledge is to be developed in a collaborative manner with the teacher serving as a facilitator in the classroom environment (Vygotsky, 1978; Rogoff, 1990).

The More Knowledgeable Other (MKO), on the other hand, refers to someone who has more understanding and ability than that of the learner (Rogoff, 1990; Vygotsky, 1978.). This means that the teacher teaching LVI needs to have in-depth knowledge in applying various teaching methods and strategies. Rahaman (2011) points out that all

teachers are experts in different ways and that their different experiences, knowledge and understanding bring value to the class.

The third principle of practice in social constructivist theory is scaffolding. According to Vygotsky (1978), scaffolding is the academic and social support provided by parents, peers and teachers to LVI and SL as well as the teachers teaching them. This support includes the use of adapted teaching and learning materials provided by teachers, which would assist LVI to perform well in school. Hammond and Gibbsons (2001), in accordance with Vygotsky (1978), believe that scaffolding is a process of providing support when teachers are being prepared to set up tasks that challenge both learners with, and without visual impairments to perform beyond their present capacities. In addition, this is the support that learners receive while working in cooperative groups in which each learner is able to share ideas on a certain topic. It is also the opportunities that learners with visual impairments are given to practise what they are learning with tactile media, models, the use of Braille materials and other relevant adapted materials during problem-based learning or discovery learning (Ciminelli, 2009).

However, social constructivism is not without critics. Critics of social constructivist theory have questioned the effectiveness of this approach to instructional design as it applies to the development of instructions for learners (Mayer, 2004). Mayer argues that not all teaching strategies based on constructivism are effective or efficient for all learners. Mayer (2004, p. 15) states that, "many educators misuse social constructivism by using teaching strategies that require learners to be behaviourally active" and recommends the use of guided discovery, that is, a mixture of direct instruction and hands-on activity. Mayer (2004) posits that guided discovery provides the best method for promoting constructivist teaching. Mayer (2004) is not the only critic of constructivism. Other critics argue that due to the emphasis on group work in social constructivism, the more

knowledgeable peer may dominate the groups' discussions (Orlich, Harder, Callahan, Trevisan, Brown, & Miller, 2012). Whereas social constructivists argue that learners being taught according to the constructivist approach perform better than their peers when tested, critics of this method argue that the teaching technique forces learners to reinvent the wheel. In defence of the method, supporters counter that "learners do not reinvent the wheel; rather, they attempt to understand how it functions. These supporters further argue that, "learners are naturally curious to know about the world" and that "giving them tools to explore it in a guided manner will serve to give them a stronger understanding of it" (Orlich et al., 2012, p.5). The various components of special and inclusive classrooms are complex because schools do not function in isolation. They are embedded in regions and the economic and social and cultural situation of a particular country's policies. Therefore, Bronfenbrenner's (1979) bio- ecological model, which is considered to complement Vygotsky's (1978) social constructivist learning theory, is considered next.

Bronfenbrenner's Bio-ecological Systems Model

Bronfenbrenner's point of view is that the environment plays a major role in the development and performance of a human being. He also explains that any human being or circumstance is part of a number of systems. Bronfenbrenner (1979) developed a model of the ecological perspective emanating from Ecological Systems Theory from which a bio-ecological model, which guides this study, was born. In the model, he clearly demonstrates how the micro-system (home) is interwoven with the meso-system (peers, school, church and other relevant associations) as well as the wider society (exo-system). These are all involved in the macro-system, a larger socio-cultural context which determines the level of comfort and enjoyment human beings experience as they go about their life courses. According to the ecological systems theory (Bronfenbrenner, 1979, 1989, 1993, p. 21), "the Ecology of Human Development involves the scientific study of

the progressive, mutual accommodation between an active, growing human being and the changing properties of the immediate settings in which the developing person lives, as this process is affected by relations between the settings, and by the larger context in which the settings are embedded".

Practically, the theory focuses on the relationship and interaction between an individual and different groups of people (systems and sub-systems) in their particular settings. An example of a system in this study was the school with teachers, learners, peers and a classroom as sub-systems; including special and inclusive teachers, subjects and the school support system. Bronfenbrenner's (1979) ecological theory in its mature form (bio-ecological model) highlights the importance of the quality and context of the environment in the life of the developing human beings. Although mobility for many LVI is synonymous with independence, it is also important for exploration and related conceptual growth (Webster & Roe, 1998, p.7). The model also explains differences in the individual's knowledge, skills and abilities, and the role of a support system, which is to guide and structure the individual (Bronfenbrenner, 1979, p. 21). The overlapping systems, micro-system, meso-system, exo-system and macro-system all contribute to form the whole that the individual perceives as positive or negative. In a further work of Bronfenbrenner, the chrono-system was added to demonstrate the element of time in the life course of the individual (Berger, 2001, p. 7). Development involves a shared and active relationship and responsibilities between all the five systems, whereby each developing person is significantly influenced. In this case, teachers of learners with visual impairments and sighted learners are significantly influenced by the interaction among themselves. The influence ultimately results in change, growth and development, such as, physical, biological, psychological, social, emotional and cultural change, and these are

interconnected (Swart & Pettipher, 2011). Figure 1 shows a complex and inclusive model of teachers, LVI and sighted learners' interactions.

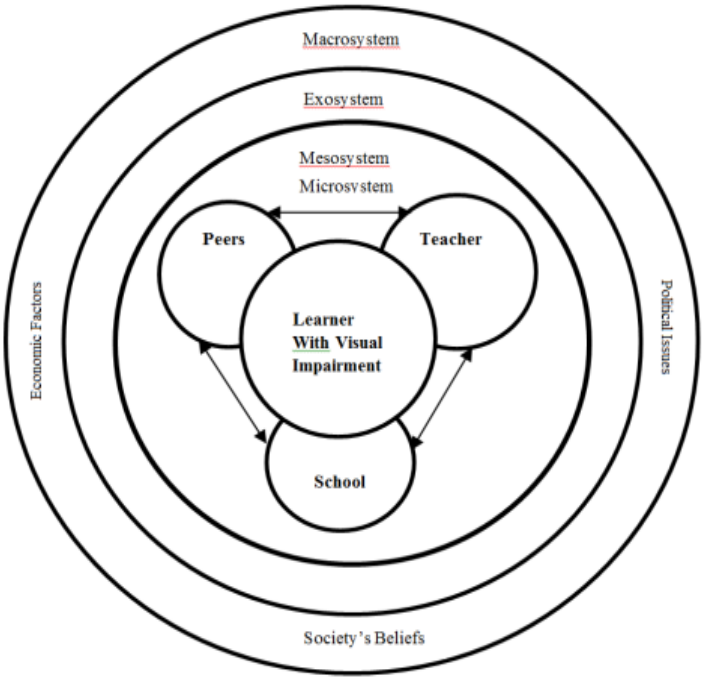

Figure 1: The Bio-ecological Systems Model (Swart & Pettipher, 2011)

In any system of education, for instance, special, inclusive and general education, this theory helps to provide an in-depth understanding of how teachers, colleagues and all stakeholders interact, collaborate and support each other to develop and implement effective teaching strategies for LVI. The theory sheds light on how the teaching strategies can enhance the performance of learners with visual impairments in the social context. For this reason, a close observation of classroom practice, whereby teachers interact and collaborate with all learners, was part of the larger social context and its sub-systems were difficult to separate. Therefore, this model was considered useful in exploring the teachers' experiences with respect to teaching strategies and in examining the environments of the participating schools, teacher assistants and class teachers by observing them as they interact and collaborate for the well-being and success of the LVI.

The micro-system's setting deals directly with the teacher and LVI in the classroom. This focuses on the interaction and interrelationship taking place in special and inclusive

classrooms. Also, peers, teachers, and other people who have direct contact with special and inclusive teachers who teach LVI are included in the micro system. This system constitutes a pattern of activities; group work and cooperative learning, responsibilities and interpersonal relations experienced between individual teachers and learners and the systems with its subsystem (school, class, subject, peer groups), in which they actively participate, engage and learn. The interaction in these sub-systems and adaption of relevant teaching equipment should assist in stimulating the use of effective teaching strategies for LVI in the classroom. Therefore, it can be said that such practice would enhance success and achievement in quality teaching and learning for all learners.

Bronfenbrenner (1979, p. 209) defines the meso-system as a set of interrelations between two or more settings in which the developing person becomes an active participant. At this level, the school and peer group interact with each other, different families, and with the community. This is the second setting of major socialisation in addition to the home environment (Engelbrecht, 1999; Haihambo, 1996). The interaction of various micro factors, such as, teacher assistance, peer support and teachers' collaboration plays a major role in classroom teaching and learning practice. An example would be a teacher with visual impairments from either a special or inclusive school presenting a lesson in a cooperative teaching and learning situation with a sight colleague (other teacher with sight). In this case, teachers and learners are positively engaged in a constructive and active learning that influences the participation of all learners and improves the effectiveness of the teacher. It could also improve the interaction between LVI and peers, teachers, school management, teacher assistants and other significant role players which in the end leads to successful teaching and learning.

The exo-system refers to one or more settings that do not involve an individual as an active participant, but that can affect the individual's immediate setting (Conle & deBeyer,

2009; Donald et al., 2012). These include the education system under which teachers are trained (universities and colleges); the adapted curriculum (inclusive and special); health services whereby LVI are medically taken care of; the media which sensitise all stakeholders about disabilities or a local community in which teachers, families, peers, and other learners are found. Thus, the inadequate training of teachers in regard to special and inclusive education-related issues, the unavailability of Braille typing machines and a lack of knowledge about how to operate this equipment are part of the exo-system, and in cases where the education system falls these factors may discourage learners and lead to a high rate of failure.

The macro-system is the outermost layer of Bronfenbrenner's (1979) model. It refers to the larger cultural context, which focuses on attitudes, society's beliefs and values, legal and economic issues, policies on education and teacher training. The macro-system does not influence the child directly, but plays a major role in enhancing access to education for LVI and other learners with disabilities in regular and special schools and in providing educational support for all (Mukhopadhyay, Molosiwa & Moswela, 2009). As far as this study is concerned, the policies and laws made as part of the macro-system can positively or negatively affect teachers teaching learners with visual impairments.

The latest addition to the theory of Bronfenbrenner (1979) is the chrono-system**,** referring to the importance of historical time in the life of a human being. For instance, the school ecology or climate towards individuals with disabilities has changed over time and learners with visual impairments are taught in special and inclusive classrooms in contrast to the past. The bio-ecological systems model is a multidimensional model of human development. The model suggests that various layers of interacting systems result in change, growth and development, such as, physical, biological, social, emotional, and cultural development and they are interconnected. Viewing it from the special and

inclusive education angle, this model would help the researcher to understand the way in which teachers experience being located in these environments and interacting with learners with visual impairments in terms of mobility and safety. Thus, there is a need for special and inclusive teachers to transform (adapt) their teaching strategies so that they are able to teach learners with visual impairments in their classrooms.

Conceptual Framework

Figure 2 shows a bigger picture of the environment and the importance of understanding that effective teaching strategies for LVI in special and inclusive schools need a strong chain of collaboration among stakeholders. It further requires a holistic approach according to which school principals, teacher assistants and teachers of LVI collaborate and interact in a supportive environment. A supportive school that is orderly, collegial and mobility-friendly motivates teachers in developing and constructing effective teaching strategies for learners with visual impairments.

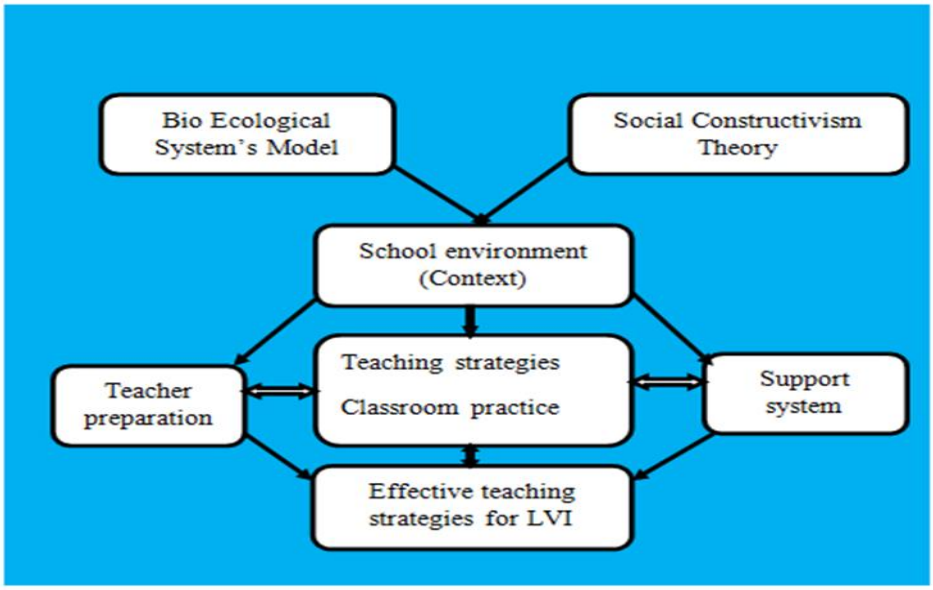

Figure 2: Conceptual Model *(Adapted from Bronfenbrenner (1979; 1989; 1993) and Vygotsky (1978)*

School support systems with teacher assistants equipped with the relevant skills and knowledge to adapt teaching materials specifically for LVI should emerge victorious.

Most importantly, it is essential for teachers who are teaching LVI to use effective teaching and learning strategies in the classroom. This could include: encouraging collaboration; the use of sound projection; addressing learners by their names; adapting written texts, the use of audio, and the use of tactile materials; and providing extra time to learners with visual impairments.

The bio-ecological model and the social constructivist model are practical frameworks for understanding school and classroom practice. The success of learners with visual impairments depends on effective teaching and learning strategies, the knowledge and skills of the teachers as well as peer interaction and collaboration. However, due to time limitations, this study will only focus on the immediate learning environments (context) that is, the micro-system and meso-system in which the proximal processes and interactions are continuously taking place. Both were deemed relevant to the study.

Limitations

It is important to emphasise that this is a qualitative research approach that has inherent limitations due to a smaller sample size and the use of purposive sampling. Further, phenomenology design requires bracketing by the researcher to prevent personal influences/ bias. Therefore, the results are not representative of, or could not be generalised to other teachers in the same area or in any other context of Namibia. However, the findings provide information for a more in-depth understanding of this particular phenomenon.

Delimitations

The study was conducted in one educational region, focusing on two different settings (Eluwa and Gabriel Taapopi), that is, grades 10 and 12 teachers. An in-depth study with multiple participants was considered capable of providing a holistic perspective about the phenomenon under study.

Definition of Terms

For this study, the following terms were used:

Teaching strategies: In this study, the term 'teaching strategies' refers to the approaches and tactics used to facilitate the effective teaching of learners with visual impairments (for example, the use of tactile and kinaesthetic media and Braille that are adapted for the special and inclusive curriculum).

Inclusion: The word 'inclusion' means a sense of belonging; feeling respected and valued for who you are; feeling a level of supportive energy and commitment from others so that one can do one's best work (Miller & Katz, cited in Mukhopadhyay et al., 2009).

Learners with visual impairments: The term ' learners with visual impairments' in this study refers to learners who have a loss of sight (total blindness) that is preventing them from accessing visual information accommodated in special and inclusive schools.

Special and inclusive teachers: These are teachers who have experience in using teaching strategies for learners with visual impairments in special and inclusive schools.

Special school: A special school in this study is defined as an educational institution that caters for learners with visual impairments.

Organisation of the thesis

This study is presented in five chapters. Chapter 1 presents the introduction and background to the study. The chapter also includes the problem statement, purpose of the study, and significance of the study, theories of social constructivism and the bio-ecological systems model as well as the conceptual framework and concept definitions.

Chapter 2 presents the review of the literature related to the study. Chapter 3 discusses the research methodology. Chapter 4 presents the analysis and presentation of the findings. Chapter 5 discusses the findings. The final chapter also presents a summary, conclusion and recommendations.

CHAPTER 2

LITERATURE REVIEW

Introduction

This chapter presents relevant literature pertaining to teachers' experiences of teaching learners with visual impairments. According to Hofstee (2006), reviewing what others have contributed to the existing body of knowledge on a subject area, enables the researcher to identify gaps, compare his or her own ideas with that of others, or even create new ideas. Published literature in the abovementioned field from developed and developing countries was critically reviewed to identify gaps in knowledge in terms of teaching strategies, specifically for LVI. The review of the literature was guided by the related areas identified in the research objectives, namely, teachers' experiences in accommodating LVI and identifying effective teaching methods and strategies applied by teachers while teaching LVI; the school support system; and teachers' preparation for special and inclusive schools.

Historical Perspective of Teaching Learners with Visual Impairments

Teaching learners with special educational needs is a fundamental aspect, although the phenomenon has not received much attention in the field of special and inclusive education. This could be attributed to the fact that traditionally, learners with special educational needs were placed in rehabilitation centres where education was not a priority. The objective of placing them in centres was to teach them activities of daily living. A review of the subject literature on the teaching of learners with special educational needs in Namibia cannot be completed without exploring the history of special education for learners with disabilities in general. Some researchers (Phiri, 2013; Pritchard (cited in Phiri 2013); Bender, (cited in Phiri, 2013; in Wood, 1992, 2005) and Kisanji, (1999) made efforts to trace the historical and educational

backgrounds of people with disabilities. Phiri (2013) reports that although special education was initiated in the European context, trends in the development of special education in other countries, including Namibia, also occurred. Over a period of time, the placement of learners with disabilities moved from isolation, segregation, integration and mainstreaming through to inclusion all over the world (Phiri 2013; Wood, 2005).

Pritchard (as cited in Phiri, 2013) as well as Bender (cited in Wood, 2005) claim that, in the past, people with disabilities were hidden by their family members, killed, tortured and considered to pose a social threat to society. As such, society had to be protected from people with disabilities. In ancient Sparta, for example, "people with disabilities were exposed to the elements to die" (Rothstein, cited in Kisanji, 1999). In some countries people with disabilities were thrown off from cliffs, mountain sides, drowned in crocodile infested rivers or simply left to die (Kisanji, 1993). In contrast to this, the Church found it very necessary that people with disabilities should be given custodial care and these attitudes led to people with disabilities being placed in places of safety where they were fed and clothed (Wood, 2005). However, providing custodial care did not mean receiving education (Bender cited in Phiri, 2013; Wood 2005). Some people with disabilities, particularly those with physical and intellectual impairments as well as the mentally, ill were placed in hospitals for custodial care and treatment.

Although the education of learners with sensory impairments in special schools emerged in the 15th Century (Wood, 2005) there was no serious attempt made to educate learners with visual impairments until the late 18th Century (Phiri, 2013; Wood, 2005). Furthermore, Haihambo (2010); Kisanji (1999) and Wood (2005) explain that the emphasis in the early special schools was on vocational skills. Hence, the curriculum was different from that in public schools. These early schools belonged to

missionary societies. In Europe and Africa, the involvement of governments came much later (Bruhn et al., 2007; Kisanji, 1999). According to Jenkinson (1997, p.13), regular classroom teachers were relieved "of the need to devise and implement curricula for students who appeared unable to learn from normal instruction in the regular class" due to the initiatives of special schools.

Learners with Visual Impairments in the Classroom

The explanation of visual impairment implies a range of vision loss, and it is defined as "impairment in vision that even with correction adversely affects a child's educational performance (Individuals with Disabilities Act, 2004). It "may be broadly classified as low vision, legally blind, or totally blind that includes both partial sight and blindness" (Pierangelo & Gouliani, 2007, p, 33; Rooks, 2009). These are learners who must receive instruction by means of auditory methods, Braille, or other non-visual media. In this study, learners with visual impairments are those who have a loss of sight that is preventing them from accessing visual information and these learners are accommodated in Eluwa special and Gabriel Taapopi inclusive schools. In addition, Palmer (2005) indicates that LVI's access to learning is mostly achieved through the implementation of modifications, appropriate educational materials, equipment, resources and special measures, such as, extra time, realistic expectations and special formats. Modifications may be required in learning strategies (compensatory or adaptive skills), materials and devices (media), classroom management (teaching techniques) or to the environment (architectural and other physical barriers).

Sacks and Silberman, (1998) and Mwakyeja, (2013, p. 22) state that "before imposing any teaching on LVI, it is necessary that a teacher has knowledge about how the loss in vision influences the learning process and that visual information is crucial in helping children observe and interpret what happens in the environment. Therefore, if

learners with visual impairments require unique ways of addressing their academic problems, it is important that teachers understand these needs to enable them to pre-determine teaching methods and strategies to be used for effective teaching and learning (Salisbury, 2008).

Teaching Methods for LVI

Teaching methods are the general principles, pedagogy and management strategies used by teachers for classroom instruction and interaction. The individual teacher's choice of a specific teaching method depends on what is appropriate for the learners and for the subject area(s). However, active teaching specifically in this area, strives to involve learners with visual impairment in the learning process more directly. Eison and Bonwell (1991); Donald et al., (2012) state that in active teaching and learning, learners participate in the process and are also expected to participate by doing some activity rather than passively listening. In this review of literature specific studies that included LVI have been selected.

Cooperative Teaching and Learning Methods

Johnson and Johnson (1992, p. 218) define cooperative learning as the interaction in which teams "all work for one" and "one for all". Gawe, Jacobs and Vakalisa (2011, p. 197) further defined cooperative learning as "a way of learning in which learners work together to ensure that all members in their groups have learnt and assimilated the same content." Furthermore, Van Wyk (2007) defines cooperative learning as " a successful teaching strategy in which small teams, each with students of different levels of ability, use a variety of learning activities to improve their understanding of a subject" (p.315).

Several studies have been conducted on cooperative strategies in the field of special and inclusive education, such as, group work, pair work, individual and peer tutoring (Gronlund, Lim, & Larson, 2010; Jenkins, Antil, Wayne, & Vadasy, 2003; Van Wyk,

2007; Hansen, 2006; Johnson & Johnson, 2008; Henson, 2004; Hallahan, Kauffman, & Pullen, 2006). However, the literature pertaining to learners with visual impairments is scarce (Erwin, Perkins, Ayala, Fine & Rubin, 2001; Rooks, 2009). Nevertheless, Penda, Ndlovu and Kasonde-Ng'andu (2015) describe the challenges in teaching LVI and Mitchell (2014) provides a few suggestions on how to assist LVI.

Furthermore, using the qualitative research method, Jenkins et al., (2003) explored teachers' perceptions on how cooperative learning works for special education and remedial students as an instructional approach at both urban and suburban elementary schools in the United States. Twenty-one general education teachers were purposively selected. Researchers applied a semi-structured interview protocol that sought to generate information about the following aspects: a) teachers' use of cooperative learning and their experience with instructional strategies; b) teachers' judgements about the benefits of cooperative learning for students with special needs; c) the participation of students with special needs in cooperative activities; d) the problems encountered when teaching learners with special needs using cooperative learning and; e) the modifications that teachers created in order to accommodate learners with special needs in their classrooms.

The findings from the study show that participants believed that learners with special needs derive a broad range of benefits from cooperative learning, such as, 1) improved self-esteem; 2) provision of a safe learning environment and 3) greater success rates in classroom tasks and other positive results. The findings of the study specify that teachers attributed a deeper engagement, better comprehension and active learning to cooperative learning. In addition, the findings of the study indicate that learners with special education needs benefit from increased self-esteem as a result of peer validation, a better final product, and increased class participation. The teachers point out that cooperative learning give special and remedial education students a greater voice and participation in the

classroom activities. However, the teachers stressed that the achievement of these benefits often depend on the student. Although some learners with special needs felt less burdened by the assignments and were supported by their group, others felt excluded and either refused to participate or were denied a clear role within the group. It was disappointing as teachers were not clear about the disabilities of their students.

In order to ensure successful cooperative learning, teachers are encouraged to closely monitor group dynamics and to intervene when necessary. While acknowledging that cooperative learning is a good strategy in teaching and learning, some learners with special needs were found struggling in group and pair work activities. But this could be ascribed to the non-use of adapted materials for the learners to follow by teachers. Nevertheless, generally teachers remained convinced that cooperative learning is appropriate for learners with, and without special needs. The limitation of this study was the use of one research method for generating data. It would be necessary to use more than one method of generating data for the purpose of triangulation and credibility.

Van Wyk (2007) investigated the effectiveness of cooperative learning strategy in the Further Education and Training phase in the Free State, South Africa. The purpose of the study was to design a framework for the implementation of cooperative learning as a teaching strategy for economics teachers. The researcher used structured questionnaires in order to establish the status of pre and in-service training of economics teachers. The study consisted of 200 participants based on a 4-point Likert scale. Surprisingly, the results of this study revealed that there was a great need for more in-service training, especially for beginners but also for experienced teachers. In addition, the majority of respondents indicated a deficiency in the application of cooperative learning in their economics classes. Thereafter, a number of recommendations were made regarding the in-service training and the effective application of cooperative learning as a teaching strategy in teaching

economics. Both studies examined the implementation of cooperative learning. In Jenkins et al.'s (2003) study the research participants were regular and mainstream teachers, whereas Van Wyk (2007) concentrated specifically on pre-service economics teachers.

In a qualitative action research case study of learners with special needs in Saint Paul Open special classroom in Minnesota, US, Hanson (2006) observed how class teachers applied cooperative learning as a teaching strategy to two learners with special needs. She also administered a questionnaire to learners with special needs to answer after activities. The results indicated that cooperative learning through the use of peer reviews in special education classrooms reduces off-task behaviour and improves the content of students' writing.

Furthermore, Wiskochil, Lieberman, Houston-Wilson and Petersen, (2007) and Ayers, (2009) reported the results from the study on the effects of using peer tutoring for LVI in physical education subject in schools in the western New York area. By accommodating learners with visual impairments in regular schools, challenges arise in regard to academic learning time in physical education. It was observed that teachers had no skills and knowledge to include LVI appropriately. The data were collected from four LVI (two with low vision and two who were totally blind) and from two to four same-aged, same-gendered peer tutors from each of their integrated physical education classes. The four LVI were purposively sampled, and selected from a list of campers who attended a sports camp for persons with visual impairments in the northeast. The instruments included a modified version of the ALT-PE coding sheet.

The authors supported the use of peer tutoring as an effective and cost-efficient means of increasing the success of LVI in general physical education classes. For documentation of the intervention, all the participants were videotaped in all six to eight physical education classes. In order to reduce the gap between the ALT-PE scores of LVI

and their sighted peers, physical educators should consider training sighted peer tutors in the use of appropriate teaching and feedback techniques (i.e., verbal instruction, skill demonstrations, feedback, and physical guidance) to increase LVI ALT-PE scores.

Effective Strategies for Teaching Learners with Visual Impairments

The teaching of learners with visual impairments is tightly grounded in a multi-sensory approach involving the use of specific teaching strategies, such as,

- inquiry-oriented-based strategy;
- the use of tactile representations;
- multisensory teaching strategies;
- addressing LVI by names;
- providing extra time for LVI;
- the use of universal design of learning; and
- the use of assistive technologies.

Hannell (2007, p.1) points out some of the qualities attributed to a good teacher in the course of teaching LVI, namely, that a teacher should develop ways to reach all the learners in the classroom, be able to change teaching techniques to meet various learners need, has a big heart and should enable all the learners in the class to live better lives.

Sakarneh and Nair, (2004) reviewed various articles on effective teaching from various educational databases. Researchers were much concerned about what it is to be an effective teacher in the classroom. Their article provides an overview of the research findings concerning effective teaching in inclusive and special classrooms. They reported that the practice of effective teaching and learning depends on the specific environment. Therefore, the ideas and practices of effective teaching can only be experienced, discussed, and function within a specific environment. The literature suggests that this context (micro- and meso- systems) has four main sub-contexts: teachers, learners, the

school, and the classroom teaching and learning practices. Although putting into practice the human rights and social justice movement ideal of including learners with special needs into the regular classroom, it was suggested that various classroom teaching practices should be taken into account. These practices include the efficient use of time, building good relationships with learners, providing positive feedback, ensuring a high student success rate, and, in general, providing support for the learners with and without VI. This review does not claim to be comprehensive or definitive but it is intended as a guide to the most important and influential research findings on effective teaching in inclusive classrooms (Westwood, 1995). According to Westwood (1995) effective teaching functions within a complex teaching and learning context that can influence it in different ways. Therefore, it was observed that effective teachers in regular and special classrooms cannot work effectively and productively unless they are located in a supportive environment with a support system in place.

Teaching LVI in special and inclusive classrooms is a challenge for most teachers and, therefore, teachers should be equipped with the basic characteristics of effective teaching. To be a successful teacher of LVI is not easy as the teacher has to use different and specific teaching strategies. Most of the evidence in respect of effective teaching comes from research which involves directly using several different techniques in special and inclusive classrooms (Westwood, 1995). Westwood (1995) in his review of the literature , found that the effective teacher should be a good classroom manager, focus on academic skills, show good expectations and enthusiasm, use effective strategies to keep students at their tasks, employ a variety of teaching and resources styles, and cover the material content. In addition, the effective teacher uses easy presentation of material, is direct in teaching, explains and outlines instructions clearly, frequently observes what learners are doing, takes into account differences between the learners and re-teaches

when necessary, gives frequent feedback to all learners and checks for understanding by using probing questions (Westwood, 1995). Stanovich and Jordan (1998) indicate that effective teachers are able to monitor the classroom and demonstrate the ability to use body language. Furthermore, they are able to manage the instruction time for the learners and themselves and have good expectations for the lesson and ensure learners' understanding by using questions and monitoring both LVI and sighted learners. Therefore, the teaching strategies should be regarded as effective when they are properly used, delivered at the right time in an appropriate lesson with the correct teaching methods and to the correct individuals. Researchers concluded that a teacher should exhibit certain characteristics. He, or she should use time efficiently; build good relationships with both LVI and sighted learners; provide positive feedback; achieve a high learner's success rate; and should generally provide support to learners who have or do not have visual impairments (Sakarneh & Nair, 2004; Stanovich and Jordan, 1998; Westwood, 1995). However, most of the teachers teaching LVI were not well prepared and, therefore, found it difficult to practice and use appropriate teaching strategies.

Inquiry-oriented -based strategy

Inquiry-oriented strategy is a type of instruction in which a teacher actively guides students' construction of knowledge and reasoning as they participate in the inquiry process (Rooks, 2009). Inquiry-oriented strategies in teaching learners with visual impairments is well investigated by several researchers, namely, Erwin, Perkins, Ayala, Fine and Rubin (2001), Fraser and Maguvhe (2008), Lumadi and Maguvhe (2012), Rooks (2009), Rooks and Maker (2009) and Wood (1992, 2005) mostly in science subjects.

For instance, using a qualitative research method, Erwin et al. (2001) sought the opinions of teachers in relation to science activities for learners with visual impairments who were studying at a state-funded residential school in the northern area of the United

States of America. The study assessed the impact and implementation of a Science curriculum, known as Playtime Is Science for Children with Disabilities (PSCD). It also examined adaptations and modifications for learners with visual impairments in the curriculum of Playtime Is Science for Children with Disabilities. The aim was to gain a better understanding of the issues, challenges, and outcomes associated with teaching about science and visual impairments. The researchers used multiple data collection approaches, such as, classrooms observations for seven months, structured interviews with nine learners with visual impairments and two teachers, and a focus group discussion with a group of general teachers. The findings indicate that teachers' beliefs in their students' abilities can have a profound impact on students' performance. The way in which teachers actually facilitate activities influences students' learning. In addition, the use of PSCD activities allowed the learners with visual impairments to exercise their voices, engage in teamwork and cooperative learning, as well as enhance their science knowledge base. The findings also revealed that several important and positive student-related outcomes were observed, such as, enthusiasm, persistence, interaction and positive peer- related outcomes.

In a mixed method study, Rooks (2009) examined the experiences and outcomes of learners with visual impairments as they participated in a guided inquiry-based unit about astronomy at a state specialised school in south-western United States. Rooks also described what middle school learners with visual impairments were able to do and what difficulties they had with inquiry-based learning. Although the school enrolled LVI and those with additional disabilities, only LVI were included in the study. The class size ranged from six to eight learners together with a class teacher who was specifically trained in the education of students with LVI, and a paraprofessional frequently lent assistance as required. The following specific questions were asked: (1) what opportunities are provided

to learners with visual impairments during guided inquiry science instruction? (2) what challenges do learners with visual impairments face during guided inquiry instruction? and (3) what is the impact of guided inquiry-based science instruction on the motivation and achievement of learners with visual impairment? Pre- and post-curriculum assessments consisted of 27 multiple choice questions and five open response questions.

The findings showed that students' learning was enhanced when the instructor-researcher guided students in accomplishing inquiry experiences. The use of appropriate reflective prompts assisted learners with visual impairments to fully participate in the writing tasks of the inquiry-based learning environment. Although previous knowledge and experiences were the starting point of new learning for all the students, Rooks (2009) claims that active participation in learning leads to a deeper understanding and use of knowledge among students, thereby supporting students' application of what they have learned. The study concluded that active involvement with authentic tasks is essential so that students with visual impairments can successfully participate in the inquiry-based learning environment.

Although inquiry-based learning is an effective strategy for teaching LVI, many learning environments pose cognitive challenges that force students to organise knowledge in new ways. To successfully engage in scientific practices like collecting data, generating evidence and reporting results, learners need to use reading, writing and speaking skills and draw from knowledge across content areas. In this way LVI may be able to integrate knowledge and apply this knowledge as they reason during inquiry investigations. Despite the challenges, the study shows that inquiry-based guided learning is a successful strategy for teaching LVI. Nonetheless, Rooks' (2009) study was limited due to the sample size of its participants. Contrary to Erwin et al. (2001)'s research, Rooks (2009) applied mixed

methods to strengthen her findings, while Erwin et al. (2001) carried out a qualitative study.

In a comprehensive qualitative research study, Lumadi and Maguvhe, (2012) examined factors that contribute to the improvement of life science pedagogy for LVI, in South-Africa. The study applied semi-structured interviews to solicit views from teachers as learning mediators and learners as proprietors of knowledge. Sixty three (63) participants consisting of eight teachers from eight schools in five provinces and 55 learners were drawn from eight schools represented at the 2011 winter school. The findings emphasise that teachers and learners believe that the quality of the learning environment, knowledge specific to the teacher and the learners, and effective communication are basic requirements for meeting the challenges of teaching the life sciences to LVI. The study, therefore, recommended that teachers and learners should become efficient learning mediators and skilful proprietors of knowledge, respectively so that they can optimise their capacity to achieve the greatest number of learning outcomes.

In a comprehensive review of the literature, Rooks and Maker (2009) report that inquiry-based learning is an effective teaching strategy for gifted visually impaired learners. The study conceptualised inquiry as a dynamic strategy for teaching that is suited to the learning needs of those learners with visual impairments and who are gifted. The authors further defined the term ‘inquiry in the classroom’ as activities in which learners with visual impairments develop knowledge and understanding of scientific ideas as well as understanding how scientists study the world. Eventually, the authors identified the following inquiry approaches that may benefit teachers and learners:

- instructions are situated in authentic tasks;
- students develop interdependency in small group work;
- students and the teachers publicly debate ideas and negotiate understanding;

- students and the teachers publicly share ideas with members of the classroom;
- students collaborate with experts outside the classroom and;
- responsibility for learning and teaching is shared.

Moreover, these researchers also found that social constructivism is a relevant and applicable theory which teachers may apply and which would help them to understand that a child's development is guided by social interaction and communication. They concluded that learning is socially mediated and occurs in social situations in which students' understandings are connected (Rooks & Maker, 2009; Rooks, 2009). The study also identified positive outcomes which are associated with inquiry-based oriented strategies. Firstly, the inquiry- based classroom was an instructional context in which the child with a visual impairment could demonstrate strengths. Secondly, adaptations, such as, reduced vocabulary demands, a graphic organiser and multiple presentations of content materials gave the learners with visual impairment ways to verbally engage in the classroom. Structured questioning techniques were used to guide and facilitate students' thinking, demonstrating that the learner with a disability could exhibit higher thinking skills and cognitive processes to work through a problem. Thirdly, the teachers' guided coaching strategies provided the learners with VI with the opportunity to build upon prior knowledge and experiences and to create new knowledge of the materials printed.

Consequently, the study suggested five effective instructional models for inquiry teaching and learning, namely, project- based learning; design-based learning; design-based science; problem-based learning, programme and curriculum, and case-based reasoning. Rooks and Maker (2009) concluded that inquiry learning is an approach that could be used successfully in general education classrooms as well as special programmes for gifted LVI and for other learners with a variety of disabilities.

Similarly, Fraser and Maguvhe (2008) examined the attitude and opinions of educators and LVI about the teaching of the subject, Life Science, in South Africa. Nine educators and 45 learners with visual impairments from nine special schools for the blind participated in the study. This study employed semi-structured and follow-up telephone interviews to obtain responses to various questions. The study identified themes and sub-themes, such as, opinions regarding teacher training; perceptions towards blind learners who are learning science subjects; the unique needs of the blind as well as learners with visual impairments. Fraser and Maguvhe (2008) found that a lack of vision, a lack of confidence and a lack of motivation hindered LVI from applying science process skills. These learners were seldom engaged in practical work and field trips and had limited access to computers and to relevant publications. Apart from the abovementioned problems confronting learners with visual impairments, the study found that educators of LVI are inadequately skilled and remain poorly motivated in teaching at special schools.

A small-scale qualitative study was conducted by Sahin and Yorek (2009) in a state-funded school for the blind in the northeast of the United States. Their purpose was to investigate how learners with visual impairments were taught and learn science. The data collection methods consisted of participant observation and audio- and video-taped semi-structured interviews. The results of the data obtained via interviews and observations revealed that teachers need to use proper instructional and environmental equipment so that LVI are able to learn science. LVI need more tactile and auditory experiences than visual instruction. The researcher acted as a participant observer, observed a science class and took notes. The study findings show that LVI were mobile and comfortable in their classroom environment. They knew the locations of all the desks, chairs, and equipment in the class. They were comfortable with using Braille to take notes during a class discussion.

The study concluded that teachers should apply proper and clear instructional techniques in the classroom.

In contrast, Fraser & Maguvhe (2008) concluded that teachers lacked ideas to adapt the curriculum and other teaching resources to accommodate LVI in the life science environment. On the other hand, Rooks & Maker (2009) and Erwin et al. (2001) managed to adapt their curriculum to suit and accommodate learners with visual impairments.

The use of Tactile Representations

Cox and Dykes (2001) described tactile media as the physical characteristic of materials that are adapted for use by learners with visual impairments to enable them to use their sense of touch to read. In addition, Cox and Dykes (2001) identified effective teaching strategies that could be used to teach LVI in general education settings. These include: a) tactile and kinaesthetic materials; b) auditory learning accommodation; c) different technology adaptations; d) curricular consideration; e) orientation and mobility and f) activities of daily living. Tactile and kinaesthetic materials are most effective for presenting information to LVI about objects that they come into contact with, and use in their everyday lives. The study suggests that teachers in special and inclusive classrooms should plan and adapt the materials beforehand for learners with visual impairments who do not have the necessary visual skills required for the task. Charts, models, maps and graphs are considered to have a greater educational value if they can be read using the sense of touch.

In a survey, Zebehazy and Wilton (2014) investigated the perceptions and practices of teachers of LVI in Canada and the United States concerning graphics, (tactile and print) that are used by students with visual impairments. These researchers created an online fluid survey which contained 32 items regarding demographic data and a set of 26-5-point Likert scale questions. The results were statistically analysed and compared using the

Wilcoxon signed-rank test and effect sizes were computed. The findings revealed that 70% of teachers of LVI who responded to the survey valued the importance of using tactile media and print (Zebehazy & Wilton, 2014). In addition, the study showed that the teachers of LVI felt that graphics (tactile or print) were effective in teaching concepts and that written descriptions paired with tactile graphics were best understood by LVI compared to written descriptions alone. However, the researchers reported that teachers paid less attention to teaching learners with visual impairments how to make their own tactile graphics.

Although some studies (Cox & Dykes 2001; Zebehazy & Wilson, 2014) revealed the importance of using tactile representations to teach LVI, it is not clear in the literature how this could be implemented in an African context. At a working conference for people with disabilities, Wagner (1995) describes specific accommodation and adaptive equipment that teachers could use when teaching LVI. Wagner applied participant observations, and audio and video taped semi-structured interviews. Wagner (1995) demonstrated to the conference participants how to prepare tactile tools for learners with visual impairments by using linear measurement tools and described it as very important in active learning, especially for LVI. Wagner explained that adapted tactile measuring tools are required for learners with visual impairments and suggested some effective guidelines for constructing a tactile meter stick as well as a list of activities that are adaptable for learners with visual impairments. Wagner (1995) states that:

> Tactile measuring tools for learners with visual impairment are prepared by photocopying sections of a meter scale onto transparencies, and pasting the cut section into a meter long scale, using staples or glue to emboss each centimetre marking. The learners with visual impairment may use this tactile scale to practice

measuring objects; such activities should help them to gain self-confidence in skills easily transferable to real life" (p.77).

In this researcher's opinion, Wagner's (1995) study appears to make an important contribution in terms of teaching strategies for both general and special classrooms.

Multisensory Teaching Strategies

A multisensory teaching strategy is termed as a teaching strategy that uses visual, auditory and kinaesthetic tactile media to enhance teaching and learning (Department for Education and Skills, 2004; Obaid, 2013). Further, Department for Education and Skills, (2004); Coffield, F., Moseley, D., Hall, E. and Ecclestone K, (2004) explain more that this strategy is seen as producing better understanding when teaching learners with special educational needs because it is said to help learners learn better. Learning resources that can be accessed through sight, hearing or touch maximise learner participation, particularly for learners with sensory impairments. Learners without sensory impairments also benefit, as they can mix and match the channels through which they access the material, making learning richer and more varied.

Penda et al. (2015) carried out a study on the challenges of teaching LVI and regarding multisensory strategies, Mwakyeja (2013) carried out a qualitative case study that investigated how general teachers teach, and what strategies they used when teaching LVI at one inclusive secondary school in Tanzania. The research further investigated the challenges that teachers face when teaching LVI in inclusive classrooms. Four teachers were purposively selected as participants in the study. Semi-structured interviews and participant observation were used to gather the data. By means of the literature review and with the assistance of Mwakyeja who was a participant observer, the study identified several effective teaching and learning strategies that could help teachers who teach LVI. The study's findings revealed effective teaching strategies that teachers may use when

teaching LVI. These include posing questions and eliciting answers; arranging group discussions; using the lecture method; encouraging peer support; using braille resources; voice projection and calling out students' names clearly; enlarging handwriting; allowing extra time; using audio, optical and non-optical devices as well as tactile materials. Although effective teaching strategies were identified, it was noted that teachers faced various challenges in applying them in their classrooms. The study recommended that the government of Tanzania should improve inclusive teaching in certain areas, such as, training to help teachers to teach properly.

A similar study was conducted by Niwagaba (2014). The study investigated the teaching tools that regular teachers use when teaching LVI and their influence in one primary school in Uganda. The study applied a qualitative approach, and interviewed three teachers. It recommended that teachers should use the following methods: guidance based on teachers' knowledge and skills, assessment during pupils' learning process, feedback on marked activities, instructional conversations, verbal information, task regular interval check-outs, the use of teaching materials, such as, tactile demonstrations using real-life objects, creative and learning- friendly materials for the blind, auditory materials, and organising Braille materials basing them on the individual education plan. The two studies (Mwakyeja and Niwagaba) are relevant to this study since they were conducted in Africa, bringing the discussion of LVI closer to the Namibian situation and context. However, the limitation of Niwagaba's study was the single use of interviews as a data generation strategy. In this case the results could not be generalised to the population as a whole. Moreover, it could not be triangulated since only one method of data collection was used.

In another study, Whitburn (2014) explored the views of five students with visual impairments on the inclusive classroom teachers' teaching pedagogy in a regular secondary school in Australia. The author applied a small-scale qualitative exploratory

approach. A grounded theory research approach that consisted of systematic, yet flexible guidelines for collecting and analysing qualitative data was adopted to construct theories from the data. The researcher recorded more than 20 face-to-face individual and focus group interviews. The interviews took place in a designated meeting room and each ranged from 20 to 60 minutes depending on time constraints. Whitburn (2014) applied constant comparative data analysis. Data were analysed following open, axial and selective coding analyses. The study disclosed four best effective teaching strategies that a teacher may use when teaching and working with LVI. The strategies are s follows: a) the use of appropriate communication modes, b) making accessible resources available to students on time; c) being able to think outside the box about the provision of access to diagrammatic study materials and; d) being approachable outside of scheduled lessons. The study concluded that students' views were critical in facilitating inclusive classroom practices; the study also pointed to the broader implication of this finding with respect to the teaching profession.

The Tanzanian, Ugandan and Australian studies identify and recommend teaching strategies that teachers may use when teaching learners with visual impairments in regular schools. The limitation of the three studies is that they were all carried out in regular schools that accommodate learners with visual impairments.

Addressing Learners with Visual Impairments by their Names

In the guide for teachers of learners with visual impairments, Ferrel (2002) explains the importance of addressing learners by their names when interacting with them. Mwakyeja (2013) and Niwagaba (2014) agree with the aforementioned view indicating that since learners with visual impairments cannot see, teachers should call their names first when they want to address a specific issue, ask questions, or give instructions so that the learner knows specifically to whom the teacher is talking. The use of learners' names

during class presentations and group discussions should form an important part of teaching (Ferrel, 20002; Mwakyeja, 2013 & Niwagaba, 2014).

Providing Extra Time for Learners with Visual impairments

Allman (2009) carried out a study to promote the accessibility of testing materials for persons who are blind, or have visual impairments and to ensure that educational materials are made available to these learners. The study indicates that learners with visual impairments generally read at a slower rate than their counterparts without visual impairments. Mwakyeja (2013), Niwagaba, (2014) and Ferrel (2002) further agree that due to the nature of learners with visual impairments it is important that they are provided with enough time to accomplish their activities, tests, assignments and projects on their own.

The Use of Universal Design for Learning

Universal Design for Learning is a set of principles that guides the design of inclusive classroom instruction and accessible course materials (Centre for Applied Special Technology, 2011c). According to Morin (2014), in applying the Universal Design for Learning approach the information is often presented in visual, audio, and hands-on ways, encouraging teachers to use different test formats, including oral presentation. According to this approach, group projects and different methods are used in presenting the materials to keep students motivated. Gual, Puyuelo and Lloveras (2011) presented findings from a pilot study conducted in Barcelona on assistive resources applied to an itinerary of learners with visual impairments. The objective of their study was to use qualitative research techniques to analyse the use of tactile maps, produced with 3D printing in order to allow people with visual impairments to identify and memorise routes. Learners with visual impairments participated in the study. Ethnographic research techniques such as in-depth structured interviews and direct observations were used. The

findings revealed a positive outcome: cognitive maps showing the usefulness of these products as tools for teaching about the environment and urban routes for users who have visual impairments. Gual et al. (2011)'s study concluded that 3D printing could be a useful teaching technique for making tactile maps. According to the results, the technique coupled with verbal aid, enabled the users to learn a route for visiting an accessible heritage site. Lastly, volumetric forms extend the possibilities of design to accommodate the sense of touch.

The use of Assistive Technologies

Assistive Technology (AT) is any item, piece of equipment, software or product system that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities (Hauss, 2004; Kamei-Hannan, Howe, Herrera & Erin, 2012; Morris, Golinker, Bailey & Moore, 1991). The use of audio optical and assistive technologies with students with visual impairments has the potential to improve many students' outcomes related to academic teaching (Mulloy, Gevarter, Hopkins, Sutherland & Ramdoss, 2014). Assistive technologies and devices provide learners with visual impairments with access to many school- related activities by enhancing existing sight abilities or drawing on other senses. Although not much research on AT has been conducted, only a few studies in assistive technology (Mulloy et al., 2014; Mwakyeja, 2013) have been identified and examined.

Mulloy et al. (2014) conducted an extensive literature review on assistive technology (AT). The purpose was to provide examples, explanations, research findings and implications for the use of AT with learners with visual impairments and blindness. The study revealed that AT enhances the sight capabilities of users and engages senses and abilities other than sight. Again, it was noted that the use of appropriate assistive

technology can make a difference in the teaching of learners with visual impairments (Molloy et al., 2014).

Mitchell (2008, 2014) conducted a systematic literature review and identified several teaching strategies that are effective in the field of special and inclusive education. For example, he cited cooperative learning, peer tutoring, collaborative, self-regulated learning, reciprocal teaching, direct instruction, and assistive technologies. He also identified the opportunity to learn and the quality of the indoor physical environment as factors influencing teaching and learning. According to Mitchell (2014), an opportunity to teach LVI did not necessarily mean that an adequate quantity of time should be provided to students, but rather that a chance should be given to the LVI to expand their knowledge. This means that educators should have the skills and resources required to be effective teachers of learners with visual impairments. Hauss (2004) points out that assistive technology will not make the disability go away or disappear but it can lessen the impact of the disability, increase independence and improve an individual's outlook on life as well as help learners with visual impairments to gain access to their education.

Rule, Stefanich, Boody and Peiffer (2011), examined how the attitudes of secondary science and mathematics teachers towards students changed as a result of a year-funded programme that supplied adaptive equipment and curriculum materials in a rural Midwestern state of the USA. The authors further examined the feelings and insights, reported challenges and success of teachers and the ways they accommodated learners with visual impairments in their teaching. Data were generated in a survey by means of questionnaires. The findings revealed that teachers successfully implemented three teaching strategies: providing the adaptations of equipment to all students in the class; convincing the students of the need for the adaptations; and involving the class in understanding and accepting the students' impairments. Teachers applied different

teaching strategies, such as, textured models with Braille labels which allowed students to build the parts of the atmosphere with beads, noodles, glitter, puff paint and a foam; manipulative materials provided to demonstrate the concept, used blocks that snapped together to represent quantities on a graph so that they could be handled. Students used tactile tools to draft a story board and complete the warm-up problems at the start of the class, and to translate this activity to Braille (Rule et al., 2011, p. 878). These researchers concluded that the participants were engaged in constructive thinking about their teaching and actively improved their methods of teaching all learners.

Similarly, Gronlund, Lim and Larsson (2010) examined the effectiveness of the use of assistive technologies in inclusive education in two developing countries, namely, Bangladesh and Tanzania. To gather their data, these researchers implemented case study and literature review approaches. Through the analysis of the data, Gronlund et al. (2010) found out that the advantage of using assistive technologies when teaching learners with visual impairments was that it decreased the amount of teaching time required for students to learn a set of learning objectives when compared to the teaching time required to set teaching objectives without assistive technology (Mwakyeja, 2013; Gronlund et al., 2010). The study identified a number of challenges. It was found that the majority of teachers were not familiar with most of the assistive technology used for learners with visual impairments. Furthermore, the common assistive technologies used were low-tech and low-cost solutions, such as, slate, stylus and Braillon papers for manual writing, as well as white canes. However, Hauss (2004) and Gronlund et al. (2010) indicate that assistive technology is not without problems or barriers. They pointed out, for instance, that in most cases the recommended devices were very expensive and resources were not readily available, and that the equipment purchased required extra costs for training. In addition, there was no support system to show the individual learner how to use the devices

effectively. Moreover, there were no technicians to repair the device if it broke down and needed technical attention (Morris, et al., 1991).

School Support System

An effective school achieves more than good academic results. It ensures the development of sound relationships among staff, and between staff and students to promote a safe environment and a positive school climate (Crooks, Jaffe & Rodriguez, 2010). Evans, Bird, Ford, Green, and Bischoff (1992) and Bays (2004) conducted a case study of one school district in Nebraska in the USA to investigate the attitudes of administrators, teachers and parents during their initial move toward inclusion. The researchers found that the primary concern expressed by administrators was their feelings of inadequacy due to a lack of training and unfamiliarity with students with disabilities. The administrators were also concerned about the accessibility of their buildings, and that a significant amount of time that would be required for teachers to work with these students would reduce their overall effectiveness with the majority of students (Evans et al., 1992).

Twohig (2000) also conducted a case study on inclusive practices used by principals and their staff in facilitating the integration of students with disabilities into regular education classroom in the Mid-Atlantic state in the USA. The participants included three elementary school principals, two assistant principals, nine general education teachers and nine special education teachers from a selected school district. The purpose of the study was to examine how the three elementary school principals in the selected school district collaborated with their teaching staff to facilitate commitment to educating students with disabilities in the general education classroom. The study focused on the experiences of teachers and principals in integrating special education students, particularly with regard to the principal's role. Twohig's (2000) study applied multiple methods, interviews and

observations to gather data at the three participating schools. Six themes that emerged from the study were: the school climate, communication, the decision-making process, the principal's support, the master schedule and planning time, and professional development. Twohig (2000) believes that for a school to become more inclusive, the staff has to change the way they view the educational process, including changing the paradigm of learning and teaching, teacher support and staff development practices. In addition, the study indicates that the leadership has an essential role in promoting effective practice of a school-wide change. He further points out that if a climate of openness, change, reflective practice and self-renewal were to be implemented then they should be modelled by the school principal.

As far as the second theme is concerned, the results indicated that, principals established a system of communication to give their staff opportunities to share their feelings. Although their suggestions were not always adopted, the principals treated the staff fairly and listened to their concerns. The principals used e-mail and a weekly newsletter to keep their staff informed about instructional issues, meetings, staff development opportunities and the provision of support or information to teachers.

In addition, Twohig (2000) indicated that the principals provided the teachers with sufficient instructional materials and assistive technology, such as, computers, special keyboards, alpha smarts and a voice-activated software programme to effectively integrate special education students into general education classrooms. The principals also assigned special education teachers or assistants to work with the general education teachers to give them support in working with students with disabilities, including learners with visual impairments.

DiPaola and Walther-Thomas (2003) examined a paper which discussed the key leadership issues related to effective special education and reviews on emerging standards

in knowledge and skills for effective principal performance at William and Mary College. They further examined the evolution of the principal's role and his or her influence on building-level special education services. They point out that it is well recognised by some researchers, particular professional organisations, and others that all school personnel and school leaders, in particular, must be prepared to advocate effectively for the educational rights of all learners, including LVI, if school reform goals are to be realised. However, research suggests that few school leaders are adequately prepared to provide special educational leadership. Di Paola & Walther-Thomas (2003) suggest that university preparation programmes, professional organisations, education researchers, state agencies, and local communities must work together to ensure that administrators develop the essential leadership needed to advocate effectively for the educational rights of diverse learners. In order to achieve the goals of school reform, effective leadership preparation must become a national priority.

By means of a case study, Solomon, Schaps, Watson and Battstich (1992) identified four key roles for principals in facilitating inclusive practices. These roles are as follows: a) providing support for teachers as they learn and grow; b) working to establish caring relationships with students and faculty; c) developing a school-wide disciplinary programme that reflects insight into students and their problems and d) setting a tone of support and caring in the school community while providing resources for students, staff and parents. Executing such responsibilities requires that principals should function or work as primary change agents.

Teachers' Preparation for Special and Inclusive Education

Effective teaching strategies depend on the proficiency of the teacher, while the quality of teaching depends on the quality of the training that a specific teacher has received. Special and inclusive education teachers serve as a driving force in the success

of learners with visual impairments. Therefore, it is necessary to review some studies conducted on teachers' preparation globally, in Africa and in Namibia.

Das, Kuyini and Desa (2013) examined the current skill levels of those regular primary and secondary school teachers in Delhi, India who teach learners with disabilities in inclusive educational settings. A total of 223 primary school teachers and 130 secondary school teachers were surveyed using a two-part questionnaire. Part one of the questionnaires required background information on the respondents. Part two was a Likert scale which required the teachers to indicate their perceived current skill level or various levels of competency. Data were analysed using descriptive statistics and t-tests. The major findings were that nearly 70% of the regular school teachers had neither received any training in special education, nor had any experience in teaching learners with visual impairments. Furthermore, 87% of the teachers did not have access to support services in their classrooms. However, according to Davis (2003) the teacher should expect to receive advice and guidance from the support service on how best to use appropriate teaching strategies, and the application of adapted equipment and resources.

Grimes (2013) conducted a case study exploring the barriers to, and opportunities for supporting the development of inclusive classroom teachers in two schools in Bangkok, Thailand. Data were collected between 2003 and 2009 using an ethnographic approach whereby the author positioned as a consultant–researcher visited and worked alongside teachers in the schools several times. The study findings indicate that there are significant challenges to a view of teacher development for inclusion, which suggests that teacher training is a core component. It further explains that school principal and teachers need to be taken into consideration when trying to understand the ways in which inclusive teacher development can be supported effectively. As a result, school principals should provide resources that need to be used, and to directly promote teacher development. It

was found that teachers need to be supported and then enabled to take ownership of their own development through the creation of spaces that allow meaning to be constructed at a local level, both in the school and in the classroom. The study suggests that policy initiatives are more likely to be successful if they actively aim to enable teachers and all those who support and work with them to construct meaning at a local level through dialogic space and facilitated reflection.

A survey study conducted in South Africa indicated that the majority of teachers surveyed felt unprepared and unequipped for working in inclusive classrooms (Hay, Smit, Paulsen, 2001; Pravena, 2006). Eloff and Kgwete (2007) conducted a study exploring the key area for support in inclusive education among teachers in the Gert Sibande Region (which falls under the Mpumalanga Education Department). Out of the 964 schools, 50 had been identified by the provincial government as pilot schools for inclusive education. Among the 50 schools, only three schools were involved in piloting the project. The training in inclusive education included school principals, school governing bodies and teachers. The training in the form of workshops and in-service instruction was provided to teachers to help them better understand inclusive education and empower them with the skills that would help them to meet every learner's diverse needs. Teachers were observed and interviewed to discover their views about support while performing their daily duties at school. The researcher identified three inhibiting factors, namely: a) perceived lack of skills and competence; b) large classes and; c) insufficient resources. Teachers indicated lack of skills and competencies to accommodate diversities in inclusive classrooms as one of the critical issues. They cited a lack of the necessary skills and competencies to handle learners with diversities.

The results showed that teachers believe that they were failing to meet the needs of all learners due to their limited skills. The findings were confirmed by Eloff and Kgwete's

observations during visits in the classrooms. They also indicated that their formal pre-service training did not include any formal training on addressing learners' needs in inclusive education classrooms. On the other hand, the participants mostly discussed their own expertise and remained silent about the benefits of the current collaborative relationships since the introduction of inclusive education at their schools.

Mangope and Mukhopadhyay (2015) carried out a study to investigate how regular teachers are prepared for inclusive education in Botswana. The purpose of their study was to explore teachers' perceptions about current professional development and also to identify the training needs and delivery modes for implementation of inclusive education. These researchers found that, although teachers value the importance of continuous professional development in improving teaching skills for learners with diverse educational needs, the majority of the general education teachers did not get the opportunity to participate. The results of studies by Das et al. (2013), Hay et al. (2007), Mangope and Mukhopadhyay (2015) indicates that the majority of general education teachers did not receive adequate training in inclusive and special education at pre-service and in-service levels. They also point out that conferences, seminars and workshops are the responsibility of the Ministry of Education (MoE). Mukhopadhyay (2013) also points out that the University of Botswana and the Colleges of Education have the responsibility to adequately prepare teachers.

In the Namibian context, Nambira, Kapenda, Tjipueja and Sichombe (2009) presented findings from a survey that investigated the professional development needs of novice and mentor teachers in Namibian schools. The study used quantitative and qualitative research methods, that is, both interviews and questionnaires to obtain information from novice teachers. The participating schools were randomly sampled. Novice teachers interviewed were asked if professional institutions had prepared them

sufficiently. The findings reveal that respondents had only dealt with the theory of inclusive education and its definition but had not covered the issue in depth.

In this regard, Haihambo (2013) claims that the impact of teacher education programmes is difficult to assess, as tracer studies have not yet been conducted to assess how teacher preparation influences teacher delivery. Yet, the objective of the Education and Training Sector Improvement Programme (ETSIP) of Namibia is "to strengthen the quality, effectiveness, efficiency of the general education and training system" (p.5). So given this state of affairs, there is a need to find out from the teachers who are teaching learners with visual impairment in ESS classrooms as well as in GTISS classrooms in the Oshana Educational Region of Namibia.

Another Namibian study by Mostert (2002) investigated teachers' perceptions about the inclusion of learners with special needs in regular classrooms in Namibia. The study showed that teachers perceived that learners with special needs were contributing to the lower speed at which the syllabus was completed and that they were seen as "guests" sitting in, and socialising with their peers until they found space in special schools. These perceptions did not auger well for inclusive education principles. For this reason, the Department of Educational Psychology and Special Education made extra efforts to make inclusive education popular by means of multi-level sensitisation methods (for example workshops and conferences, radio talks, school visits and university curriculum adaptations). Möwes (2007) investigated the Namibian secondary school teachers' perceptions of inclusive education and revealed that many teachers and principals were of the opinion that inclusive education would mean more work for them and that they would be expected to offer specialised services for which they have not been trained.

A study conducted by Hengari (2004) on challenges for teacher education highlighted the difficulties associated with teachers' lack of training in inclusive education

and showed how teacher education can rise above difficulties to better equip teachers to drive inclusive education planning and implementation. Haihambo (2008) also conducted a study concerning students' perceptions in terms of inclusive education offerings in the Faculty of Education. A 10-item open-ended questionnaire was completed by final-year B. Ed students. The main finding was that students felt that the course was too theoretical. They recommended the addition of more practical components to the learning outcomes for the inclusive education and specific learning difficulties' courses.

Haihambo (2010) sought to identify challenges facing students with disabilities in Namibian higher education institutions. The study revealed, through narratives and "photo-voice", the multiple challenges experienced by students with disabilities in higher education. The challenges ranged from: physical access to lecture rooms due to unfriendly institutional infrastructures; lecturers' lack of consideration regarding disabilities; a lack of socialisation activities; as well as a lack of coherent services for students with disabilities.

Josua (2013) conducted a study on challenges facing the management of Gabriel Taapopi Inclusive School in northern Namibia. In this study, an inclusive school was studied through the eyes of an outsider and the way in which inclusion was managed in that particular school was explored. He had in-depth interviews with learners with visual impairments and those who are partly sighted as well as the teachers and school management. His study revealed that the Ministry of Education did not support the school as was expected in terms of the provision of training and materials. The study revealed clear pockets of integration and inclusion, but also that the characteristics of integration were more manifest than inclusive education.

It should also be pointed out that the published literature in Namibia in the field of inclusive and special education reported the results of many studies on the following topics:

- the challenges of inclusive education;
- the perception of teachers on the inclusion of learners with special educational needs;
- the challenges of students with disabilities in regular schools as well as
- the challenges facing the management of a certain specific inclusive school.

None of the published studies focused on teachers' experiences in using teaching strategies specifically for learners with visual impairments in Namibia on which this study focused. Secondly, the study is also unique in that it focuses on the classroom practices in Namibia.

Summary

This chapter covered the literature review based on the experiences of teachers in teaching learners with visual impairments and the teaching strategies that are found effective and can be used when teaching learners who are visually challenged. The majority of studies on teaching learners with visual impairments have been mainly conducted in Western countries where the context may not be similar to the Namibian context. Several studies were conducted in Australia, the USA, India, Uganda, Tanzania, South Africa and Botswana.

The review of the literature shows that most teachers are experiencing problems in accommodating learners with visual impairments and adapting teaching materials to this unique group. On the other hand, some teachers, who are well trained, continually improve their professional development, and are supported in the teaching of LVI, face fewer challenges. Some studies indicate that learners with visual impairments should be provided with extra time to accomplish their tasks, assignments and projects. Furthermore, teachers should use tactile representations, adopt the universal design for learning approach and should call learners by their names so that they can identify who is being

addressed. However, a study by Jenkins et al., (2003) reported findings that were inconclusive in regard to the use of cooperative learning. It indicated that where learners with visual impairments were included, they felt less burdened by assignments but were denied a clear role within the group.

Furthermore, learners with special needs were struggling to cope with cooperative activities. The study did not indicate whether tools were adapted to accommodate learners with special needs. In Namibia, the majority of the studies focused on teachers' opinions about the inclusion of learners with disabilities, and the challenges of teaching learners with disabilities in inclusive settings. However, none of the studies focused on the teachers' experiences of classroom practice in teaching learners with visual impairments which is a central focus of the current study.

CHAPTER 3

RESEARCH METHODOLOGY

Introduction

This chapter presents the research paradigm, research approach and research design employed in this study with the aim of exploring the strategies for teaching learners with visual impairments. It also describes the data collection methods and instruments used as well as data analysis, data processing, data management and trustworthiness as well as ethical considerations. Also, listed are the sampling procedures and techniques as well as how teachers of learners with visual impairments explained their experiences. The overarching research question for this study was: what experiences do teachers have in applying strategies for teaching learners with visual impairments. In reference to the purpose of this study the following research questions were addressed:

1. What teaching methods do teachers apply when teaching LVI?
2. What teaching strategies do teachers apply to promote effective delivery of the methods used?
3. How does the school system support the teaching strategies to enhance the teaching of learners with visual impairments?
4. What are the better ways for strengthening the strategies for teaching LVI?

This study adopted a qualitative research approach. For a better understanding of the research approach it is important to discuss and justify the use of particular research paradigms.

The Interpretive Research Paradigm

The major objective of this study was to explore the experiences of teachers in relation to the teaching strategies they use with learners with visual impairments. Since the researcher is interested in the way teachers construct and interpret their experiences, the

interpretive research paradigm was a suitable approach. Creswell (2009) defines a paradigm as a basic set of beliefs and rules that guide researchers' actions. The author of this study, agrees with Sarantakos (2005) that a paradigm is "a set of plans that explain how the world is perceived by the researcher". Besides, a paradigm should also be understood as it represents the researcher's way of thinking about, and seeing the world, the conceptual framework that informed the choice of the research problem to be investigated, the framing of the research objectives, and the research design, as well as the instruments for collecting data (Chilisa & Preece, 2005). Advocates of an interpretive paradigm hold a view of the social world that is different to that of positivists (Bailey, 2007).

Interpretivists believe that reality is socially constructed (Creswell, 1994; Mertens, 1998) and that there are as many intangible realities as there are, for instance, teachers of LVI constructing them as opposed to the positivist paradigm that stipulates and perceives reality to be objective, simple and fixed (Creswell, 2012). Positivists further believe that there is only one reality in nature and only one truth (Tabulawa, 2013) and all members of the society define reality in the same way because objects generate the same meanings and people see and name them in the same way (Tabulawa, 2013). Hence, the positivist paradigm was not suitable for this study. Furthermore, the goal of interpretive research is to understand a particular phenomenon or content and this made it suitable for this study since the researcher explored the meaning attached to experiences by teachers with relevant experiences.

An interpretive paradigm made it possible for the researcher to understand the situation of the chosen phenomena and to interpret meanings that teachers of learners with visual impairments made in their natural settings, which includes their school environment and classrooms. This paradigm also allowed the researcher to observe and interpret the

lived daily experiences of teachers in applying strategies for teaching learners with visual impairments in their classroom environment. For this reason, the study was limited to the context, space, time and individuals or groups in a given situation and cannot be generalised to the population as a whole. The Interpretivist worldview is that reality can be constructed in different ways by comparing the experiences of different teachers. For example, the experiences of teachers with visual impairments teaching learners with visual impairments would be entirely different from a teacher who is not visually challenged but who teaches learners with visual impairments. The two kinds of teachers construct and interpret different realities and experiences in regard to the teaching strategies required to teach learners with visual impairments.

Multiple realities exist that are dependent on time and context. The context for an inclusive school is different from the context of a special school, depending on the time when the study is carried out. The Interpretivist views knowledge as always local and embedded in organisational sites (Tabulawa, 2013). Constructivist epistemology calls for schools and classrooms design and internal arrangements that are different from those designed based on an objectivist view of knowledge (Tabulawa, 2013). In terms of this study, two government schools, one special and one inclusive school located in Oshana Region were the research sites. The interpretive paradigm was suitable for this study because it allowed teachers who teach learners with visual impairments to share their experiences on the teaching strategies that they use. Therefore, the study adopted the interpretive paradigm as it provides an opportunity to capture the multiple realities related to teaching strategies (Patton, 2002; Baxter & Jack, 2008).

Qualitative Research Approach

The purpose of this study was to explore teachers' experiences regarding strategies for teaching LVI in special and inclusive schools. Therefore, the qualitative approach was

deemed appropriate because it allowed the researcher to explore teachers' lived experiences in their natural context which is the school. The adoption of the research paradigm made it possible for the researcher to collect a detailed account of teachers' own perspectives regarding teaching strategies used in schools (Chilisa & Preece, 2005; Henning, Van Rensburg & Smit, 2004).

A study by Denhart (2008) indicates that in qualitative research, the voice of an individual is very important. Therefore, the voices of the teachers with lived experiences of teaching LVI were heard. Their experiences were explored in-depth, interpreted and meaning assigned to them in respect of the aims of this research. To do that, interviews were used to capture the voices of the participants and verbal transcriptions were made to retain the quality of those voices. The way in which teachers described their experiences enabled the researcher to gain a greater understanding of those factors that promote or hinder the effective teaching of LVI.

According to Creswell (2007), Glazer-Ziduka (2002) and Henning et al. (2004), qualitative research is subject-centred and aims at describing the behaviour, attitudes and perceptions of respondents in their everyday lives. To explore everyday life experiences it was necessary for the researcher to enter the real world of teachers of learners with visual impairments. In this case, this included conducting interviews, observing the teaching strategies, viewing the school surroundings and holding discussions with teachers of learners with visual impairments. All these activities indicate that qualitative research was the best approach for this study. However, it has to be understood that qualitative methods employ different designs, as shown in Table 3.

Table 3:

Qualitative Research Designs

Types of design	Major characteristic of the design
Narrative /Historical	Reports the life of a single individual
Grounded theory	Moves beyond describing or reporting but acts to generate or discover a theory
Case study	Focuses on one or more cases within a bounded system
Ethnography	Focuses on an entire cultural group
Phenomenological	Describes the meanings of several individuals and their lived experience of a concept or phenomenon

Source: Creswell, (2007)

In view of the brief description of the five qualitative designs in table 3 in relation to the purpose of this study, which was to explore strategies for teaching LVI as described and experienced by their teachers, it was decided that phenomenology would be the best design suitable for this study. The discussion that follows provides detailed reasons for adopting phenomenology as the best design for this study.

Phenomenological Design

A phenomenological, qualitative design is an approach that focuses on people's lived experiences of a phenomenon being studied and seeks to understand the essence of those experiences (Creswell, 2007; Hatch, 2002). Thus, in this study, the experiences of teachers of learners with visual impairments were sought in relation to the effectiveness of the teaching methods and strategies that they used. Furthermore, phenomenologists are interested in the meaning attached to the experiences lived. Therefore, the researcher asked participants to explain their experiences in terms of the effective and not so effective strategies that they employed.

The phenomenological interviews that were used made it possible for the researcher to collect rich data and describe in detail the experiences of the special and inclusive

school teachers in using specific teaching strategies for learners with visual impairments (Creswell, 2007). The participants in this study were teachers with experience in teaching learners with visual impairments. Through phenomenological design it was possible for the researcher:

- to involve only those participants with experiences in teaching learners with visual impairments.
- to use more than one research instrument for data generation (triangulation) (Ary, Jacobs, Sorensen & Walker, 2010).
- to use techniques, such as interviews, observation and document analysis
- to visit the research sites (schools). (For example, in this study participants were from Eluwa Special School and Gabriel Taapopi Inclusive Secondary School).
- to pay attention to bracketing, implying that the researcher became totally immersed in the phenomena under study (Speziale & Carpenter, 2007).
- to become part of data generation, although expected to listen to the individual teachers' descriptions of their experiences of teaching LVI without imposing his or her opinions (Speziale & Carpenter, 2007).

Finally, it is clear that personal interest plays a major role in phenomenological design (Moustakas, 1994). Indeed, the researcher had a personal interest in teaching strategies because she taught learners with visual impairments at a special school and at a teachers' training college. Thus, through this study she attempts to contribute to the body of knowledge on the promotion and effectiveness of teaching learners with visual impairments.

Research Sites

The Directorate of Education: Oshana Region in Northern Namibia has 136 primary and secondary schools taught by 2100 teachers. Among the 136 schools, six of them are

boarding secondary schools. Two of those six schools cater for learners with visual impairments who are taken care of by 50 teachers, including two school principals. These are, Eluwa Special School (ESS), which caters for learners with visual impairments and Gabriel Taapopi Inclusive Secondary School (GTISS) which caters for learners with visual impairments and sighted learners. Eluwa has a total of 13 teachers from orientation to grade ten (10), while GTISS accommodates 37 teachers from grades 8 to12. Out of 13 teachers at Eluwa, one (1) school principal, one (1) teacher assistant and five (5) teachers teaching Grade 10 participated in this study. Furthermore, out of 37 teachers from GTISS, one (1) school principal, one (1) teacher assistant and six (6) teachers teaching Grade 12 participated in the study. These two schools and its teachers were purposively selected for their uniqueness. They accommodate learners with visual impairments, teachers with visual impairments and sighted teachers, as indicated in Chapter 1 (Creswell, 2007; Leedy & Ormrod, 2010). Eluwa special and Gabriel Taapopi Inclusive schools have five elements in common, and these were used as a set of inclusion criteria for schools as part of the sampling procedure dealt with below.

The interrelationship of these two schools is that when learners with visual impairments complete Grade 10 at Eluwa Special School (ESS), they are transferred to Gabriel Taapopi Inclusive Secondary School (GTISS) which caters for learners with visual impairments and sighted learners in grades 11to12. These two are boarding schools in Ongwediva, Oshana region and could be easily reached by the researcher.

Sample and Sampling Strategies

A sample is the group of participants intended for the study (Gall, Gall & Borg, 2010). For this study, the sample consists of (15) participants, five (5) teachers who teach grade 10 learners with visual impairments at Eluwa special school and six (6) teachers who teach grade 12 learners with visual impairments at Gabriel Taapopi Inclusive

Secondary School, two (2) school principals one from each identified school as well as (2) the two teacher assistants working in collaboration with teachers for LVI in special and inclusive schools, (see table 6 for detailed description of the participants). Since the study was designed to get in-depth data about classroom practices in relation to teaching strategies, purposive sampling was employed to ensure that those who participated have had relevant experiences. It was important that the researcher selected only information-rich cases and these involved teachers with experience of teaching LVI in special and inclusive schools. Furthermore, purposive sampling was the best strategy to apply in this research because it allowed the researcher to use a relatively small sample of participants and this gave the researcher ample time to explore the phenomenon of the study (Gall, Gall & Borg, 2003). In this case, all teachers who had taught LVI in the two selected schools for at least two years participated in this study. These teachers were considered information- rich cases because they were familiar with the teaching strategies for LVI. They had experience in using methods and strategies for LVI, for example, tactile media and models, as well as Braille.

Sampling Procedures

Inclusion criteria for schools

The schools were selected based on the following criteria that:

- They are government schools;
- They accommodate both learners with visual impairments as well as teachers with visual impairments;
- They share the same curriculum, plus the adapted supplementary curriculum for inclusive and special education;
- Have special equipment for learners with visual impairments

Inclusion criteria for teachers

Teachers were selected based on the following criteria that they should:

- be qualified teachers;
- have taught for at least two years in the school that participated in this study, so that they would be familiar with the environment and its settings;
- have taught learners with visual impairments for two or more years;
- be currently in a government school chosen to participate in this study

Inclusion criteria for school principals

School principals were selected based on the following criteria:

- they were currently heads of the schools that participated in this study
- they had two or more years of experience working with teachers with VI and sighted teachers.

Inclusion criteria for teacher assistants

Teacher assistants were involved in the study because:

- they were qualified teachers;
- they had at least two years of experience in assisting in special and inclusive schools-related issues in the two selected schools;
- they were familiar with, and have used special equipment to assist both teachers and LVI.

Figure 3 shows how research sites and participants were sampled.

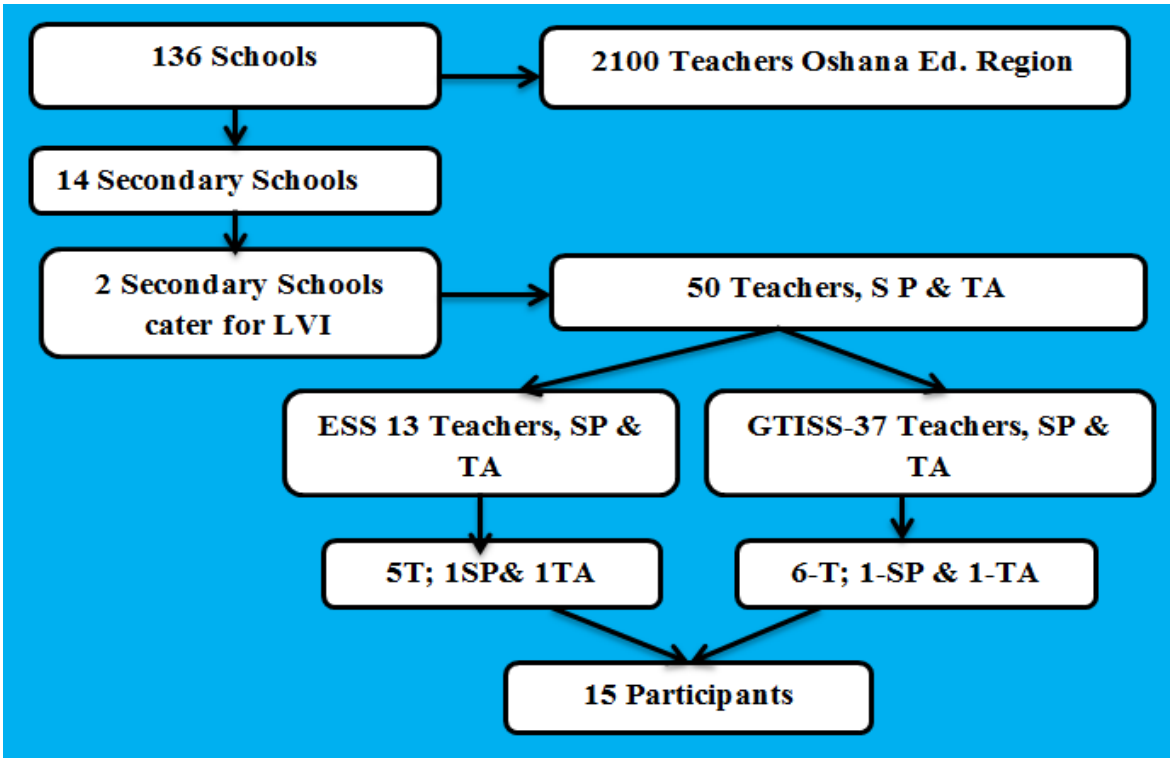

Figure 3: Research sites and location of participants

Research Instruments

Research instruments are the tools and equipment used for collecting data. Yin (2003) explains that the research "instrument is a major way of increasing dependability in qualitative research and it is intended to guide the researcher in collecting data'' (p.67). The research instrument guides were planned and discussed with respect to how they were used. Some of the instruments were converted to Braille in order to accommodate teachers with visual impairments. The guides are detailed and appended as follows:

- **Appendix A.** Semi-structured, one-on-one interview guide for special and inclusive school teachers (in print & Braille).
- **Appendix B.** Semi-structured, one-on-one interview guide for special and inclusive school principals.
- **Appendix C.** Semi-structured focus group discussion guide for special and inclusive school teachers (in print & Braille).

- **Appendix D.** Semi-structured one-on-one interview guide for special and inclusive school teacher assistants (in print and Braille).
- **Appendix E.** Non- participant observation guide for the classroom settings and lesson observations.
- **Appendix F.** Document analysis guide.

Semi-Structured one-on-one Interview Guide

The semi-structured one-on-one interview guide is a carefully outlined document clearly stating and introducing the researcher and explaining the purpose of the study. It further includes the interview questions which are open-ended, and can accommodate new information which might not have been expected from the participant. The interview guide begins by asking participants about their background information regarding years of experience in the field of education in general, as well as in special and inclusive education. Participants are asked to reflect on their experiences in teaching LVI and to describe their experiences fully (Moustakas, 1994). Interview guides were also designed based on research sub-questions presented earlier in this chapter and based on relevant information from the literature review. The interview guides for teachers from ESS and GTISS have common items, (Appendix A).

Interview Guides for Teachers

The interview guides for teachers in Appendix A helped the researcher to find more information from the teachers about teaching methods and strategies that they use in teaching learners with visual impairments as well as the support mechanisms that are in place to support the education of LVI. They also provided an opportunity for participants to suggest possible ways that may strengthen the teaching of LVI.

Interview Guide for School Principals and Teacher Assistants

The interview guide for school principals and teacher assistants in Appendix B and D were designed to generate insights on the nature of support provided by the school principals and teacher assistants. These interview questions were developed by looking at the main research question and sub-questions for this study.

Interview Guide for Focus Group Discussion with the Teachers

The focus group discussion guides (Appendix C) were developed in order to gain additional information from teachers who have experience in teaching learners with visual impairments. The guides were designed based on the research sub-questions two, three and four and more information was added from individual interviews. The guides were used by the researcher to double check and, or confirm information concerning the teaching strategies used by the teachers, their effectiveness and any other relevant information.

The interview guides for special and inclusive school teachers (in Appendix C) had common items. Some of the items for discussions were follow-up questions from individual interviews and it was purposively done.

Non-Participant Observation Guide

Semi-structured observation guides were designed (see Appendix E) to capture the interaction of teachers with LVI and what was happening in the classroom during the teaching practice. A non-participatory observer observes the situation without active participation in what is taking place in the field (Bryman, 2004). The teachers who were involved in observation were also engaged in semi-structured one-on-one interviews so that the researcher could determine whether what was said in the interview was related to what was observed concerning the experienced phenomenon.

The Researcher's Background and Role

In qualitative research, it is essential to share the experiences and personal views of the researcher in relation to the phenomenon being studied (Creswell, 2007). The researcher has 20 years of experience working with learners with disabilities, specifically learners with visual impairments and learners with hearing impairments. After she completed her grade 12, she studied at Ongwediva College of Education from 1993to 1995 for the Basic Education Teachers Diploma (BETD). The programme was introduced immediately after the independence of Namibia in 1990. The teacher training did not include any module on how to teach learners with special needs but included the disability concepts.

After three years of training, the researcher started teaching at a regular primary school before she was transferred to a boarding special school that caters for learners with hearing and visual impairments. Learners with visual impairments and learners with hearing impairments shared dormitories and a dining hall but used separate classrooms. The school offers education from the orientation phase (3- and 4- year olds) up to Grade 10. The researcher taught learners with hearing impairments using sign language as a means of communication in, and outside the classroom. The school follows a general curriculum and syllabus and the expectation was to plan lessons accordingly and ensure that the researcher understood, and was able to use sign language. Furthermore, the Head of the Department was well-informed and ensured that every lesson had teaching aids in the form of a drawn picture, photos or a sign video for the learners to follow. The researcher felt incompetent and guilty every morning when entering the classroom. She felt that she was not delivering the lessons well especially to those with learning disabilities. However, she was fortunate to work with a colleague who had been trained in sign language and had experience in working with learners with hearing impairments, but

her schedule was always tight. The researcher felt socially excluded and was planning to go back to regular schools and developed negative thoughts towards teaching learners with disabilities. After that, she realised that it was important to organise, share, collaborate and discuss with others the approaches and strategies that needed to be used. This helped the researcher to learn on-the- job.

In 2008, after ten years of teaching in a special school, the researcher moved to a teachers' training college (an institution where teachers are trained) to become a special education instructor working with lecturers who taught student teachers with special educational needs (STSEN) including those with visual impairments. The purpose of transferring from a special school to the college of education was due to a shortage of staff who could teach and assist students with disabilities and lecture in disability-related issues. There was a colleague who was responsible for brailing and de-braillling the materials of student teachers with visual impairments and assisting the colleagues who taught student teachers with visual impairments while the researcher concentrated on her work of teaching sign language.

Unfortunately, the colleague was transferred and the researcher remained alone at the Special Education Unit. She was incompetent in Braille, and confused because she did not know how to read or write in Braille. The researcher remembers telling a student with a visual impairment that "I am here for sign language, why do you want me to discuss Braille and Jaws programmes"? The researcher felt guilty because she was unable to assist these innocent students. Consequently, the work (transcripts, assignments, tests and exams) for student teachers with visual impairments was outsourced to be brailled and de-brailled with no tactile materials and no assistance at all. The researcher felt guilty about being present but being unable to assist. She then decided to go for training that included Braille and the use of other equipment, as well as the different methods of teaching and

assisting individuals with visual impairments. The researcher then received in-service training on how to write and read Braille at Oniipa Rehabilitation ELCIN Centre for a period of six months.

Despite the training, the researcher realised that teachers who were teaching learners with visual impairments as well as student teachers with visual impairments may be experiencing difficulties in teaching and using appropriate teaching strategies in their daily teaching practice. This aroused her curiosity and the idea of investigating how other teachers were experiencing their teaching practice and the application of teaching strategies for learners with visual impairments in Eluwa special school and Gabriel Taapopi Inclusive Secondary School in the Directorate of Education: Oshana Region in Namibia.

Data Generation

The aim of this study was to explore and provide in-depth understanding of the teachers' experiences in using teaching strategies to teach learners with visual impairments. Since the phenomena under study involved the views, behaviour, interaction and participation of the participants, multiple methods of data generation which are intrinsic features of qualitative research were employed to get a bigger picture of reality (Maykut & Morehouse, 2003). Therefore, data were generated using the following methods: semi-structured one-on-one interviews; semi-structured focus group discussions; non-participatory school and classroom observations and; document analysis. These were considered the most suitable methods for this study. Furthermore, employing multiple methods of data collection helped ensure the dependability of the findings of the study (Chilisa & Preece, 2005; Creswell, 2007; Maykut & Morehouse, 2003). It also allowed the researcher to verify the data at various stages through the use of multiple data generation methods.

Interviews

The main methods of data generation in this study were interviews. Cohen, Manion and Morrison (2000) describe an interview as a two-way conversation initiated and facilitated by the researcher for the purpose of obtaining information relevant to the study. On the other hand, the interview can be described as a tool through which the researcher and the participant direct their attention towards each other with the aim of gaining insights into the experiences, concerns, interests, beliefs, values, knowledge and ways of seeing, thinking and acting of the participant (Schostak, 2006). In this study, in-depth interviews were conducted in order to obtain rich information and to interpret teachers' lived experiences of using effective teaching strategies (Kvale, 1996; Turner, 2010). Patton (2002) points out that qualitative interviews open possibilities for the participants to share their knowledge, views and experiences using their own words.

In this study, data were obtained from teachers who teach learners with visual impairments, school principals, and teacher assistants, using in-depth interviews. The interviews allowed the participants to interpret how they experienced teaching strategies when teaching learners with visual impairments in their schools and classroom environments. Again, the interviews allowed the researcher to identify teaching strategies used in their special and inclusive classrooms. Another important aspect of using interviews was that it allowed the researcher to probe in more detail and ensure that the participants were interpreting and answering questions in the way they were intended. In addition, the researcher had the flexibility to use her knowledge, expertise and interpersonal skills to explore interesting or unexpected issues or themes raised by the participants.

Semi-structured one-on-one interviews

One-on-one interviews were the first phase of data generation. Semi-structured interviews were deemed relevant strategies in generating data from the participants. This approach used an open- ended questionnaire designed to gain in-depth knowledge about the teaching of learners with visual impairments and the strategies that teachers use when teaching LVI in their classrooms. Participants were interviewed several times until data saturation was achieved. The one-on-one interviews were conducted in English. The researcher used a voice recorder for all the interviews. A research assistant (teacher with partial visual impairment) was recruited. She assisted in handling and reading the transcript in Braille throughout the entire interview process. Furthermore, it was essential to use a fieldwork memo book for note-taking to capture the information that could not be captured with a voice recorder, such as facial expressions, body language and gestures. The data generation processes lasted for six months. Seven participants were recorded during the interviews while one participants' interview was noted on paper by the researcher due to the cough which was apparent in her voice. These interviews were recorded to capture the information that each participant provided.

Focus Group Discussions

A focus group discussion was the second phase of generating data. This is a qualitative research technique of creating data by interviewing participants in a group of between seven and ten participants. The groups could also comprise a small number of four participants (Marshall & Rossman, 1995). Focus group discussions were essential for generating information on collective views about the teaching strategies and the meaning that lies behind those views (Gay & Airasian, 2000; Gill, Steward, Treasure & Chadwick 2008; Patton, 2002; Stake, 1995). The focus group discussion could enable a range of participants' insights, feelings and attitudes to be explored in a single interview session

(Best & Kahn, 2006; Gill, et al., 2008; Newman, 2007; Patton, 2002; Yin 2003). Therefore, in this study, focus group discussions were used with teachers who had experience in teaching learners with visual impairments in special and inclusive classrooms.

During individual interviews, participants were informed that they would be invited for focus group discussions after all the individual interviews were completed. After that a meeting was called and the researcher explained to the participants about the necessity of coming together for the group discussion, its purpose and the consent form. Consent forms were properly explained and signed by the participants. Focus group discussions were also conducted on the basis of appointments during which participants agreed on the date, venue and the time. Each group from each school consisted of five participants. The discussion sessions lasted from 35-45 minutes and it was conducted in English.

It was essential to record the discussion for data analysis as well as for reporting purposes. Thus, the researcher used a voice recorder to fully capture the discussions and to be able to listen carefully to the information each participant provided during the group discussion. Voice recordings sped up the interview sessions and saved time.

During the discussion, participants showed respect for one another, interacted with each other on a social level and gave each other a chance to express themselves. It also became clear that the focus group discussions were socially oriented so that the participants expressed themselves freely while in their natural context, in real-life surroundings (Ary et al, 2010; Marshall & Rossman, 1995). Therefore, the focus group discussions allowed the researcher flexibility to explore unanticipated issues. It also provided quick and additional results and increased the sample size of the study as it enabled more people to be interviewed at a time (Ary et al, 2010; Marshall & Rossman, 1995). However, the disadvantage of the focus group discussion was that some members

could have dominated the discussion. In this study this was not observed. Besides, the researcher was ready to neutralise the situation had such a situation occurred.

Non- participant observation

Observation was the third phase of data collection. In qualitative research, observation looks at how participants behave in a holistic perspective and the observer in this case, the researcher did not ask participants about their views or emotions but observed what they did and listened to what they said (Robson, 2003). Observations were conducted in a natural classroom setting which enabled the searcher to capture the participants' real practical approach to teaching LVI with a clear picture about the phenomena being studied since events are better understood in their natural setting (Bogdan & Biklen, 1992). In this study, the researcher observed issues which participants might not have been able to freely talk about or provide in open-ended questions (Cohen, Manion & Morrison, 2005). Observation provided an opportunity to examine the school environment, teaching methods and teaching strategies, such as, the use of tactile media and models, addressing LVI by name, the use of Braille materials by special and inclusive school teachers in their classrooms, how they interacted with learners, how their classes were arranged and the equipment they used.

According to Robson (2003), an observation is an appropriate technique for finding out about "real life in the real world". Therefore, actions and habits that were manifested during the teaching were observed and recorded with an iPad. Two teachers from each school who participated in individual interviews were observed, bringing the total to four. Each teacher was observed on two occasions, creating a total of eight individual lessons which were observed by the researcher. Observations were conducted on the basis of individual appointments with each teacher according to their timetable and, or schedule.

The observation activity began with Tulonga and Ndahafa (female teachers) from the special school. Tulonga was observed first and the researcher used the observation sheet only, whereas the observations of Ndahafa were recorded with the iPad. Tulonga was teaching Grade 10 Entrepreneurship and Ndahafa was teaching Oshikwanyama and English to Grade 10. Both lessons lasted for 40 minutes. Meanwhile at the inclusive school, the researcher observed Mbili and Neka (male teachers). Mbili taught Development Studies to Grade 12 and Neka taught Biology to Grade 12. In addition, at the inclusive school, the researcher noted issues on the observation sheet due to the condition of the classrooms, such as, poor lighting. The observed data were transcribed and analysed.

Document Analysis

Documents are written materials that are relevant to the development of the phenomenon under study (Conrad & Serlin, 2011). Conrad & Serlin (2011) explain that "relevant documents might include memos, letters, meeting agendas and minutes, written reports and evaluations and newspaper coverage" (p.207). For this study, the documents which were analysed were the Sector Policy for Inclusive Education and adapted Supplementary Curriculum Framework for Inclusive and Special Education. These documents were purposively selected because the two schools were supposed to use the same curriculum and, most likely, the same teaching strategies as well. The advantage of document analysis is that documents tend to reveal what people do, or did, as well as what they value (Savin-Baden & Major, 2013) and they are tangible examples of social meaning-making.

Documents were analysed using the document analysis guide (Appendix G) to systematically analyse each document and see if they addressed the issue of teaching strategies for learners with visual impairments that special and inclusive education

teachers had to adopt when teaching LVI. Documents are said to have a number of advantages over interviews and observations (Lincoln & Denzin, 2003). They add to the value and reality being studied and provide deeper insights into what is being studied (Lincoln & Denzin, 2003). During field work, the school principal from a special school indicated that she was aware of the documents about the Sector Policy on Inclusive Education and the supplementary curriculum and had received it, but she stated that they were waiting for training on how to use it. It was encouraging to hear a school principal at an inclusive school confirming that he was aware of the document and was about to receive it.

Pilot-Testing of the Instruments

Prior to the generation of the data for this study, the interview guides were pilot-tested. A pilot study is defined as the small scale, preliminary study conducted to test methods and other procedures for data generation (Gall, Gall & Borg., 2007). In this study, the researcher tested the tools for data collection. Pilot testing was conducted to acquaint the researcher with the tools (Drew, Hardman & Hosp, 2008). For this reason, it was important to pilot-test the research instruments, such as, interview guides and observation guides with a small group of participants with similar characteristics to those who participated in the study proper. Table 4 shows the details in respect of the pilot testing of the instruments.

Table 4:

Results of Pilot test for the Instruments

Research questions	**Source of information**	**Participants**	**Changes made**
1. What are the teachers' experiences in using teaching strategies to teach LVI?	Semi-structured individual one-on-one interviews and focus group discussion	School principal Teachers with/ without visual impairments Teacher assistant	
2. What are the teaching strategies that teachers use when teaching LVI?	Semi-structured individual one-on-one interview, focus group discussion and observation Document analysis	Teachers Teacher assistant	
3. How does the school support the teaching of learners with visual impairments to enhance relevant teaching strategies?	Semi-structured individual one-on-one interview, focus group discussion and observation	School Principal Teachers Teacher assistants	
4. What are the appropriate ways to strengthen the teaching of learners with visual impairments in special and inclusive schools?	Semi-structured individual one-on-one interview and focus group discussion, Document analysis	School principal Teachers	

The main objective of the researcher in pre-testing the research instruments was to find out whether the tools were relevant to the research problem, the clarity of the items, instructions and layout, wording and readability (Cohen, Manion & Morrison, 2011). The second objective was to check and evaluate the effectiveness of methods and procedures that would be deployed for data generation. The third objective was to test the strength and dependability of the instruments, and to find out whether the questions were clear and understandable so that the necessary changes could be made before the actual study commenced.

The exercise of piloting the instrument was conducted at Dr. Romanus Kampungu inclusive secondary school situated in Okavango East, Rundu constituency at a school that accommodates teachers with visual impairments as well as sighted teachers. They also teach LVI. The reason for selecting teachers as participants in this pilot study was that they teach LVI, they follow the same curriculum as the main participants in the study, and they have the experience of using different teaching strategies in their classrooms. In this

case, one class teacher was observed while was teaching to identify the teaching strategies and the interaction between this teacher and the learners in their classrooms. Semi-structured one-on-one interviews with the school principal and teachers were conducted. The researcher had practised recording and shooting posture among the learners and teachers during the observation exercises. She also practiced how to manage time during observations and deciding which situations to record and when to stop recording. Therefore, teachers who taught LVI were invited to participate in the focus group discussion interview. The school principal and the Head of the Department participated in semi-structured one-on-one interviews. According to Gall et al., (2003) the purpose of piloting the instruments was to gain experience and confidence in using them. The instruments had been shared and discussed with the three supervisors for clarity, readability as well as for the wording and the order of the questions.

Data Analysis

Data analysis is the way of transcribing, describing and interpreting the raw data, in order to obtain the meanings and patterns from it (Bell, 2005). Data analysis in qualitative studies begins immediately after the first data collection process. Table 5 shows the data analysis grid.

Table 5:

Data analysis Grid

Research questions	**Source of information**	**Participants**	**Methods of Analysis**
1. What teaching methods do teachers apply when teaching LVI?	Semi-structured interviews (individual and FGD), Document analysis, observation	School principals Teachers, Teacher assistants	Thematic analysis
2. What teaching strategies do teachers apply to promote effective delivery of the methods used?	Semi-structured interview (individual and FGD) observation	Teachers	Thematic analysis
3. How does the school system support the teaching strategies to enhance the teaching of LVI	Semi-structured interviews (individual interviews)	School principals Teacher assistant	Thematic analysis
4. What are the better ways for strengthening the strategies for teaching LVI?	Semi-structured interviews (individual and FGD), Document analysis	School principals Teachers, Teacher assistants	Thematic analysis

In this study, thematic analysis was applied. Thematic analysis procedures involve the process of coding, categorising and segmenting (Creswell, 2007). The researcher adopted Creswell (2007), Braun and Clarke's (2006) six steps for analysing and interpreting data which are as follows: (1) transcribing, familiarisation with, and organising the data; (2) generating nodes and creating themes from the data; (3) building and constructing themes; (4) reviewing themes (5) reporting the findings; (6) interrelating themes and producing the report. Figure, 4 illustrates the steps in analysing the data.

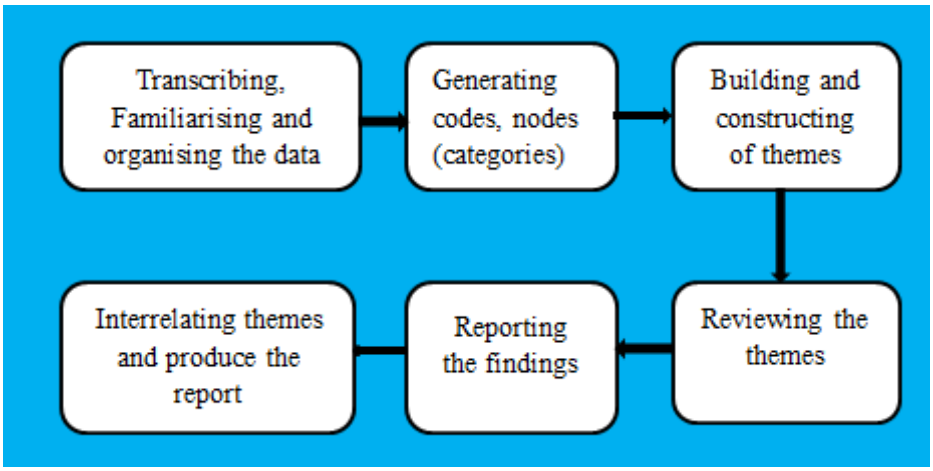

Figure 4: *Six Steps for Data Analysis; Creswell (2007); Braun and Clarke (2006)*

Data analysis involves working with the data, transcribing and breaking them into manageable units, synthesising it horizontally, searching for patterns or themes, discovering what is important and deciding what to communicate to targeted audiences. The information collected through the semi structured one-on-one interviews and the focus group discussion was audio-recorded, transcribed and saved in folders, using qualitative data analyses software, NVivo11. Data were analysed following the process of open coding and thematic analysis. According to Maxwell (2005, p. 236), the goal of coding in qualitative research is to 'fracture' the data and arrange them into categories or nodes that facilitate constant comparison between things in the same category and between categories.

The data from the voice-recorded interviews were saved, and transcribed using NVivo Pro software through a step-by-step process of listening word-by-word, typing and going back and forth for clarity. The transcripts were then carefully studied and analysed with the purpose of familiarising oneself with the data. This process was carried out on all the data from the interviews and observations. The data were then analysed by reading and following line by line and sentence by sentence. Then each transcript was studied separately, and whenever a new theme and pattern emerged, it was highlighted. All the identified meaningful themes within the transcript were then compared across transcripts. The overall themes were then developed. This approach was followed for each transcript during data analysis.

The data from multiple methods of data generation were triangulated to reach a common understanding. The transcripts were translated into Braille by using the Duxbury programme and then printed into Braille using an embosser. The brailled transcripts were given to the teachers with visual impairments and then read through together with the researcher. This was done to ensure that the data was, in fact, the same and that the detail

in both sheets of information did not carry different meanings or interpretations. However, using three dots (ellipses) in a print transcript some created a new meaning in the Braille sheet when compared to the print document. These dots were then corrected and the document was transcribed into Braille. Sighted teacher participants interviewed were also given transcripts to read by themselves for member-checking. In order to protect the identity of the participants and the confidentiality of the data, the researcher assigned pseudonyms which were allocated to all participants.

Trustworthiness of the Study

Trustworthiness refers to how much trust can be placed in the study by showing that the researcher did everything possible to ensure that the data were appropriately and ethically generated, analysed and reported (Calson, 2010). Qualitative research is characterised by multiple realities and, therefore, multiple truths (Chilisa &Preece, 2005). Lincoln and Guba, (1985) recommend concepts that can be used to ascertain trustworthiness in qualitative research studies, such as, credibility, transferability, dependability and confirmability.

In this study, the researcher first created rapport with the research participants and also maintained credibility by piloting the research instruments with teachers who teach learners with visual impairments in a similar special school. The period for data generation in the field was prolonged, and this process enabled the researcher to gain in-depth understanding of individuals and their experiences with respect to teaching strategies that they use. The use of multi-methods reflects an attempt to build credibility and dependability into the data generation process. Reflexivity on the part of the researcher was very important. Therefore, the researcher kept a memo to record schedules and appointments, events that were happening and that could affect the study.

Transferability is the same as external validity in quantitative research. Quantitative researchers randomly select representative samples from populations for generalisation purposes. On the other hand, qualitative research focuses on a small sample of participants and the data cannot be generalised to a broader population (Chilisa & Preece, 2005). In this study, the researcher provided a thorough description of the research sites at Eluwa Special School and Gabriel Taapopi Inclusive Secondary School. Furthermore, the researcher triangulated the data as one way of making the research findings credible. This study used different sources of information and different data generation strategies in order to strengthen the findings. Member-checking involved the researcher sharing the research results with the participants in order to seek feedback on the findings. Transcribed interview data were shared with the participants to determine the accuracy of the provided information.

Ethical considerations

After a successful proposal defence, an Ethical Clearance Permit was sought from the Office of Research Development (ORD) at the University of Botswana. Thereafter, the researcher presented the Ethical Clearance Permit, a letter from the Department of Education Foundation at the University of Botswana and a personal letter to the Permanent Secretary's office (Namibia) requesting permission to conduct research at Eluwa Special School and Gabriel Taapopi Inclusive Secondary School, in Oshana Region. The letter sought permission to conduct the study. It introduced the researcher, the research topic, the purpose of the study and the procedures to be used during data generation. The permission from the Ministry of Education's Permanent Secretary's Office was obtained (Appendix K-UBR/RES/IRB/GRAD/213, L-Ref. 12/2/6 & M-15/2/15).

Ethical issues are of paramount concern in conducting research. Therefore, the researcher considered the rights, privacy, dignity and sensitivity of the study participants

and the institutions where the study took place. Kvale (1996) and Henning et al., (2004, p. 73) suggest that researchers should "take time to go through all procedures and get the approval of the institution or organisation in whose name the inquiry is being conducted." Within this context, it was important to gain participants' consent before obtaining information about their experiences of the phenomenon under investigation. In this case, the ethical considerations undertaken involved gaining informed consent from individuals in authority or gate-keepers to provide access to study participants and research sites and also assist the researcher in developing trust with the participants.

After gaining access to the participating schools, the researcher scheduled a visit to each of the two schools to explain to the potential participants the purpose of the study, and what their participation would involve. The researcher also tried to create adequate rapport with participants in order to strengthen the relationship. The researcher explained the use of the voice recorder, iPad and other equipment to be used. After the explanation, each possible participant was given a consent form to read and sign. Participants were informed that the transcribed interviews and audio records would be kept confidential. Participants were assured of the confidentiality in reporting and publishing the findings from the study to protect their identities. In addition, participants were assured that their true identities would be kept private, and instead the researcher would use pseudonyms. Participants were also assured that there were minimum risks involved in participating in this study. They were informed that their participation was voluntary and they were free to withdraw at any time from the study without any consequence.

The researcher tried to limit her movements during observation to avoid interrupting the lessons. Equipment for the field work was prepared beforehand. For example, the iPad and recorder were tested and made ready for use. The researcher behaved as a non-participant observer. The participants were also informed that they had the right not to

answer questions that would make them uncomfortable. At the end of each session, participants were thanked for participating in this study and for taking time to share their experiences.

CHAPTER 4

ANALYSIS AND PRESENTATION OF FINDINGS

Introduction

The purpose of this phenomenological study was to examine and gain insights into the teaching strategies employed by special and inclusive school teachers when teaching learners with visual impairments (LVI). Various research methods were used to generate the data. Therefore, the purpose of this chapter is to, analyse, present and interpret the findings based on the experiences of special and inclusive school teachers in the Directorate of Education in the Oshana Region. The data were transcribed and analysed using NVivo Version 11; a qualitative data analysis software. Moustakas (1994, p. 52) states that in phenomenology, individual experiences, perceptions and views are regarded as the primary source of knowledge that cannot be doubted. The findings are presented in sections guided by themes and sub-themes. These include sections on demographic information of participants, teachers' experiences in accommodating LVI, teaching methods, effective teaching strategies for LVI, school support systems, and methods for strengthening the teaching and teaching strategies for use with LVI.

For confidentiality purposes, participants were given pseudonyms, such as, Tate, Suzy, Tulonga, Chen, Hannover, Neka, Lela, Shiwo, Briana, Ndahafa, Role, Mwetu, Mkize, Ndapanda and Mbili. The overarching research question was**:** What experiences do teachers have in using teaching strategies for LVI in special and inclusive schools? The following sub-questions were also addressed:

1. What teaching methods do teachers apply when teaching LVI?
2. What teaching strategies do teachers apply to promote effective delivery of the method used?

3. How does the school system support the teaching strategies to enhance the teaching of learners with visual impairments?
4. What are the better ways for strengthening the strategies for teaching LVI?

Participants' Demographic Backgrounds

This study applied purposive sampling in selecting participants who had used teaching strategies with LVI. The sample comprised 15 participants from two schools with similar backgrounds. Eight participants were from Gabriel Taapopi Inclusive Secondary School (GTISS) while seven were from Eluwa Special School (ESS). The sample comprised nine female participants and six male participants. As can be seen in table 6, the ages of the participants ranged from 27 years to 57 years, (Table 6). Of the fifteen participants, four had a visual impairment.

Table 6:

Demographic Information Background of the Participants

Participant Name	Sex	Age	Qualification	Subjects and Grades	General Teaching Experience	Experiences in Teaching LVI	School
School P Tate	M	43	PGDE	Accounting 8 & 11; Economics	16 Yrs	16 Yrs	GTISS
School P Suzy	F	53	NHPD	Home Economics 8-10	28 Yrs	21 Yrs	ESS
HOD Shiwo	F	56	NCE	Grades 0-4	32 Yrs	32 Yrs	ESS
Teacher Tulonga	F	36	BETD, B. Ed and Masters	Entrepreneurship & Computer 8-10	12 Yrs	7 Yrs	ESS
TVI Hannover	M	36	BETD, B. Ed in Languages	English	6 Yrs	6 Yrs	ESS
Teacher Chen	M	35	BETD & ACE	Life Science & Agricultural Sc. 8- 10	5 Yrs	5 Yrs	ESS
T VI Ndahafa	F	31	BETD & B. Ed in progress	English & Oshikwanyama 8- 10	6 Yrs	6 Yrs	ESS
Teacher Neka	M	27	B. Ed in Biology and Geography	Biology & Geography 11 & 12	4 Yrs	4 Yrs	GTISS
Teacher Lela	F	57	HED & African Languages	Oshikwanyama 11 - 12	35Yrs	7 Yrs	GTISS
TVI Role	M	29	BETD	English & Braille 8-10	6 Yrs	6 Yrs	GTISS
Teacher Mbili	M	34	BETD	Development Study 11-12	14 Yrs	4 Yrs	GTISS
Teacher Briana	F	29	B. Ed in English & Biology	English 11- 12	8 Yrs	4 Yrs	GTISS
Teacher Mwetu	F	36	PADE	Agricultural Sci. 11- 12	8 Yrs	5 Yrs	GTISS
TAVI Ndapanda	F	29	BETD	Braille and de-brailing	6 Yrs	3 Yrs	ESS
TA Mkize	F	40	BETD	Braille and de-brailing	18 Yrs	15 Yrs	GTISS

Theme 1: Teachers' Experiences in Accommodating LVI

The participants felt that it was important to have well trained teachers in the field of VI who were competent to apply specific teaching strategies for LVI. The majority (80%) of participants explained that teachers in ESS and GTISS had not been trained to teach LVI. However, a small percentage (13.3%) of the participants, specifically from ESS, revealed how they had gained experience which enabled them to teach and interact with LVI despite the challenges they faced daily. This theme consists of the three sub-themes shown in figure 5, namely, training in the teaching of LVI, continuous professional development, and self-motivation, skills and knowledge required for teaching LVI. These three sub-themes emerged from the participants' background information and the results reflect their unpreparedness in teaching LVI. Evidence was given that the majority (80%) of the participants were not trained to teach LVI, while a low percentage (13.3%) were self-motivated and registered through CPD. However, most (99%) participants indicated that they needed to gain skills and knowledge in teaching LVI.

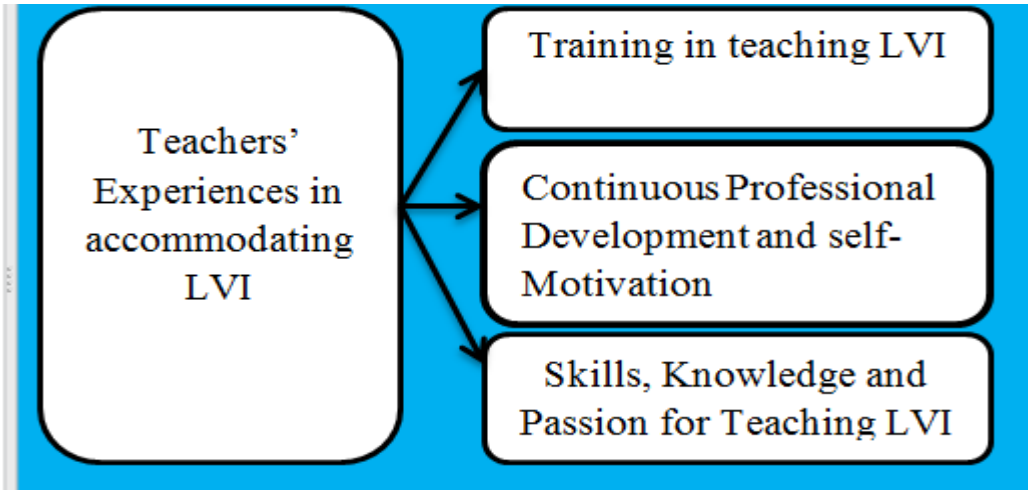

Figure 5: Teachers' experience in teaching of LVI

Training in teaching LVI

The need for specific teaching strategies was mentioned as a basic tool for successful classroom practice. Special training for teachers, who teach LVI, was seen as a

means for promoting the use of such strategies. All fifteen participants were asked to share their experiences in teaching in special and inclusive classes. Their experiences were dominated by inadequate training in the teaching strategies for use with learners with visual impairments. The majority (80%) of the participants shared emotional feelings regarding their unpreparedness. One such opinion is that of Lela, a fifty-seven-year-old female teacher at GTISS with extensive teaching experience, that is, thirty-five years, of which she dedicated seven years to teaching LVI. She remarked that "I didn't go through any training in special education issues...so it is not easy to teach LVI together with others who can see." Mbili, a thirty-four-year old male teacher at GTISS with four years of experience in teaching LVI, emotionally expressed his view this way "This is just a huge challenge and responsibility given to me. My training does not have anything relating to LVI...yeah!" In contrast, Tulonga, a female participant from the special school with seven years of experience in teaching LVI had a different experience and shared her view that:

> I was not prepared to teach LVI at the College level...I was just trained as a general teacher, but when I joined this school, I was given in-house training on how to read and write Braille that LVI use as well as teachers who teach LVI.

The point concerning the lack of training for teachers in teaching LVI was further emphasised by teachers with visual impairments. Ndahafa, Ndapanda, Role and Hannover said that they had not received training on the teaching strategies for use with LVI. On the contrary, these teachers indicated that they did not have many problems with teaching LVI. Hannover, a male teacher with a visual impairment at ESS, indicated this by saying "I am an individual with visual impairment...so I know the ways and tactics to use when teaching LVI as long as the teaching materials are modified." In support of Hannover's view, Ndahafa, a female teacher with a visual impairment from ESS, believes that as long as one has teaching methods, one can create strategies. She said:

> ...the training received at tertiary and college level on how to apply teaching methods is enough, provided that one has the passion and the creativity to make the most out of one's skills when it comes to strategies for teaching LVI.

It can be observed that teachers with visual impairments were not trained. However, it was noted that they were able to adapt the general teaching methods to specific teaching strategies for use with LVI. This seems to suggest that teachers with visual impairments understand learners with visual impairments better than sighted teachers as they share the same condition.

On the other hand, Neka, a male teacher at GTISS with four years of teaching LVI, had a different experience. Neka said that he was partly trained to teach learners with disabilities which prepared him to teach LVI.

> I was partly prepared...to deal with learners' disabilities. We were allowed to visit schools, explore and spend time with them. We were also trained on how to evaluate, and how they can cope with the activities of daily living. So I can say at least I was prepared on how to teach and work with LVI.

Another unique experience is that of Suzy, an acting school principal at ESS who pointed out that she had been formally trained on how to teach LVI. However, she lamented the fact that it was a long time since she had received that training before independence when the country was still administered by South Africa. Suzy insisted that she needed managerial skills, especially on how to manage teachers for LVI. She said:

> Yes, I was prepared...I just need management skills to be able to manage teachers and learners. This can be achieved by making sure teachers perform by using the appropriate teaching strategies in their classrooms in their daily teaching.

Unlike Suzy, Tate, a school principal at GTISS expressed in a low voice that he was not well prepared. Nevertheless, he confidently said that he was ready to teach the LVI.

> ...Uhm...well...mentally, I am prepared. But...uhm...skills-wise, I don't really have much. All I can say is that I am theoretically prepared to explain. Whether it's teachers, colleagues, or even to colleagues that would have LVI. I would encourage and even motivate them to understand.

All the participants who took part in this study were qualified teachers in general teacher education. Thirteen out of fifteen revealed that they had not gone through any relevant training on teaching LVI. They had found themselves teaching in environments which accommodate learners with visual impairments. This situation resulted in them being forced into a situation in which they had to acquire experience and being obliged to teach LVI, although not perfectly. On closer observation of these experiences it is evident that the teachers in the two schools felt isolated and left out with respect to formal training on how to support LVI in their classrooms. This scenario suggests a need for relevant training on how to handle LVI.

Document analysis of the Sector Policy on Inclusive Education and the Supplementary Curriculum Framework for Inclusive Education, clearly shows the relevant information about special and inclusive educational needs. However, one cannot use that information if one is not familiar with visual impairment and the language that special education uses. For example, the terms 'mobility', 'Braille' and 'embosser' are used in regard to teaching LVI.

Continuous Professional Development and Self-motivation (CPDS)

With regard to CPD, the analyses of the findings indicate that the majority (80%) of the participants felt that without proper training in visual impairment-related issues their standard of teaching was inadequate. Mbili, a teacher at GTISS, emotionally spoke out saying:

> This is not an easy task, but it could be easier if we were trained. I feel for these learners and I don't know if there is anyone who feels for us, especially us who are teaching LVI...I feel that continuous professional development is needed.

Despite a lack of training, a small group (13.3%) of participants felt that they had made personal efforts to develop and improve their skills in teaching LVI. Tulonga, a teacher from ESS, expressed her views on this issue. She stated that "I know how to read Braille, but writing is a bit of a challenge". However, "I am in the process of learning how to write Braille contractions." Similarly, Chen, a male teacher at ESS said that: "I am also updating myself, consulting different resources... the literature focussing more on the LVI." Neka, a teacher from GTISS proudly expressed himself that "as time goes on" you feel like, uhm...I have to adjust my teaching so that I can be competent in teaching strategies for LVI...so, I have to adjust my teaching to be able to accommodate LVI in my lessons."

There is a noticeable difference in the practical experiences of teachers at GTISS and ESS although they are not all fully trained. While the CPD programmes are available, they need to be upgraded to include teaching strategies for learners with visual impairments. The study revealed that the issue of self-motivation depends on an individual.

Skills and Knowledge required for Teaching LVI

Lack of skills and knowledge in regard to teaching LVI were specifically cited by almost all (99%) of the participants through one-on-one and focus group discussions. Participants concurred that they needed specific skills and knowledge to effectively enrich their teaching strategies. For example, Hannover, a teacher with a visual impairment at ESS, said: "Learners with visual impairment require someone to think deeply, especially in terms of preparing teaching aids and giving support to learners who are totally blind." Again, Chen, the male teacher from ESS said:

> So far, I can say my experience is gradually increasing day by day, even though it is not at a fast pace, and so far, if I have to evaluate myself I can say that I am equipped with little knowledge and skills on how to work with learners with visual impairment and how to teach them.

In the same vein, Tulonga, a teacher from ESS, noticed that taking time to upgrade one's skills would make one confident in doing one's work. Tulonga had this to say "So far, I have to adapt their materials and Braille them…Uhm…I use an embosser to print their activities such as hand-outs, tests and exams." In a discussion with Mbili, a teacher for LVI at GTISS echoed a similar sentiment "I have now gained a little knowledge on how to handle LVI, through collaboration and interaction with LVI, my colleagues with and without visual impairments in the school and mostly in the classroom environment."

It should be mentioned that the teachers had gained a little knowledge and skills on how to teach LVI. This was acquired through self-initiative or their own agency, motivation and passion for working with LVI on the job.

Theme 2: Teaching Methods

Teaching learners with visual impairments is a demanding task that requires well trained teachers in the field. Teachers of LVI may have to modify their teaching methods by using multi-sensory modes in delivering their lessons. The teachers also had to be aware of learners' needs and use appropriate teaching methods. Figure 6 displays the two sub-themes of this theme, namely, effective and ineffective teaching methods.

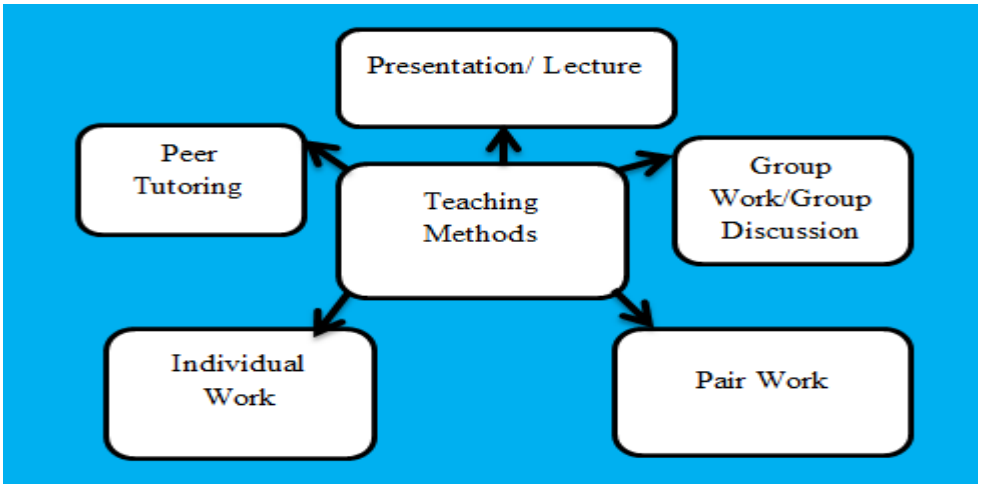

Figure 6: Teaching Methods

The analysis of teachers' interviews and class-room observations indicated that special and inclusive school teachers applied various teaching methods in their delivery of lessons to LVI. These were: effective and ineffective teaching methods to LVI. Effective teaching methods included: group discussion; pair work; individual work and peer tutoring. Ineffective teaching methods included: presentation/ talking/ lecturing/ whole class teaching.

Table 7 indicates that presentation, talking; lecturing to the whole class was the most frequently used method by all the six participants. This was followed by individual work (mentioned by five participants), whereas group work, group discussion, and pair-work were mentioned by four teachers. These were followed by *peer tutoring* mentioned by three participants. The results displayed in Table 7 show that presentation, talking and lecturing to the whole class was the dominant mode of lesson delivery.

Table 7:

Teaching Methods for Teaching LVI

No	Teaching Methods	Number of Participants	Participants who used the Method	Percentage
1	Presentation/ Lecture/ Whole Class/ Talking	15	6	40%
2	Group Work/ Group Discussion	15	5	33%
3	Individual Work	15	5	33%
4	Pair Work	15	4	27%
5	Peer Tutoring	15	3	20%

Teaching Methods for LVI

As indicated in table 7, 40% of the teachers who were interviewed and observed, indicated that they use mostly the presentation and lecture method, one-third (33%) used group discussions, one-third (33%) used individual work, one-quarter (27%) preferred pair work, and 20% preferred using peer tutoring teaching methods. It is important to emphasise that these teaching methods entail teachers' adaptations to the teaching strategies, as well as the need to encourage active classroom discussions. This set- up may result in LVI actively participating in the teaching and learning activities that promote meta-cognitive skills.

Group Discussion

Group discussion was one of the teaching methods that 13% of the ESS and 20% of the GTISS teachers believed were effective for teaching LVI. This delivery mode allowed the teachers to use group work and engage LVI in the teaching and learning process. The teachers applied various styles in grouping learners according to their experiences and levels of ability. For example, at GTISS, it was observed that the system grouped fast learners in one group, average learners in one group and slow learners in one group. On some occasions, learners decided themselves to join any group of their choice. However, at ESS, learners of different abilities were placed together in groups. Some participants

explained that when LVI were grouped with sighted learners, they interacted and supported each other well. Mbili, a teacher at GTISS, with four years' experience teaching LVI, stated:

> Uhm...the best method that works well for me is the group work. I group the LVI with others and then they have to communicate, I understand that learners in the classroom have that mutual relationship. When they are in groups, they communicate better and feel free to ask their peers like... 'What about this?' How is this? 'Can you explain it a little bit? I do not understand,' 'I cannot see...' 'Can you please explain it...? So they ask their peers...group work is the best one.

In addition to the interview, Mbili was observed teaching 48 learners including three LVI. The lesson was about the organogram; duties and responsibilities. To illustrate the duties and responsibilities, he used an example of the parliamentary structure. Firstly, he instructed the learners to form groups of 6. He then distributed pieces of papers with a structure of the parliamentary duties and responsibilities. So, the teacher instructed learners to discuss and design their own organogram of parliament and report back in writing, individually. During the group discussion, the LVI had to explain his views to one of the group members who then designed and produced the organogram for him. This method was also adopted by Hannover, a teacher with a visual impairment from ESS who understood it differently and said that:

> Each teaching method may work well according to the teacher's idea and knowledge on how to use it. However, the preferable method that works well with LVI and give good results in terms of assessment are group work and individual work.

In the final analysis, the study established that the success of using group discussions with LVI depends on how creative the teacher is in delivering their lessons. However, this

has a bearing on how the lesson objectives, activities and the use of adapted tools address the needs of the LVI in the lesson.

Pair Work

With regard to the use of pair work, 27% of the participants showed that they use this method in their lessons. The method involves two learners sharing and discussing a given task together. Either the LVI and sighted learners, or the LVI and LVI learn from each other. One important aspect of pair work is to ensure that the pair was suitably matched. Based on four participants' experiences in teaching LVI, the study finding revealed that teachers with visual impairments and sighted teachers need to know their learners well for them to be able to pair them according to their ability and willingness to work with a LVI. Lela, a teacher at GTISS, said that:

> I pair my learners...not necessarily according to their abilities, but I always make sure that a LVI is paired with another learner who is a bit fast so that he can assist...that is an opportunity to learn more when they interact and share ideas. Again it gives me a picture of where a learner needs help.

While in agreement with Lela on identifying learners' needs, Chen, a teacher at ESS, added that the method improves the performance of LVI. In simple words he said "Pair work gives good assessment results...one can easily know about the level of learners' understanding and makes a teacher aware of the learners' need."

Individual Work

In this study, 33% of the participants from individual interviews and the focus group discussion asserted that using individual work methods could provide an opportunity for an individual LVI to demonstrate ability in completing a task. Teachers felt that individual tasks prepare LVI to be independent when writing the national examinations and in daily living activities. Among several examples, two are provided. Tulonga, a teacher for LVI at

ESS, clearly pointed out that “Learners with visual impairments are talented and good listeners...as long as you provide clear instructions on how they can go about it...they do it...but one needs to be patient since they require enough time to complete their task.”

Similarly, Hannover, a teacher with a visual impairment teaching at ESS, when asked about the teaching methods that worked well in his context, he affirmed that individual tasks worked well and prepared learners to be independent. He said:

> I prefer giving them individual work; by doing so I am preparing them to be independent and not relying on their peers. And again it will be easy for them when they are writing the National examination...so, let them complete their tasks.

This study found the individual work method as an effective method that contributes to a LVI’s ability to perform tasks and be independent in society. Furthermore, the method made learners active while the teacher assumed the role of a facilitator.

Peer Tutoring

During the one-on-one interviews, a small percentage (20%) of participants explained that peer tutoring involves learners teaching and supporting other learners under the teacher’s guidance. Some participants believed that this method provides a significant opportunity for learners to support fellow learners. For example, LVI tutoring sighted learners. In practice, the teachers are expected to put more effort into encouraging peer tutoring as this would help them to understand the lesson. Tulonga, a teacher at ESS, claimed that “I came to learn that LVI are very smart and gifted. So I use them to explain some of the concepts and class activities to others.” Equally important, Chen, a teacher with a visual impairment at the same school, said “I encourage peer tutoring...basically...we prepare the lesson together and let him or her to teach others...we also co-teach...they do it perfectly.” This occurred at ESS. Lela, a teacher at GTISS, had a similar experience. She revealed that: “In some cases, I use other learners to

assist...uhm...peer tutoring because I feel that if others are explaining, then they will understand better than me." The participants indicated that peer tutoring promotes rapport and a sense of valuing both LVI and sighted learners in their environment.

Lecture Method

Although teachers used various teaching methods, the presentation or lecture method seem to be ineffective. The method seemed to make the teachers more active, while the LVI remained mostly passive in the teaching and learning process. The inactivity of LVI during the lessons may negatively affect the LVI's learning and scholastic performance. Surprisingly, the data revealed that the presentation, lecture or whole class was the familiar method, liked and used by 40% of the participants.

As far as the lecture method is concerned, the participants shared their experiences in their use. For example, Neka, a teacher from GTISS with four years' experience in teaching LVI, in a one-on-one discussion proudly pointed out that "Uhm...presentation works best for me." Neka was observed teaching 45 learners, including 3 LVI in a lesson about the *functions of kidney and heart*. It was observed that he was using the presentation, questions and answers method. He also used a chalkboard, writing and drawing illustrations of a kidney and heart and at the same time talking. Surprisingly, despite the fact that three LVI had copies in Braille, the teacher did not even mention the page number for LVI to follow since he was also using a text book. It was also observed that, the copies in Braille did not carry illustrations. So LVI were passively listening to what the teacher was presenting. Even when they raised their hands, the teacher did not give them any chance to ask questions or answer. From the observation of the lesson described above, it was confirmed that the method used by the teacher involved only passive participation.

In contrast, a different lesson involving Ndahafa, a teacher with a visual impairment at ESS, was observed teaching a class of seven LVI. She used presentation to deliver a

lesson on how different substances test and smell. However, before she started the lesson, she distributed containers with sand, sugar, salt, juice, water, tea and milk. She also provided notes in Braille. While she was presenting, she asked the learners whether the milk smelled like water. She went on with a string of questions, such as, “Does juice taste like salt?”; “Do those liquids smell the same?” and “Is juice countable?” It was observed from this lesson that although Ndahafa used the presentation method her creativity and passion for teaching LVI made the lesson interesting and active.

Noting the differences between Neka and Ndahafa, during the interview with Chen, a teacher at ESS, emotionally pointed out that:

> In terms of teaching methods, you have to think, discover and find a way which is best for you and your learners. At the beginning when I started teaching we totally did not understand one another, we even ended up fighting, though it was not a physical fight, but an emotional fight. I could figure out that my learners (LVI) were not really getting what I was teaching them. So I ended up identifying and discovering that I was using pure presentation, talking, lecturing, whole class method which did not work well at all.

In conclusion, the study found that the special and inclusive school teachers seemed to favour the presentation and lecture method. It was observed that this method lacked thorough participation and interactions causing LVI to lag behind and remain passive as the lesson progressed. However, this mode of presentation seemed to be a personal choice linked to familiarity, ease and how comfortable one was with the mode. On a positive note, the study noted that teachers could use presentation methods bearing in mind that the LVI need adapted materials according to the universal design of learning.

Theme 3: Effective Teaching Strategies for LVI

Teaching LVI involves the application of unique teaching strategies. The participants describe strategies as ways, tactics and approaches used to enhance teaching and learning for LVI. During one-on-one interviews the participants were asked to elaborate their conceptualisation of the concept "teaching strategies" specifically for LVI. Ndahafa, an experienced teacher with a visual impairment at the ESS, explained teaching strategies as "Ways, approaches and tactics that teachers use to make LVI understand what you are teaching." In similar vein, Mbili a teacher at GTISS described teaching strategies as ways in which teachers teach to make LVI understand what they are taught. Neka, a male teacher at GTISS, also agreed with Ndahafa that teaching strategies were approaches used by teachers who teach LVI. He said:

> Teaching strategies are the approaches that teachers use when teaching or handling LVI in the real classroom environment, more specifically, by using models and tangible materials...the use of real material or to say, a touching method.

Suzy had a detailed response as she considered the use of multiple sensory ways and means of teaching LVI. She expressed her views in this way 'Teaching strategies mean the ways and means of how to impart knowledge to LVI, including all the methods of where we have to include all the senses, the remaining senses that a child has."

Teachers were asked to identify teaching strategies that they felt were effective for teaching LVI. For example, a) employ storytelling, b) intonation and voice modulation, c) use of LVI names, d) employing Braille resources; use of Braille text materials, utilisation of models, use of tactile materials, use of audio recordings and ICT, e) open communication with LVI; f) create mobility-friendly environment and g) the use of outreach and experience. A summary of identified teaching strategies for LVI is illustrated in figure 7 and the number of participants who use the said teaching strategies.

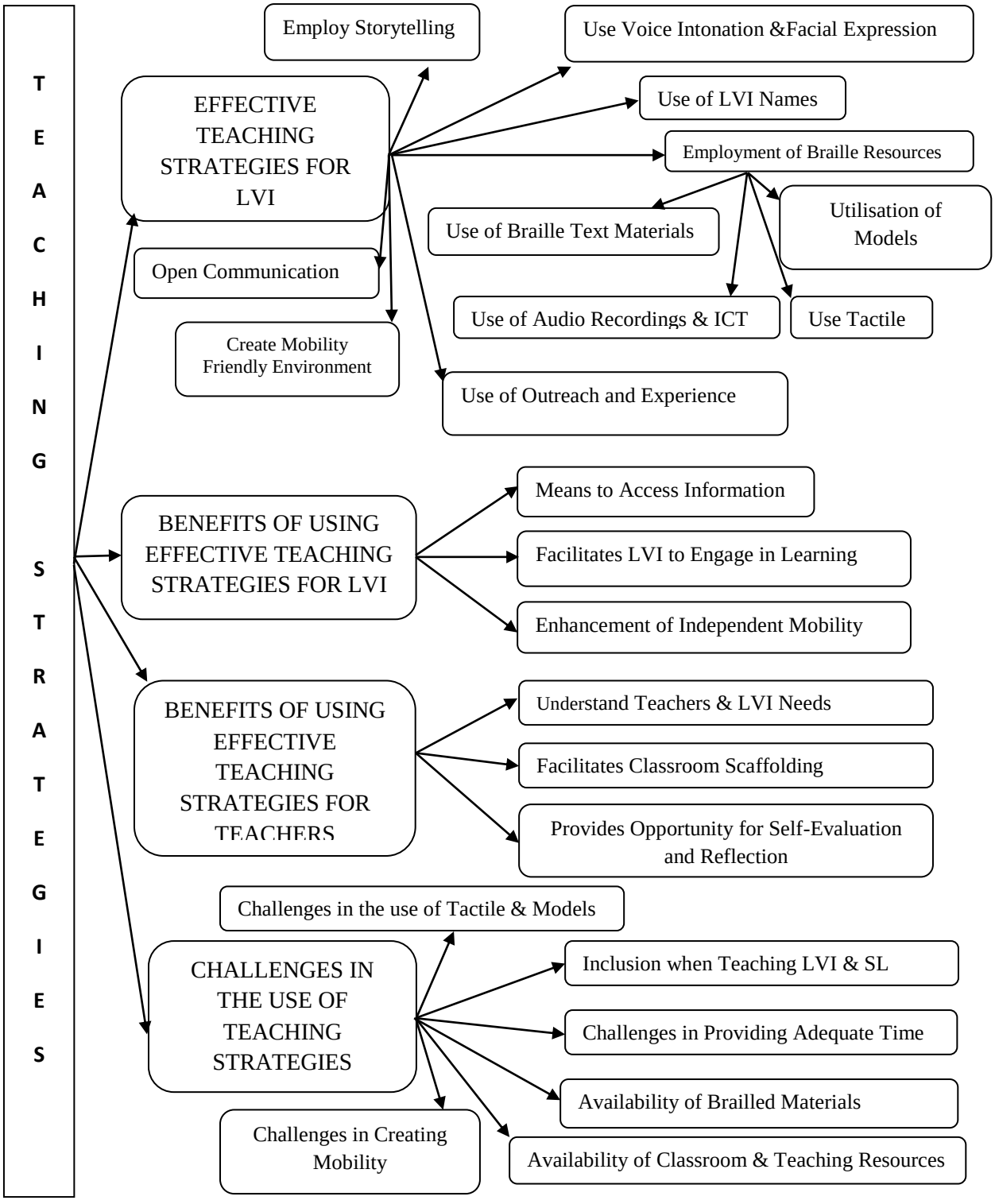

Figure 7: Identified Strategies for Teaching LVI

Table 8:

Frequencies of Themes and subthemes

Teaching Strategy	Number of Participants	Teachers who identified strategies	Percentage
Storytelling	15	3	20%
Intonation and Voice Modulation	15	3	20%
Use of LVI names	15	4	27%
Employment of Braille Resources			
o Use of Braille Text materials	15	3	20%
o Utilisation of Models	15	3	20%
o Use of Tactile Materials	15	3	20%
o Use of Audio Records and ICT	15	2	13%
Open Communication	15	3	20%
Create Mobility friendly	15	3	20%
Use of Outreach and Experiential	15	3	20%

Employ Storytelling

Interaction with the participants revealed that storytelling was one way in which humans relate to each other through shared stories of their experiences. Participants felt that by telling stories, we are linked to our past and gain more understanding which directs our future. During the interaction 20% of the participants explained storytelling in their own words. For instance, Chen, a teacher at ESS, explained it as a teaching and learning experience which allows both teachers and LVI to comfortably express their own views. Lela, a teacher at GTISS, described how she used storytelling to prepare the LVI to be critical thinkers. She said:

> As a language instructor, during oral presentation lessons in my class, I use storytelling with the intention of improving the speaking, listening, vocabulary and pronunciation capabilities of LVI and other learners, therefore preparing them to think in a more practical way...It also helps them express themselves and be more self-confident in what they are saying.

In a discussion with a teacher from ESS, Tulonga admitted that LVI have good listening and speaking skills. As such, she used this strategy to enhance the learning of LVI in an entertaining manner. She stated that "LVI are good speakers and listeners, which makes storytelling an easy and effective teaching strategy for my classroom...Yeah, so storytelling is an appropriate approach because it entertains and educates the LVI at the same time providing a social interaction".

These views indicate that storytelling is a good teaching strategy as it enables LVI to sense and make meaning from the stories told by both teachers and LVI. Storytelling also increases learners' participation in the class as they interact socially.

Voice Intonation and Voice Modulation

The study established that tone of the voice and facial expressions can be signs of the mood an individual may be experiencing when teaching LVI. As reported in table 6, 20% of the participants observed that these gestures gave the LVI a general impression of the mood of the teacher. When interviewed about this teaching strategy, Hannover, a teacher at ESS with a visual impairment, noted specifically the importance of voice modulation when teaching, maintaining that LVI are sensitive to these gestures. He expressed this opinion as follows:

> One important thing with the LVI is that...they can't see your facial expression, so the tone of voice gives them some feelings...They sense from your expressions...they can feel when the teacher is happy or angry. They may sometimes ask, 'Teacher, are you angry?' When you know that you are in a bad mood, you should not influence the teaching and learning process by your expressions in any way.

Sharing the same sentiment, another participant added that the teacher should raise his or her voice when teaching. In this regard, Ndapanda, a teacher assistant at ESS with a visual impairment, emphasised that teachers should address LVI in a loud voice saying that

"Using a clear voice is very important...Uhm...a teacher teaching LVI needs to speak in a loud and clear voice...because it gives a picture of how the person feels at that particular moment." In support of the opinions of Hannover and Ndapanda, another teacher assistant, Mkize at GTISS expressed in detail the need to, and benefits of using a loud and clear voice, but she was quick to note that many teachers were not aware of this aspect. Mkize agreed and said that:

> It is very important to raise your voice when explaining or passing on information to LVI...Your voice should be clear. This will ensure that learners receive information correctly. Uhm...emotions and moods convey a message which can be received in different ways...a boring voice may make LVI uncomfortable. However, not many teachers are aware of this.

This strategy is important as it bonds the teacher and the learner, and more importantly, helps to create rapport. Although voice intonation and facial expression can assist clarifying points, there is a greater need to manage and control them to avoid distraction during the teaching and learning process.

Use of LVI Names

As shown in table 6 there are some participants (27%) who considered the use of real names of learners when addressing them in, and outside the classroom. In addition, the participants felt that this strategy attracted the attention of LVI. During one-on-one discussions, Hannover, Mkize and Ndapanda noted that it was important for the LVI to know exactly who was being spoken to. Since LVI cannot see, using names when addressing them confirms that one is talking to them. In cases where two or three learners share one name, then calling their first and second names could easily differentiate them. These sentiments were confirmed in their narratives. Mkize, a teacher assistant at GTISS said "I call the name of the learner with visual impairment to make certain of their

presence in the environment and to let them feel they are part of the group...Yeah, very important." Hannover, a teacher with a visual impairment and with great experience in teaching LVI, stressed that using names also helped the LVI to identify the location and mood of the teacher:

> You should call LVI by their names so that they can know who you are referring to, because in one class you can find two to three learners sharing one name...only surnames can be different, so in that case you have to make a proper specification. It also helps them to know where the person talking is and how far he or she is and things of that nature...Uhm, further, it also makes you feel recognised and accepted in that environment.

In addition, Ndapanda, a teacher assistant with a visual impairment, felt using names brought recognition and respect from the LVIs. This was an opinion based on her personal experience and expressed as follows:

> I feel more recognised and respected in a way when one calls me by my name...instead of calling me simply by saying, 'You!'...So I feel that teachers should use or call learners by their names...And again, for LVI to know their classmates individually by name.

During classroom observations, Ndahafa, a teacher with a visual impairment at ESS was at ease using the names of the LVI and she knew exactly where they were sitting in the room. Even when she entered the classroom and greeted the learners, she sensed that one of her learners was not in the classroom. However, when he later entered the room she realised that he had finally entered the classroom. This amazing incident demonstrates how acute the hearing of people with visual impairments is.

In view of the above statements, it is clear that by addressing LVI by their names they are given a sense of identity and belonging in the classroom, and this improves their

participation and validates their presence in the group. It also became apparent that calling out a learner's name enables them to become aware of their location and position in the classroom that is, how far or close a person may be from them.

Employment of Braille Resources

Based on the participants' narratives of their experiences, the study recognised that Braille is the main form of communication for individuals with visual impairments. Braille is used specifically by learners who are totally blind. The majority (73%) of participants agreed that applying this strategy afforded the LVI with a chance to use their hands to feel and touch the alphabet because for them, their hands are their eyes. The discussions revealed that using Braille resources provided a medium of instruction that stimulated LVI involvement, being interactive, collaborative and cooperative. Participants identified specific strategies, such as, the use of Braille text materials, the utilisation of models, the use of tactile media and the use of audio recordings and ICT as critical for the teaching of LVI and for their learning.

Use of Braille Text Materials

Of the (73%) participants who agreed that Braille materials are important, 20% agreed that the use of brailled text books, hand-outs, newsletters and bulletins are vital resources in the teaching of LVI and in their learning. The teachers and teacher assistants noted that the creation and use of these materials involved codes and contractions. The study found that the use of Braille text books and hand-outs helps the LVI to follow how the lesson is progressing and enhances their understanding of concepts. In addition, this strategy provides a forum for interactions and involvement. Lela, a teacher at GTISS and Tulonga, a teacher at ESS, shared the same view. However, Tulonga said:

> Braille is the medium of instruction where codes and contractions are used...when you have all the activities and work brailled, LVI read on their own...then they are

> able to follow and understand the concept. Uhm...brailled materials should be emphasised for better and effective teaching and learning.

In line with Tulonga's view, Mbili, a teacher at GTISS, emphasised the fact that brailled materials were important and helped LVI to participate in, and follow the lesson.

> Yes...when the teaching is inclusive and participatory, it is advisable to have all the materials brailled so that LVI are able to follow the lesson well. This strategy can work well when LVI and sighted learners get involved, interact and use active learning...this provides similar learning situations...

While Mbili, Tulonga and Lela advocated the use of Braille materials, the study observed that it is not just the provision of the materials but its correct integration during lesson presentations. During one of the lessons that were observed, the LVI used Braille text books without being directed by the teacher to the specific page of the textbook. Thus, the LVI did not benefit from that strategy despite efforts made by the teacher.

It can be concluded that this strategy is effective when teaching LVI. However, caution should be taken on how to integrate the materials during the teaching and learning process. This suggests the reason for skill and knowledge in the use of Braille materials among teachers.

Utilisation of Models

During interviews about 20% of the participants generally agreed that a model is a tangible object made by an individual to be used as a teaching and learning aid. Participants expressed the vital role that a model can play during teaching and learning of LVI.

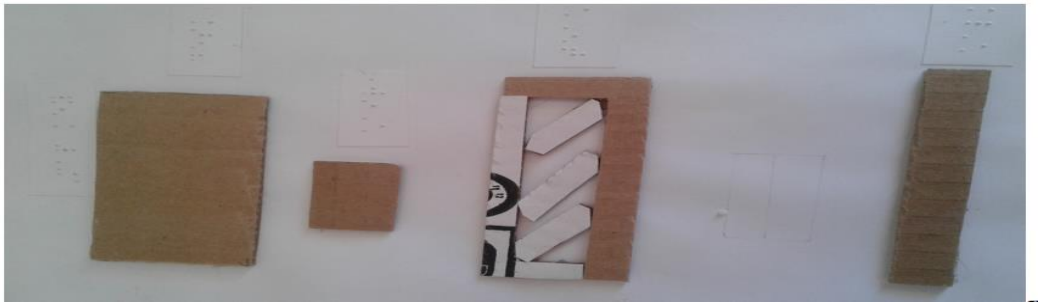

Figure 8: An illustration of a Model

A model provides an opportunity for the effective teaching of the LVI and his or her learning through touching, feeling and visualising the concept. For instance, Tulonga, a teacher at ESS, explained that a modelled picture works effectively as it helps to form a picture of the object and concept in the mind of the LVI. In addition, Hannover, a teacher with a visual impairment defined and explained in detail the use of a model:

> If you are talking of animals, kids who have never been at national parks where wild animals can be found would not know how they look like, so what you should do is to bring models so that they can see, touch and feel. So you have to make sure that you bring models to class...A brailled model is a tangible item that LVI are able to touch and on that basis answer questions based on the activity.

Expressing a somewhat different view, Neka shared his experience of using unbrailled models in his lessons. He felt that an integration of various types of models was effective when teaching LVI and learners who can see. He stated that:

> I also use models...uhm...in my Biology lessons. We get the models from the Teachers' Resource Centre...for example in a lesson for a human heart. I draw a heart on the chalkboard for those that can see and I give the model of the heart to those who cannot see, so that they can touch and feel it.

Observing how the teachers' experienced using models as a teaching strategy, participants agreed that teachers of LVI needed to use various types of models when teaching. In addition, this strategy enhances the teaching and learning process.

Use of Tactile Materials

Tactile materials were described by participants as manufactured brailled articles that LVI touch, feel and visualise to make sense out of what is being taught. However, only examples of three teachers were provided, of (20%) teachers noted that tactile articles were more effective compared to models because of their mode of manufacture.

Figure 9: Illustrations of Tactile Material

Furthermore, the participants revealed that one major benefit was that tactile articles were manufactured with accuracy which provided LVI with a clear proportional picture in their imagination of the real object. Hannover shared his experience in using tactile materials which he encapsulated in the following words "I use manufactured tactile pictures, especially when we are dealing with a new concept that requires LVI to touch/ feel and connect with real life situations. This helped the LVI to carry out activities during the lesson." In support of Hannover's sentiments, Neka felt that the use of tactile materials enhanced LVIs' visualisation of the concepts and objects by saying:

> Tactile or concrete materials work well because they help learners visualise real life and in that way the teacher's lesson also goes well. Sometimes a teacher can explain by giving examples like, 'this is a lizard...this is how it looks like...this is a plant and these are leaves, this is how they feel like...Yeah!

Additionally, Lela explained that the use of tactile materials had dual benefits as it allowed both the teachers and learners to understand concepts easily. She further said "You know the use of tactile strategy benefits both teachers and LVI...in a way that it helps an

individual to explain and visualise the object/ concept in real life. In fact, tactile materials are easier to understand than models."

From the teachers' point of view, engraved materials when used as a teaching strategy added a concrete dimension or finishing touch to the lesson. This contributed to the effectiveness of the teaching and learning experience of both LVI and teachers. It also helped the learners to internalise what is being taught through touching and visualisation.

Use of Audio Recordings and ICT

The analysis of interviews shows that only 13% of the teachers who revealed that audio recorded materials are multimedia used to save and store information for later and repeated use on various gadgets. Participants felt that their use as teaching and learning aids helped LVI to understand what was being taught through listening. When asked to share their teaching strategies, they mentioned the use of audio recordings in their classrooms. Hannover, a teacher with VI at ESS described his experience in using ICT as a best strategy by saying:

> ICT plays a major role in teaching LVI...for example you are teaching literature in any language...you require learners to read a story book and answer questions; what you should know is that LVI can't see. So you need to bring ICT on board, in this case you send the book to a studio to be translated into audio and saved in a CD, cassette and memory stick.

Lela also shared the importance of using audio recordings and indicated that it really helped in the teaching process, because the learners could listen to the story at their own convenience. But she was quick to point out how difficult it was to produce audio and brailled materials and hence her involving other experts. She said:

> I teach Oshikwanyama first language using prescribed books, which are compulsory for every learner to use. Since LVI cannot read the print text, I consult Oniipa

> Rehabilitation Printing Centre to transform the book to Braille (compact disks and Braille book).

The use of audio recordings and appliances was viewed as an effective teaching strategy among the participants. According to them, it promotes teaching and learning at any place and any time. However, the participants noted that preparation of these materials requires special equipment and expertise and, therefore, collaboration with other partners and institutions was essential.

Open Communication with LVI

Opening communication in special and inclusive education involves the free interaction between teachers with visual impairments, sighted teachers and LVI. The findings shows that 30% of the interviewed participants explained that due to limited time on the timetable, the teachers and LVI accept and mutually agree to meet after the normal class period. Three of the participants identified open communication as a teaching strategy in their practice. Neka, a teacher at GTISS, pointed out that open communication provides extra time for revisiting missed information and misunderstood concepts. He said:

> I use open communication with them, which means after normal lessons we set a time, for example, after school and we meet in their classroom and go through what we have learnt for that day. So it is much easier, because we go through the work at a slow pace and they get a chance to ask questions where they missed information or they didn't understand.

In addition to the views shared by Neka, Lela and Mbili, both teachers at GTISS, stressed the importance of this strategy, and that it provided the opportunity for further discussion of adapted teaching and learning materials. They further said that this strategy also made the LVI feel comfortable around their teachers and motivated them to learn as well.

These sentiments confirmed that open communication is a teaching strategy used in the schools as a solution where teachers share information with the LVI outside normal lessons. In addition, this study revealed a willingness by both teachers and LVI to have additional time to help learners.

Create Mobility-Friendly Environment

As understood by participants, mobility is a way in which LVI physically move from one point to another. Furthermore, 20% of the teachers said that mobility was the way in which a learner experienced the freedom to study by themselves in order to achieve objectives. The participants believed that if LVI were mobile they would be independent.

The participants, particularly the teachers with visual impairments in the special school, recognised the importance of mobility in the school environment. They revealed that, for example, the arrangement of structures in a classroom plays an important role in ensuring the movement and comfort of both teachers and learners with visual impairments. Hannover, a teacher with a visual impairment at ESS, felt that appropriate tables and chairs should be arranged taking into account the movements and seating of LVI. He said:

> Uhm...to organise the classroom...Here I mean the arrangement of tables and chairs...making sure that the teacher arranges the seating in the classroom accordingly... the classroom should be organised in such a way that it provides free movement and close seating of LVI.

Tulonga, a teacher at ESS, also agreed with Hannover's sentiments. During one-on-one discussions she said that "Teaching LVI is good because of a small number of learners in the classroom and it is easy to manage the class set-up in a way that it allows free movement required for LVI, you can reach everyone."

A recorded footage of Ndahafa, a teacher with a visual impairment at ESS, showed the classroom arrangement, is evidence of the abovementioned statement. The video

footage clearly demonstrated how the arrangement of furniture and Perkins Braille machines contributed to the free mobility of the teacher and LVI. Furthermore, the second observation in a Grade 10 class, showed how independent and comfortable the teacher and LVI were in the teaching and learning environment.

The arrangement of furniture and equipment in the classroom was important as it allowed free movement of teachers and LVI. A provision of mobility gives teachers and learners with visual impairments a sense of independence and comfort as they work and walk in their own environment.

Use of Outreach and Experience

The study established that outreach and experiential learning involves the act of going outside the classroom into the real world to have first-hand experiences. Participants felt this strategy gave individuals the opportunity to apply theoretical concepts learned in the classroom to practice. Among the fifteen of the participants interviewed, 20% of whom were teachers with visual impairments, 73% emphasised the need to take the LVI out of the classroom as it reinforced the teaching and learning. In a focus group discussion, Ndahafa, a teacher at ESS with a visual impairment, pointed out the importance of taking LVI to the real world. She stressed that:

> Take LVI to the places that you are teaching about ...yes, they need to go out of the class to experience the object...This is what we call outreach... so the strategy provides a chance for LVI to experience the actual places described in the textbooks...and uhm...the good thing about LVI is that they don't easily forget what they visualise, touch and feel...

Role, a teacher with a visual impairment at GTISS, in a focus group discussion, supported the observation made by Ndahafa, a teacher with a visual impairment at ESS. She cited an interesting example of a visit to the ocean, a lake or river as follows:

> We all know that LVI don't watch television. Since ocean is being showed on the television and we want them see the ocean, take them to the sea...let them hear that sound of the waves, let them touch and see that water, they will have that understanding. When they step into ocean, they will feel what it really feels like.

In addition, Hannover a teacher with VI felt that giving a real-life experience of touch improved the learners' understanding of what had been taught. On this he said that "when teaching natural science about leaves and plants, we go out to touch the real leaves from different plants."

The experiences shared by participants, particularly teachers with VI, showed how important it is to incorporate outreach and experiential strategies in teaching LVI. It was clearly observed that going out into the real world provided LVI with real-life experiences of the things taught in the classroom, and it added another dimension, as it were. The participants felt that excluding outreach and experiential learning may affect the performance of LVI.

Benefits of Using Effective Teaching Strategies for LVI

During individual interviews and focus group discussions, almost all (99%) the participants explained their experiences of using effective teaching strategies from which the researcher drew sub-themes and conclusions. The following are the identified sub-themes: the means to access information was supported by nearly half 47% of the participants; facilitating LVI to engage in learning by one-third (33%) ;and the enhancement of independent mobility by 40%. The benefits of using the identified teaching strategies are listed in table 9.

Table 9:

Benefits of using effective teaching strategies with LVI

Benefits of using Teaching Strategies with LVI	Total Number of Participants	Participants who identified the benefit	Percentage
Means to access information	15	7	47%
Facilitates LVI to engage in learning	15	5	33%
Enhancement of independent mobility	15	6	40%

Means to Access Information

An analysis of 47% of the teachers' responses revealed that mechanisms to access information contributed to, and exposed LVI to relevant knowledge, and helped them to share ideas, and develop self-confidence in searching for information. These were responses by Hannover, Ndahafa, Suzy, Chen and Ndapanda. Specifically Hannover at ESS said "...the benefit of using effective teaching strategies is that LVI have access to information provided by their teachers, which makes them able to do activities independently." In addition, Chen, a teacher at the same school felt that the LVI may develop self-confidence and the ability to apply new knowledge. He said "The benefit is that, when they are sharing ideas...they develop self-confidence and the ability to apply new knowledge to the existing one...and spread the information among themselves when they are working together or individually."

During focus group discussions with teachers from GTISS, Role and Mbili stressed that the motivation to access information shaped LVI's understanding and had influenced their desire to be independent. On this, Mbili said "The LVI will have a clearer picture and understanding of the specific subject content when proper strategies are applied...Mobility for instance...helps the LVI to be independent and move freely in their environment...Uhm...." From the participants' views, it would appear that to access

information may benefit LVI in many ways, including sharing ideas, and applying new knowledge. As such, it should be promoted as it further broadens their minds.

Facilitates LVI to Engage in Learning

According to the study finding, 33% of the participants were of the opinion that effective teaching strategies benefited LVI. In this regard, Role, a teacher with a visual impairment agreed that strategies enhance learning, create studying styles for LVI and improve their self-expression and their ability to socialise. In addition, participants felt that using Braille text materials and tactile media provided LVI with the opportunities to interact with equipment and reflect on their learning. Neka, a teacher at GTISS proudly explained how effective teaching strategies benefited LVI in the following words:

> Uhm...appropriate strategies improves learning of LVI. It helps LVI to grasp the learning...for example: if you give LVI a model of a chameleon...and explain how it looks like...this is a chameleon...and then somebody says...be careful there is a chameleon! The learner will reflect as to how the chameleon looks like...in this case LVI will understand although they don't see it.

Ndapanda, a teacher assistant with VI, affirmed that it was important to use appropriate teaching strategies when dealing with LVI. She said "It enhances their studying style...and it provides them with relevant information in an appropriate format...which will likely influence them to study on their own and perform well academically." In addition to the above, Mkize, a teacher assistant at GTISS, mentioned that allowing LVI to handle equipment enhanced their competencies to accomplish tasks. She had this to say "The benefit is...yeah...by interacting with their equipment they master basic competencies which will support them in writing their assignments and examination." On the same view, Lela from GTISS said "The strategies help LVI comprehend the lesson content, which leads to effective learning and understanding. This

also contributes to the way in which they are able to express themselves and socialise with others." The participants' views indicate that when effective teaching strategies are encouraged and LVI are engaged in the learning process, this may result in better academic performance.

Enhancement of Independent Mobility

From the individual interviews and focus group discussions with 40% of the participants it is clear that they upheld the notion that effective teaching strategies contribute to the mobility of LVI. Participants were of the view that the strategies allowed LVI to move freely and live independently in their environment. Ndapanda, a teacher assistant with a visual impairment at ESS, Suzy and Shiwo, a teacher of LVI, advocated the need for using strategies that enhance mobility. Shiwo had a particular point of view pointing out that "Mobility helps LVI to be independent and move freely in their environment, for example in school environments, in towns and the village." In addition to these views, Tulonga, a teacher at ESS, Mwetu at GTISS and Role, a teacher with a visual impairment at GTISS, expounded on the idea. Role had this to say:

> I think...uhm...it is imperative for teachers to use actual strategies when delivering a lesson...this way LVI may benefit more during and after the lesson delivery. Uhm...this idea cannot be overemphasised considering that LVI face a lot of challenges in the environment. The strategies... should just ensure that LVI become mobile and independent in their movement and in their activities of daily living.

It is clear from the findings that it is imperative for sighted teachers working with teachers and learners with visual impairments should all use effective teaching strategies which achieve mobility. This was seen as an assurance that teachers with visual impairments and LVI continue to teach, learn and live better without depending on others all the time.

Benefits of Using Effective Teaching Strategies for Teachers

Interaction with participants, established that using effective teaching strategies also benefited the teachers. In their teaching practice, teachers of LVI observed and spoke out about the advantages of using suitable teaching strategies. The responses of the participants were categorised as sub-themes. The following are the identified sub-themes: four (27%) of the participants indicated that using appropriate teaching strategies enhances the understanding of LVI needs; four (27%) of the participants facilitated classroom scaffolding and; three (20%) of the participants had the view that the benefits provide opportunities for self-evaluation and reflection. Table 10 displays the benefits of using the identified teaching strategies for the teachers.

Table 10:

Benefits of teachers for using effective teaching strategies

Benefits of using the identified Teaching Strategies for Teachers	Total Number of Participants	Participants who identified the benefits	Percentage
Understand teachers and LVI's needs	15	4	27%
Facilitates classroom scaffolding	15	4	27%
Provide opportunities for self-evaluation and reflection	15	3	20%

Understand Teachers and LVI Needs

In the discussion with the participants, it was found that using specific teaching strategies promoted effective and efficient teaching and learning. As reported in table 10, four (27%) of the participants observed that using effective teaching strategies reinforced teachers' understanding of the needs of LVI. Participants affirmed that these abilities enabled the teachers to advise and support their colleagues. For instance, Ndapanda, a teacher assistant at ESS and Briana, a teacher at GTISS, believed that teaching became

easier and more effective when one used appropriate teaching strategies. Briana avowed that: "Appropriate teaching strategies make the teacher's teaching easier and effective... Uhm...as well as to meet their teaching and learning objectives and also to better understand the LVI and their day-to-day needs." In a focus group discussion, Shiwo, a teacher at ESS and Mwetu, a teacher at GTISS, explained how beneficial it was to use appropriate teaching strategies. Mwetu said:

> Yeah...using brailled materials and other actual teaching aids reinforce your understanding when teaching LVI; it fulfils the teacher's obligation and therefore makes them feel confident when teaching LVI. It also enables the teachers to advise and provide support to other colleagues according to their needs...and this equips the teachers with knowledge and quality information.

Analysis of the participants' responses shows that using effective teaching strategies benefits the teacher, his colleagues and LVI as well. It was noted that teaching becomes easier and more satisfying as teachers become confident, active and motivated in their work with colleagues and LVI.

Facilitates Classroom Scaffolding

Four (27%) of the participants interviewed explained that through classroom interaction and practice teachers learned about the significance of providing extra time to LVI. The participants indicated that practice helped them to pay attention to LVI needs, and to be patient with the understanding that LVI use their hands to read and write Braille. In addition, the participants felt that the strategy built a healthy relationship and clear communication between the teachers of LVI, sighted learners and LVI. It was noted that enabling LVIs to carry on by themselves by means of scaffolding provided the teacher with a chance to support other learners in the class. For instance, Role, a teacher with a visual impairment at GTISS, emotionally disagreed about leaving LVI unattended and

suggested continuous support for LVI "Yeah...there is a notion that teachers should allow LVI to do the activities on their own which I personally disagree with. It is necessary that teachers uphold their support through provision of extra effort and time with LVI." Briana argued for example that "…given a book activity, the teacher needs to be patient and wait for all the learners to be on the same page and accessing the same information." Furthermore, Role concluded "in this case, the teacher should understand that LVI use their hands for brailing (writing) and reading. They read instructions and.... Answer questions through Braille. Uhm...as LVI are scaffolded, teachers develop good relationship with their learners".

Concurring with this view, Hannover also thought that scaffolding benefitted teachers of LVI when they demonstrated a concept. He explained as follows:

> Teachers can use demonstration so that learners can catch up with what you are doing. If it has to do with movement, then you have to get all learners close to you so they can feel and touch what you are doing. If it is a picture, for example a map...we have to use a textile map. You place your hand on that map to show them exactly how to read a map...they will have to touch your hands and know how to read the map from here to there. They have to touch you, and you have to demonstrate in a way that they can understand.

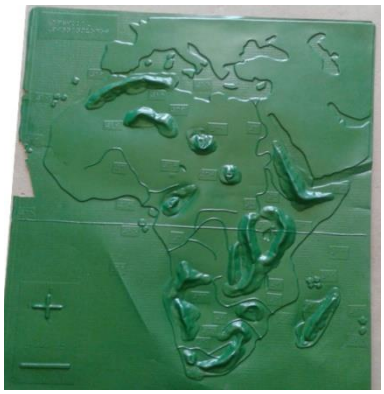

Figure 10: A map of Africa in a tactile format

Although Role and Hannover felt the need for using scaffolding as a teaching strategy in the classroom, Mbili shared his personal experience that he had challenges in supporting LVI "It is not easy for me. I don't really give full support. I leave them in the hands of the teacher assistant to support them."

The analysis of participant's views confirmed that scaffolding as a teaching strategy in the classroom benefitted the teachers making the lesson more effective and polished. It also served as an effective approach to getting the learners actively engaged in the lesson.

Provides Opportunity for Self-evaluation and Reflection

During the interviews it became apparent that using effective teaching strategies provided teachers with an avenue to evaluate and reflect on their individual performances. This was evidenced during the focus group discussions with three (20%) of the teachers and teacher assistants at both ESS and GTISS. Briana, a teacher of LVI and sighted learners at GTISS said "I think, self-evaluation is a motivation because out of this, I know my progress and it provides a reliable source of the true reflection of my work...It also assists me to improve my performance and to be self-confident."

Complementing the above view, Mkize, a teacher assistant at GTISS and Ndapanda, a teacher assistant, put the benefits of self-evaluation and reflection into words. Ndapanda articulated it by saying "As a benefit, using effective teaching strategies provides you with an opportunity to evaluate...which strategy works well and which ones don't work well. After reflection, then you consider ways of improving the strategy."

It is clear from the findings that participants viewed self-evaluation and reflection as benefits necessary for the improvement of teaching and learning strategies, in the sense that teachers became aware of what works and what does not.

Challenges in the use of teaching strategies

Using appropriate teaching strategies for LVI is a challenging task. By means of interviews and classroom observations, participants shared the challenges which they faced while teaching LVI. From their experiences, various challenges were identified and categorised into sub-themes as follows: challenges in the use of tactile media and models; inclusion when teaching LVI and sighted learners; challenges in providing adequate time; availability of classroom and teaching resources; availability of brailled materials and the challenges in creating mobility. Table 11 shows challenges that teachers face in using the teaching strategies.

Table 11:

Challenges in the use of teaching strategies for LVI

Challenges in the use of Teaching Strategies	Total Number of Participants	Number of Teachers	Percentage
Challenges in the use of tactile media and models	15	4	27%
Inclusion when teaching LVI and sighted learners	15	4	27%
Challenges in providing adequate time	15	3	20%
Availability of classroom and teaching resources	15	3	20%
Availability of brailled materials	15	3	20%
Challenges in creating mobility	15	2	13%

Challenges in the Use of Tactile Media and Models

Despite the fact that the participants identified benefits in using effective teaching strategies with LVI, they lamented the inconsistency due to a lack of skills and materials in schools. All 15 participants felt that the unavailability of tactile media and models disturbed the teaching and learning process. In addition, among all the fifteen participants only four examples will be provided. Therefore, four (27%) teachers of LVI pointed out

that they also experienced difficulties in explaining what they were teaching, especially non-representational concepts, information in pictorial form and diagrams in the text books and the use of blackboards. The teachers further claimed that the lack of skills when teaching LVI forced them to leave the LVI to struggle on their own or learn from their peers. Ndahafa, a teacher at ESS with a visual impairment, was concerned about the absence of tactile media and models in the schools.

> Uhm...technology/machines are now available to draw pictures that people with VI can use, touch and see...but then we don't have them...this is a big challenge for us as teachers...and also for the learners. This makes it difficult for LVI to perform in class and in national exams...especially when they have never come across material...it will not be easy to answer questions. The lack of materials is a challenge and needs to be addressed.

On the same issue, during the focus group discussion with teachers at GTISS, Mwetu claimed forcibly that teachers were not using tactile media or models in their respective classes. For example, she explained that:

> ...this is really a challenge...I have never seen a teaching aid...or to say a model about nitrogen or the oxygen cycle in braille...when I am teaching a topic which includes for example the nitrogen cycle...my LVI are left behind...others can see...there are no machines to make diagrams in our school and no promise of getting them...so I just have to make my explanation more clear, though it is difficult.

A Biology teacher at GTISS, Neka, was discouraged when he was teaching and failed to include LVI in his lessons. Such instances, made him feel like an unskilled teacher. He said "When explaining a microscopic virus diagram from a textbook during my Science subject, I use a plotting code which is difficult for the LVI to visualise the pictures in their mind... I am an unskilled teacher."(Looked sad)

Although Mkize, a teacher assistant at GTISS agreed with the views expressed by other teachers of LVI, she felt that the teachers were not ready to create, produce and use models in their lessons. Speaking from her experience as someone who assists teachers of LVI and LVI in the creation and use of visual impairment-related materials, Mkize said that:

> In terms of assisting teachers and LVI, they need unique teaching aids. Sometimes I help by showing them how to create the different teaching aids...Other times I explain the importance and how to use the models. This is done to enhance the classroom attendance of LVI...since their attendance is sometimes poor.

The findings revealed that teachers were willing to use appropriate teaching aids, but in some cases they lacked the skills to create, develop and use such materials correctly. Participants felt it important to receive training on how to create and develop models.

Inclusion when teaching LVI and Sighted Learners

During the interviews, four (27%) participants mentioned that it was challenging to combine LVI and sighted learners in one class. Participants noted that LVI struggled to complete their work on time which slowed down the teaching and learning process. They further complained about how hard it was to conduct lessons with such learners, yet no one seemed to understand this challenge. Mbili eloquently said "Teaching LVI is challenging...many times non-VI learners complete their work within a given time...but LVI always struggle to complete and hand in their work on time...this disturbs my schedule. "Repeating the views of Mbili, Briana at the same school observed that the pace of the lesson was slowed down. She had this to share "Uhm...I have experienced that it is hard to teach LVI and sighted learners together...imagine...It means teaching at a slow pace to ensure inclusion of all the learners." In addition, while concurring with the views

of Mbili and Briana, Neka bemoaned the lack of understanding of their challenges by the authorities.

> Talking from my experience...I realise that it is difficult to teach LVI and learners without visual impairments...uhm...it requires a lot of time to manage a lesson where different learners sit in one classroom...uhm...But no one seems to understand the challenge we face."

The study found that combining learners with different types of visual impairments was a compounded challenge. Tulonga a teacher at ESS explained how hard it was to identify effective teaching strategies for multiple levels of visual impairment. She narrated that "Teaching LVI itself is a double work or even triple work, so to say. For example, I have learners who are totally blind, learners with low vision and some who use enlarged fonts...uhm...It's not easy." The views shared by the participants provided evidence that the teaching of learners with different visual impairments and sighted learners was a challenging task. Unfortunately, the teachers' intrinsic worry was not understood as shown by the passivity of the authorities in providing adequate training and materials.

Challenges in Providing Adequate Time

Listening to their views, 20% of the participants at ESS and GTISS complained about the duration of a lesson (period of 40 minutes). The participants claimed that if given sufficient time, they would give attention and expound concepts to make learners understand. In addition, the teachers and teacher assistants felt that time had an effect on learners' completion of given tasks. Lela, a teacher at GTISS, considered time as a challenge. She said "I felt I needed extra time in order to make the learners understand. The time-tabled period is not sufficient for me to give attention and do all the explanations." In the same vein, Chen, at ESS, emphasised the importance of time for LVI to complete their work:

> The minutes given in the timetable for a lesson are not enough...so in a way, time has an effect on learners' completion of a task within the given time... I propose that curriculum design should provide sufficient time... I mean for example double period to allow additional time for LVI to complete their tasks.

On a different note, another participant explained how time was lost in the process of giving and receiving Braille materials. Mbili, a teacher at GTISS, complained "Practically...the time used to give and receive hand-outs and assessments to the teacher assistant for brailling and de-brailling creates a delay in giving feedback to LVI...that frustrates both of us...I mean LVI and I." Mbili further argued "In addition, I have a problem with the period duration of 40 minutes...it is not sufficient to cater for LVI and sighted learners."

The observation made by participants clearly showed the challenges of time in their classroom practice. The participants mentioned that visual impairments are a challenge and it was important to address the issues and the need for more time allocated for lessons in special and inclusive schools.

Availability of Classroom and Teaching Resources

All the participants understood that Braillers are typewriters which the LVI use to type their work in Braille. The analysis of interviews showed that the two schools had common concerns about the shortage of relevant teaching and learning resources. Coupled with the shortage, the teachers found it difficult to repair broken Braillers. Consequently, three (20%) participants deviated from best practice causing delays in lesson presentation. Suzy, a teacher of LVI and acting school principal at ESS at the time of data collection, agreed about the lack of Braille equipment and resources.

> One of the challenges faced by teachers is the shortage of Braillers and Braillons...they are not enough for all learners. As we know...Braillers are like pens

for the LVI while Braillons are special papers used for typing. Since Braillers are not manufactured and repaired in Namibia, we have challenges when they are broken.

In agreement with Suzy, Briana, an English teacher at GTISS, bemoaned the serious lack of resources. She said: "Uhm...it is challenging to teach LVI without appropriate resources…which lead me to divert from the best teaching practice. This kind of set-up delays and affects the lesson presentation and the whole system."

Tulonga was observed teaching Entrepreneurship in her class (Grade 10) and LVIs were sharing four Braillers. Sadly, six LVI had to wait for their peers to finish their work before they were given a turn to use the machines. As pointed out by Briana, the lesson was delayed due to the inadequate number of Braillers.

The study found a profound shortage of Braillers and Braillons in schools which prohibited the teachers from effectively and efficiently delivering their lessons. The participants were frustrated and could only hope that one day the authorities would come to their rescue.

Availability of Brailled Materials

Based on the participants' experiences, a lack of printed materials in braille affected the whole process of teaching, learning and assessment. The unavailability of brailled materials was a concern in the two schools that participated in this study. In addition three (20%) of the participants indicated the gross negligence by persons responsible for setting up and organising both the regional and national examinations in print. These challenges resulted in subject teachers clarifying and modifying the examination scripts at their respective schools.

In regard to the lack of brailled materials for teaching and learning, Tulonga, at ESS, explained her ordeal. She complained about the lack of resources as one of her main challenges. She expressed her concern in this way:

> …uhm lack of materials in Braille. I mean that in most cases the prescribed textbooks are delivered late and not brailled. This created a challenge for the school to take the textbooks to the printing shop for brailling. Yeah...it takes a while to have the brailled materials back from the printers, which delays the whole process of teaching and learning.

Whereas Mbili and Mwetu, at GTISS, spoke openly on the inconsistencies in the setting of regional and national examinations, Mbili emotionally explained his challenge in reading and writing Braille as well as modifying examinations for his LVI. He said "The regional examiners do not consider the LVI...so...as a subject teacher I am later asked to sit and modify the examination paper...for example by removing the pictures, graphs and tables and write this in a question form." He further complained "Sometimes I ask myself...Uhm...Is this fair...? Are we doing justice to LVI? Look, I also face a challenge in reading and writing Braille materials...and these forces me to give the exam paper to the teacher assistant to be brailled." Concurring with Mbili, Mwetu noted that it was unethical for national examinations scripts not to have tactile diagrams. She lamented that:

> Amazingly, the national examination scripts are in Braille...however, in some cases there are diagrams that LVI do not understand. This results in a subject teacher being asked to clarify the diagrams which is a grave mistake and big challenge on the side of the teacher as you may end up directing LVI to the correct answer.

A considerable amount of negligence towards the teaching and examining of the LVI emerged in the opinions given by the participants. The study established unintended bad habits and practices in terms of teachers modifying examination papers and verbally assisting the LVI.

Challenges in Creating Mobility

The interaction with the participants led the researcher to identify the importance and use of mobility. Particularly in the case of new LVI, participants observed that the learners were clumsy and found it difficult to operate equipment and manoeuvre themselves in the environment. In addition, the participants mentioned that new LVI failed to recognise texture. The (13%) teachers pointed to the lack of orientation skills among new learners which resulted in the new LVI being returned to a lower class level. Shiwo, an experienced teacher of LVI at ESS, emotionally described the challenge as follows: "Mobility! When the school receives new learners, I mean learners stepping into the campus for the first time; they are very 'tactless' and find it difficult to move around the environment...they also face challenges to operate the Perkins Braillers." On a serious note, Role a teacher with a visual impairment felt sorry for new older learners who had enrolled but were returned to lower grades because they lacked orientation and mobility skills. He said that:

> If learners become visually impaired while in grade 6 say...uhm...usually between 10 and 11 years...the fingers will not be able to recognise texture of tactile materials since they are not trained in mobility...they are sent back to learn basic Braille.

These opinions expressed by the participants reveal the dilemma of new LVI in the schools. The study also uncovered the effects of the lack of orientation and mobility skills as faced by the LVI in the school environment.

Theme 4: School Support Systems

The participants' views on the teaching of LVI as revealed in the findings of this study demonstrate the significant role played by school management and teacher assistants in supporting teachers. Figure 11 shows the school support systems. Nearly all (99 %) of the participants in this study felt the need for material and moral support in order to

effectively and efficiently deliver lessons. In the analysis of the data on the role of school management and teacher assistants, three sub-themes and the participants' views in this regard in percentages were identified as follows: school management (33%); teacher assistance (53%) and collaborative teacher support (33%).

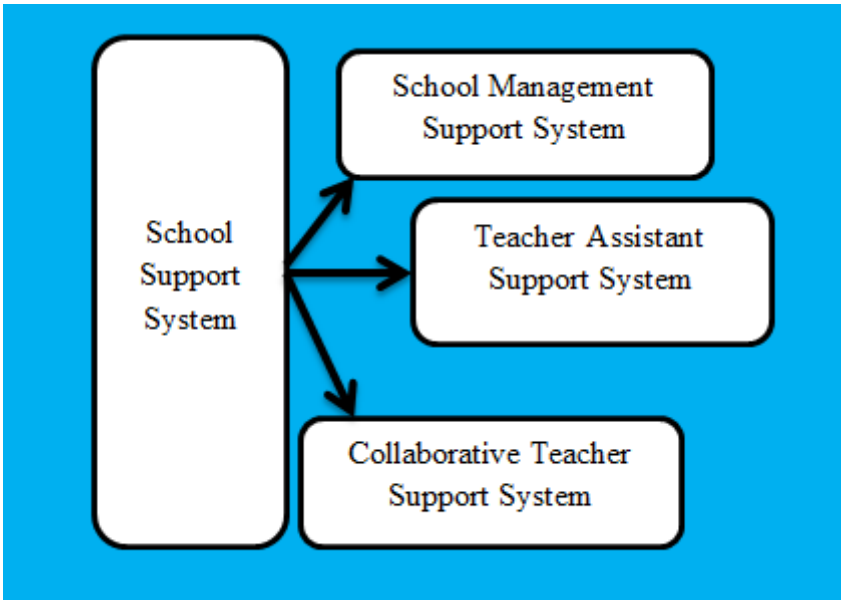

Figure 11: School Support Systems

School Management

In regard to the school management support system, participants concurred that they received support in various ways. However, three (20%) participants indicated that school principals were instrumental in providing the support needed by teachers and LVI within the school environment. For example, they cited budgetary support, the procurement of materials, the repair of machines and moral support. Mkize, a teacher assistant at GTISS noted the school principal's initiatives. On this she said "Yeah... we get help from school management... especially the School Principal. He assists by ordering materials for creation of teaching and learning aids like models, Braillons, master papers and strings." When asked about the support system, Tate, a principal and a teacher of LVI at GTISS, explained in detail how the teaching of LVI is supported.

> The school on its side has a small budget for procuring materials for LVI...uhm...such as Braille papers and Perkins machines where necessary. It also provides support service in getting the textbooks brailled at Oniipa Rehabilitation Printing Centre. Again...when the machines are broken, the school supports to get them repaired. However, this budget's not enough.

Chen, a teacher at ESS, further confirmed the support provided by the school management system. In his experience, Chen highlighted the principal's role. He said "The school principal assists in liaising with Oniipa Rehabilitation Printing Centre, where we mostly get our text books brailled." Furthermore, Hannover specifically observed that moral support played a significant role in the teaching of LVI. He pointed out that "We get moral support from the Principal as well as the Head of Department through information sharing and communication on how to socially interact with LVI and our colleagues."

However, the majority (80%) of the participants felt that little was being done to support the teaching of LVI in both schools. Interaction with the participants revealed a lack of workshops, inadequate human resources and inappropriate training. It was also observed that the support focused on general teaching methods. Hannover expressed his dissatisfaction about the school support system. In his opinion it remained inadequate:

> The available support system lacks workshops and training on modern teaching strategies for LVI. It focuses on general teaching methods rather than on visual impairment teaching strategies...appropriate training could assist teachers to modify experiences to fit in teaching LVI.

In support of Hannover, Briana expressed her frustration regarding inadequate skilled human resources available in her school. She had this to say "In our school, this is evident through lack of human resource...there is only one skilled teacher assistant who transcribes the learners' work into Braille for the whole school while she teaches as well."

The study found that the support provided by the school management system was mainly moral, technical and financial. However, the intensity of the support was different in the schools. The participants felt the need for more, and various other support mechanisms in terms of capacity building.

Teacher Assistance

During the individual interviews and focus group discussions, almost all the teachers felt that the teacher assistants were a great resource responsible for guiding and assisting the teaching of LVI in both special and inclusive schools. On the other hand, 20% of the examples provided by the teachers bridged the gap between teachers with visual impairments, sighted teachers and LVI. However, the participants noted variations in the workload, pointing out that teacher assistant in an inclusive school support teachers with visual impairments, sighted teachers and LVI. However, at a special school the teacher assistants only supported teachers with visual impairments. As a teacher, Mbili acknowledged the support received from the teacher assistant. He put on record his experience in the following statement "Yes…I feel supported by our teacher assistant...remember I don't know how to use Braille...I depend on our teacher assistant who is skilled in Braille which assists me to adapt the lesson content to suit LVI learning."

A similar experience was shared by Tate, a teacher and school principal from GTISS. Tate was proud to have a skilled teacher assistant who professionally discharged her role in visual impairment-related issues. He said "Teacher assistants do more... since they mastered Braille they are able to assist teachers in how to write and read Braille contractions and operate VI equipment and adapt materials from print to Braille and vice-versa." While agreeing with Mbili and Tate who were at an inclusive school, Ndahafa at a special school gave a detailed account on further support given to teachers with visual impairments.

> ...the role of a teacher assistant cannot be overemphasised...these people do a lot of work to support us when teaching LVI. In my case they record class attendance on my behalf...record grades on continuous assessment forms, mark class and homework...uhm...and they also moderate examination question.

Conversely, five (33%) of the participants felt that whenever training was conducted, the content was too general and not specific to the teaching of LVI. The training, therefore, did not provide them with any support to do their job as they should. Thus, Ndapanda, a teacher assistant with VI, stated that:

> Uhm...attending workshops and conferences...I have observed that methods used by trainers are not helpful to teachers with VI...nor to teachers who teach LVI. Here we are left out and isolated. I remember being provided with black and white...I mean print materials which will take me time to translate into Braille.

Similarly, interaction during the focus group discussion with Suzy, Briana and Tulonga revealed the concern about the lack of support in terms of training content. Specifically Suzy, an experienced teacher of LVI and acting school principal at ESS, complained that the training content was too general and inappropriate for her case.

> You know what? Workshops for teachers in the region are conducted for the different subjects...but...tactile and brailled materials are not given attention. Even when we approach the centre they don't help us. Really...my observation is that the workshop content is for general teaching strategies...the trainers apparently don't include any aspects to help us teach LVI.

Interestingly, Chen claimed that he was not adequately supported, especially in the operation of new equipment like embossers. He also mentioned the lack of skills for the assistants in areas of ICT. Chen suggested an urgent need for training in the use of new equipment and associated ICT skills. He had this to say: "We have new equipment which

can already start operating...but there is nobody who can operate it. Even our ICT people are not yet familiar with the electronic Braille equipment… I think that people should go for training on how to handle this equipment."

Analysing these views indicates the need for trained teachers and teacher assistants in the use of, and the operation of modern equipment. Participants suggested that training workshop content should also include specifically the teaching of LVI. In addition, the study established that training in the use of electronic Braille equipment and associated ICT was essential.

Collaborative Teacher Support

Collaborative teacher support systems particularly deal with internal and external collaboration, and the relationships and interactions between teachers who teach LVI at ESS and GTISS. Three (20%) participants felt that it was vital to support each other in order to improve the practice of teaching LVI. The study found variations in the responses. However, the practice was fairly good although other participants were not satisfied. Typical benefits shared by participants included planning, translation of Braille materials, borrowing and repairing of Braille equipment. In addition, the participants collaborated in the admission process for grade 11 LVI.

For instance, the relationship among teachers of LVI was good. This was evidenced through the focus group discussion held at ESS. Individually, Ndahafa, a teacher with a visual impairment confirmed the relationship and its benefits by saying:

> I can say the relationship with my colleagues in ESS where I teach is perfect...we meet, plan and interact every day. While the relationship with colleagues at GTISS, is good. I interact with them, that's why I'm able to teach confidently and we advise each other, on how to teach and improve the teaching for LVI.

Interestingly, the study found similar relations among teachers in the schools that participated in the study. For example, Lela at GTISS observed the existing relationship with colleagues in the ESS. She said "My relationship with colleagues in special schools is good...uhm...so to say. They help us to translate and de-braille our materials...especially when our teacher assistant is not around or when she is overcrowded by many transcripts."

In agreement with Lela, Tate, a school Principal at GTISS and teacher of LVI, commented on the collaboration and interaction with colleagues at ESS, especially when admitting LVI to Grade 11. He articulated this view as follows: "With ESS, we collaborate in many ways...for example, when admitting Grade 11 LVI and for Braille and de-brailling materials. Sometimes when our embosser isn't working, we use their equipment...so we do collaborate and liaise perfectly."

More than half (60%) of the participants shared negative experiences in their collaboration and interaction with colleagues from outside their schools. For instance, Briana and Tulonga put it this way "There is no relationship at all between me (as individual) and us (teachers from GTISS and ESS) at all. This is something that we have to work on as teachers of learners with visual impairment." From the point of view of a teacher who has a visual impairment, Hannover observed the weak relationship and interaction between the two schools and suggested ways of improving this relationship:

> I would describe my relationship with other teachers who teach LVI as moderate. Our communication with them isn't quite frequent. We're planning on improving the relationship by means of sharing ideas through teachers' exchange programmes that we're about to embark on quite soon.

During discussions, participants had different positions regarding their relationship, the way they collaborated and interacted with each other in the schools. However, the participants emphasised the need for strengthening collaboration and interaction among

teachers and between schools. They felt that strengthening support through these initiatives would greatly improve the performance of both teachers and learners in schools which cater for LVI.

Theme 5: Proposed Ways for Strengthening the Teaching Strategies for LVI

During one-on-one interviews and focus group discussions, almost all the fifteen participants felt the need for strengthening the teaching strategies used with LVI. From experiences, nearly all (99%) the participants lamented how they faced challenges in teaching LVI. In addition, 40% of the participants believed that in order to effectively teach LVI they need the necessary budget, 73% of the participants suggested that training in the teaching of LVI should be offered, while 60% recommended that a good relationship and understanding among each other should be fostered. They further emphasised the importance of sensitisation with respect to the education of LVI. The participants also recommended the recruitment of experts in the area of visual impairments and exchange programmes. Figure 12 illustrates how to strengthen the teaching strategies used with LVI.

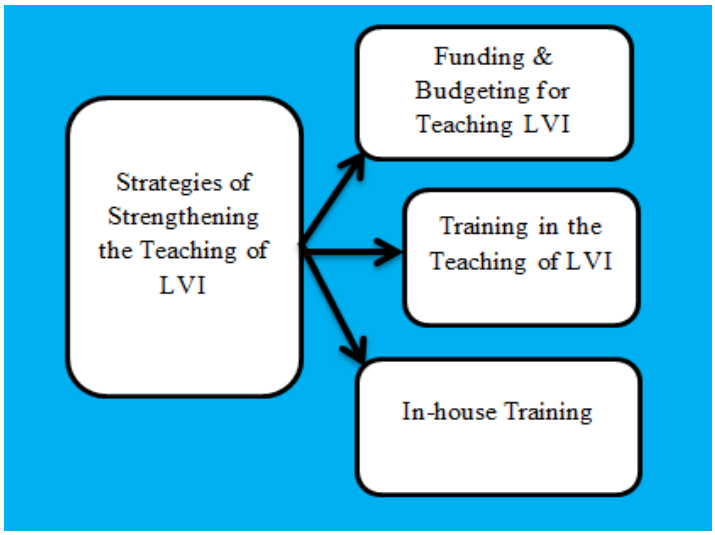

Figure 12: Ways of Strengthening the Teaching Strategies for LVI

Funding and Budgeting for Teaching LVI

In spite of all the efforts that teachers at ESS and GTISS put into the teaching of LVI, no one seemed to recognise and understand the challenges that teachers faced. All participants expressed common concerns about inadequate funding and budgeting from the government and other relevant stakeholders. Although the participants observed that equipment and stationery for LVI were very expensive, they felt that a sufficient budget could boost the use of teaching strategies and improve the quality of teaching LVI. Interestingly, participants revealed that it was not difficult to teach LVI if all needed aids were available. The participants explained the challenges and frustrations caused by the unavailability of training facilities and equipment for teachers who teach LVI. On this, (40%) of the participants felt the need for key stakeholders to increase the budget in order to support the education of LVI. Tate, a school principal and teacher of LVI at GTISS expounded on this notion by saying that:

> I really feel that uhm...we need extra funds, because the current budget allocated to our school isn't sufficient to cater for LVI and sighted learners. The procurement of VI equipment, stationeries, service and repairing of the equipment were very expensive activities. I don't know why we should have the same budget with regular schools.

Concurring with this view, Role a teacher with a visual impairment and Chen, a teacher at ESS noted how expensive and extensive the equipment for LVI is. In this case, Chen suggested that the government must raise their budget and purchase equipment that would improve the teaching process.

> Uhm...worldwide, the education of LVI relies on extensive funding. It's high time that our government increases our budget. I know it's not easy; however, we need more resources such as computers with Duxbury and Jaws programmes, talking

> calculators, acrobats, tactile and others that I didn't list here. These resources make the teaching process easier.

During the interviews, the participants raised a serious concern that aroused trepidation and a note of unfriendliness towards the authorities. Participants argued that some stakeholders were not able to understand the need for purchasing VI resources. It was specifically mentioned that some activities were being delayed because of the lack of Perkins Braille and Braillons in schools. This resulted in LVI not completing their work on time. All the fifteen participants in the study shared the same experience about this view. To confirm this viewpoint, Ndahafa, Hannover and Ndapanda said:

> I think our providers need to understand us as a whole. We don't have enough Perkins Braillers...we ordered them...I don't know...it has been years now. I have observed that, running special and inclusive education is not an easy task, but purchasing of all the relevant teaching and learning materials...training teachers and continuing workshops...is what I am suggesting.

The participants highlighted the need for funding and budgeting as predominant among the challenges that teachers face in teaching LVI. The teachers then suggested that the stakeholders should understand their plight holistically. It was also observed that the school system lacked teaching materials, equipment and the workshops needed. The study revealed that participants could only perform well if they are provided with sufficient financial support to carry out their activities successfully.

Training in the teaching of LVI

The analysis of study findings from the one-on-one interviews and the focus group discussion showed that the majority (73%) of the participants seemed to suggest that the issue of teacher education training should be regarded as a serious and continuous process. Special and inclusive teachers of LVI were of the view that teaching strategies for LVI

should be included in pre-service teachers' training and continue throughout in-service training. In addition, the teacher participants emphasised that a teacher for LVI should remain a learner throughout their teaching career. Furthermore, during field work, participants in both one-on-one and focus group discussions expressed a serious concern about the lack of in-service training in the field of visual impairments. However, some participants felt that institutions of higher learning have the potential to bring changes within the educational system that would shape the knowledge and skills of teachers for LVI. Therefore, Suzy, a teacher for LVI and acting school principal during the time of the study at ESS, made suggestions as she said, "Teacher training education should be seen as a continuous process...uhm...from pre-service to in-service training...with a full package. I mean, including specific teaching strategies for LVI...and even how to operate and use equipment for LVI." This notion was expanded by Chen, at ESS who was also concerned. Chen explained how he experienced the lack of training workshops and conferences for special and inclusive education. He suggested that the teachers for LVI need regular training and workshops, specifically in respect of visual impairment issues. He said:

> Ever since I completed my pre-service training at the college of education...so far I only attended one special educational needs conference in 2011. I am not invited for workshops, specifically for teaching LVI. Serving for LVI in the field of special education... our knowledge and skills need to be boosted...we need regular training.

This was not only a concern for ESS teachers, even at GTISS, Lela, Hannover and Ndahafa noted similar experiences. Participants suggested proper training in the area of visual impairments. As noted in what Lela stated "Personally...I feel that...receiving adequate training through workshops and opportunities for further studies will improve our situation. I mean...continuous professional development...uhm...well scheduled

exchange programmes...visiting other countries with the purpose of gaining knowledge and skills. Other countries might be well advanced."

Further, Shiwo added "Newly appointed teachers need sufficient and thorough training...being familiar with teaching strategies for LVI is very important." Echoing these sentiments Suzy and Shiwo from ESS explained that pre-training offered more theory rather than practice. Participants avowed that it was of significance that a teacher for LVI should know the braille alphabet, contractions and how to operate and use equipment before embarking on teaching LVI. Whereupon, Suzy the acting school principal at ESS recommended the following:

> I am humbly requesting for...uhm...either our university or some universities to offer a practical course. Specifically for those teachers who have a heart and passion to work with LVI. Teachers should be trained and obtain a qualification. I mean...teachers specialising in visual impairment-related issues, including Braille writing and contractions.

On a different note, participants brought to light that teachers and learners with visual impairments as well as teachers of LVI use unique equipment. The participants indicated that those teachers working with LVI require special training, specifically on the use and operation of special equipment for visual impairments. For example, Mbili believed "Teachers of LVI should remain learners…if we want to succeed. We need guidance on teaching strategies...how to use and operate the equipment. This sounds simple...but we are experiencing difficulties in our teaching. We need to be heard."

The analysis of interviews further revealed that most of the teachers of LVI lacked knowledge and skills about Braille and the strategies that could be used to enhance the teaching of LVI. Therefore, some experienced participants suggested proper training and availability of resources. Ndahafa clearly pointed out that "From my experience as a

teacher with visual impairment and of LVI... I might be well trained with my qualification, but with the absence of resources such as machines and other equipment for VI...still one has to struggle." In addition, Neka and Mwetu, teachers from GTISS, also emphasised the abovementioned issue. For example, Mwetu mentioned that "The best way is to have more Braille resources available, such as, Jaw's software, Duxbury programme, Perkin's Braillers, Embossers and skilled technicians to fix in case of a break down. We also need regular workshops on how to operate such equipment."

However, participants felt that even if they could be provided with all the aforementioned resources, if stakeholders continued failing to understand them, their requests or teaching needs would not be met. Therefore, the participants insisted on the training of all stakeholders, the understanding about issues in respect of LVI and teachers with visual impairments by the regional officers. As a consequence of this viewpoint, they insisted that special and inclusive schools and classrooms should be visited by those responsible to familiarise themselves with the situation on the ground. Suzy a teacher of LVI and acting school principal at ESS elucidated that it would be important for the ministry and the regional officers to really "understand us" and "our needs" so that they can foresee the challenges that we face. She felt that pro-activity on their part could alleviate some of the challenges, such as, the lack of Braille papers and all those materials required for effective teaching. Furthermore, Hannover, a teacher with a visual impairment at ESS, emphasised that in terms of education, a better understanding of learners and teachers with VI and what their needs are 'must be well sensitised' to all the stakeholders for 'quality education to be delivered' to LVI. An emotional Role a teacher with VI from GTISS, bewailed the fact that "Recruiting experts...uhm...adroitness in the field of visual impairment...will improve the situation."

In-house Training

The participants in the study proposed in-house training. They described in-house training as an internal arrangement, a collaborative school activity aimed at training teachers of LVI. The analysis of findings revealed that 60% of the participants identified the necessary skills in respect of which they needed assistance and what they already knew. The teacher participants stressed that activities for the in-house training programme should be well planned, involving a combination of practical and theoretical skills and knowledge to enrich teachers of LVI. Participants believed that for in-house training programmes to be effective, skilful and knowledgeable persons should be within the school working in collaboration with the resource centre and in the region. This activity could strengthen the teaching process and build confidence among the teachers of LVI at special and inclusive schools. Mwetu, a teacher at GTISS suggested that for effectiveness and success activities to be planned "It should have clear objectives and a combination of practical and theoretical skills that we did not have a chance to learn through formal training." Ndahafa added that "We need internal and external expert trainers who are dedicated and acquainted with knowledge and skills in [regard to] visual impairment."

Shiwo confirmed that an in-house activity was more efficient because it could be carried out in the school environment as it could be a time management and cost-effective form of exercise." Tate also said that "…in-house training should move our actions and it should be noted that skills and knowledge we gain should be shared." Suzy suggested that everyone should know what his or her colleague was doing so that they would assist one another at any time.

Teacher assistants were of the opinion that they needed to be well equipped with skills and knowledge for them to effectively facilitate in-house training in their schools. However, Role, a teacher with a visual impairment teaching LVI at GTISS, maintained

that there was a need for training in terms of teaching strategies and in-house training for teacher assistants who work closely with teachers of LVI as well as teachers with a visual impairment. Role said that "Teacher assistants need proper training about teaching strategies for LVI and for all relevant equipment we use. We need experts in visual impairments. After the training...then they will facilitate in-house training applying gained knowledge to update other teachers." Neka and Lela, teachers at GTISS, were in agreement with Role and supported the idea of initiating in-house training. They explained that in-house training should be shared activities whereby all teachers come together and share their experiences. They share their successes and failures and seek advice from colleagues. Neka expressed such a need. This was how he put it:

> In-house training will strengthen and motivate the teachers in the teaching of LVI. In this way...we'll have time in the school to communicate with one another...sharing best ways of how to teach LVI...by doing so all the teachers would be able to adapt what they have learned.

However, Briana noted that creating in-house communication builds a good relationship and enhances collaboration and interaction among teachers of LVI. She said:

> I think...we need to create a platform whereby teachers from all schools come together to share their experiences, knowledge and skills, and suggest the best teaching strategies for LVI, effective and ineffective teaching strategies and how to handle LVI in providing quality and effective ways of teaching.

The experiences shared was that In-house training could be strengthened if all teachers agreed to come together to discuss appropriate ways of maintaining the programme. It could also be strengthened when professionals in the field of special and inclusive education understand the teachers' problems. It was further emphasised that regional education authorities should appoint education officers who understand issues regarding

LVI, more specifically at the teachers' resource centre to assist all advisory teachers, regional officers in planning, ordering and purchasing visual impairment-related equipment.

Furthermore, by means of the analysis of the study, one realises that teachers who teach LVI are constrained by various obstacles that hinder the effectiveness of their delivery. Thus, the non-response to their requests by the relevant stakeholders caused a decline in their teaching which also hindered the learning process of LVI. Participants suggested that the training should be holistic in such a manner that everything is included. They maintained that if holistic training for educators was provided to increase the success of special and inclusive schools teachers it could eventually improve the lives of teachers with visual impairments and LVI.

According to the participants, the school system was responsible for ensuring that relevant people with the necessary skills and knowledge were provided to teach LVI. This meant that the system should analyse the LVI teachers' needs and provide the specific training. Again, the relevant region should encourage and support teachers of LVI by building collaboration for teachers with visual impairments and teachers who teach LVI with the purpose of information sharing and also recognition of teachers with visual impairments.

Summary

In this study the overarching research question was aimed at identifying the characteristics of experienced teachers in the field of teaching strategies for use with LVI. The experiences of the participants are described in this chapter and are the core issue of this study. Although participants felt that they were not trained, they have identified effective teaching strategies that can be applied when teaching LVI. They have also gained knowledge and skills on how to apply teaching strategies for use with LVI. The findings

show that teachers in special schools make better use of scaffolding as an instructional technique in the classroom when assisting LVI compared to teachers at inclusive schools. It must also be noted that teachers in the special school have a small number of learners in their classroom compared to those in the inclusive school. Therefore, they are in a better position to reach out to their learners than those with overcrowded classrooms. It has been found that through limited interaction and collaboration, the relationship between teachers in inclusive and special schools is good but not the best it can be.

It also became clear that even if teachers have the knowledge required to use teaching strategies, they cannot use them effectively if they do not have the necessary materials and equipment specifically intended for use with LVI. There is a popular belief that if a teacher has been working with LVI for a long period, he or she gains the experience which is necessary to succeed in that field. On a positive note, it was noted that it is not the experience that counts. However, the researcher observed that the success of LVI in schools has more to do with the passion and determination that a teacher possesses which will ensure that he or she will deliver quality teaching so that learners are able to reach the level where they should be. The research revealed that there are teachers with visual impairments in the system and that this works to the advantage of the schools and the region because this means that they can assist the relevant stakeholders in understanding LVI and their needs and the teaching strategies that can be employed to better the LVI current situation. Therefore, the onus lies with the relevant stakeholders to recognise the contribution that these teachers bring on the table and then find ways to support the special and inclusive education sector in future. Lastly, the lack of teaching materials and equipment is an issue of concern in both special and inclusive schools and this situation is detrimental to the education of LVI.

CHAPTER 5

DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

Introduction

This chapter discusses the findings from the study in relation to the theoretical framework in chapter one and the related literature in chapter two. The findings are discussed according to the following themes:

- teachers' experiences in accommodating LVI;
- teaching methods;
- effective teaching strategies for use with LVI;
- school support systems and;
- ways for strengthening the teaching strategies for use with LVI.

These themes were derived from the interpretivist school of thought as guided by a phenomenological perspective. This is unique in the Namibian context, considering the limited evidence of similar studies.

Teachers' Experiences in Accommodating LVI

In the modern world, knowledge and skills are always improving and, therefore, changing. So to ensure the effective performance of both the teacher and LVI, it is necessary to keep abreast with the latest knowledge and skills. The expectation was that teachers with visual impairments and teachers of LVI have to be well equipped with these new skills and knowledge that can be used in real classroom practice. Continuous professional development (CPD) can also be used to improve the skills, and re-orient and equip the teachers of LVI. Furthermore, the CPD of teachers with visual impairments and sighted teachers can contribute to their development as transformative educators.

Although all fifteen teachers who participated in this study were trained, most (13) of them had not received formal training in teaching LVI. Only one teacher at Eluwa

Special School was fully trained to teach LVI. The other teacher at Gabriel Taapopi Inclusive School was partially trained to work with LVI. This means that the majority of the teachers involved in teaching LVI in the Oshana Education Region were not qualified to teach LVI. This finding is in agreement with other research studies (Mwakyeja, 2013; Niwagaba, 2014; Semafafali, 2003) which found that most teachers teaching in special and, or in inclusive schools had not been trained to teach LVI and, or children with other disabilities. This study gives the impression that frequently teachers learn to teach LVI and children with other special needs when they are working. Consequently, LVI underperform in the grades 10 and 12 national examinations because their teachers have not been given the proper training opportunities and lack the necessary experience.

It was expected that the school support systems ensured that their teachers were competent in fulfilling their roles by initiating professional development programmes that are relevant to teachers of LVI. However, the study found that some teachers taught for more than two years without appropriate skills while teaching LVI. At the same time, some teachers, particularly those from the special school improved their knowledge and skills by attending various professional development courses and programmes. In most cases these training courses and programmes were initiated by the teachers themselves. This initiative was influenced to a great degree by personal motivation and a passion for teaching LVI among the teachers. In other words, their agency as social actors played a critical role in their professional development. In this context the word ‘agency’ refers to the ability of human beings to act despite the constraints of the social structure. Regrettably, most professional development initiatives on the part of the authorities were one-off or pre-packaged institutional based programmes (Das, Gichuru & Sigh, 2013; Mangope & Mukhopadhyay, 2015). Teaching learners with visual impairments requires specific and relevant skills and knowledge. Continuous professional development is

necessary for teachers who are teaching LVI since it enables them to be creative and innovative and demonstrate an understanding of LVI and their needs. If not, then LVI will continue underperforming.

Effective Teaching Methods

Teaching LVI is a demanding task requiring well trained teachers in the field. The teachers of LVI may have to modify their teaching methods by using multi-sensory modes of delivery. However, Gronlund, Lim and Larson (2010) found that teaching methods used in inclusive classrooms were not adequately enabling LVI to learn better. The teachers for LVI had to be aware of learners' needs and to use appropriate teaching methods and correct teaching strategies. In relation to the earlier studies, the present study identified group discussions, pair work, individual work and peer tutoring as effective teaching methods that teachers for LVI may use in their classrooms. These teaching methods will be discussed in the next sub-sections.

Group Discussion

The study found that teachers with visual impairments and sighted teachers need to take into account the needs, and acknowledge the presence of LVI in their classrooms. From the lesson observations, it was found that the group discussion acts as a social and academic interactive platform which encourages LVI and sighted learners (SL) to participate fully in classroom activities. Supporting this finding, Johnsen (2001) and Mwakyeja (2013) report that in order for learning to take place, an interactive activity between the teacher and learner is needed. To do this, the teacher should create and enhance an adaptive teaching and learning environment. In the researcher's view, it is important for teachers to prepare group work activities that include sighted as well as LVI so that both groups acquire opportunities to interact and learn from each other. This is in line with Gawe et al., (2011); Johnson and Johnson (1992); Mwakyeja (2013) and Van

Wyk (2007) who report that group discussions, as a form of cooperative work, has proved to be of value in promoting academic achievement, positive attitudes towards the subject and social interactions.

It is important to point out that teachers with visual impairments at the special school applied the group discussion properly and effectively. However, lesson observations showed that the use of a group discussion was not effectively implemented in the inclusive school due to the overcrowded classrooms. In support of the group discussion method, Mitchell (2014) posits that the group discussion is an effective method when teaching big classes, in particular, in developing countries. In addition, she points out that, classes are manageable when the teachers group the sighted learners together with the LVI. In this regard, therefore, teachers of LVI need support in managing group discussions.

In practice, the group discussion is seen as an effective teaching method although most of the teachers complained that they did not have adequate time to utilise group discussions in their lesson delivery. This was clearly demonstrated during the lesson observations which showed that 40 minutes was not adequate for the teacher with a visual impairment and LVI to complete the activity planned for the day. They had to leave the work uncompleted and continued the next day. This may explain why, in most cases, the teachers did not use group work and opted to use methods that were not participatory, such as, presentations (Mwakyeja, 2013). Further, Penda et al (2015) reported that most teachers of LVI have difficulty in preparing group activities for their learners. Nevertheless, this study has shown that the success of a group discussion depends on the creativity of the teacher in its application as a teaching strategy.

Pair Work

Although pair work was found to be an effective method when teaching LVI, during the study only one teacher applied it. During the observations conducted for this study, the

special and inclusive teacher who applied the method needed to explain learning activity procedures before dividing the learners into pairs. In other words, the teacher needed to explain and demonstrate the way he or she wanted the activity to be done. Jenkins et al (2003) confirm that the provision of clear instructions encourages the LVI to participate in classroom activities while increasing their self-esteem leading to better teaching and learning as advocated by Vygotsky (1978)

The literature reviewed in this study noted that the method provides a chance to each learner to participate in class activity in comparison with group work whereby a learner may not have the opportunity to participate. In addition, an experienced teacher should know their learners before deciding who should work with whom. By analysing the LVI, the teacher would apply the necessary patience to allow the learners' time to comprehend, discuss and complete the activities (Penda et al., 2015). This would also allow sufficient time on the part of the learners to interact with their partners. It can be claimed that pair work can only be effective when the teacher promotes good practice through monitoring and moving around the class to guide the sighted learners and the LVI in completing their activities.

Individual Work

While it was important to have appropriate assessment and records of individual LVI, the study revealed that some teachers failed to gather and record the progress of the LVI. Lack of records reduces the chance of having a clear picture about the level of the learners' achievements and where they need help. This finding is supported by Johnsen (2001) and Smidt (2009) who report that in many schools information on the LVI was neither recorded nor gathered. The study also found that in the inclusive school, individual LVI were given printed work which made it difficult for them to the complete exercises.

This practice resulted in LVI not completing tasks and, therefore, not obtaining individual marks and the teachers were not able to record the progress of the student.

Participants of the study revealed that teaching an individual with a visual impairment requires thorough planning. In addition, the teacher involved has to be patient when working and interacting with LVI in class and at any time. For individual work methods to be effective the teacher should give clear instructions about the task to be completed.

Use of Peer Tutoring

The study established that the use of peer tutoring built a positive bond between LVI and sighted learners. In other words, peer tutoring provides learners with more opportunities for engagement, sharing, interacting and making use of each other's ideas. In addition, peer tutoring was identified as an effective teaching method and at the same time as a teaching strategy. It allows teachers to prepare and train their learners to be responsible and accountable for their learning and living. There are many studies supporting the use of peer tutoring among learners with disabilities (Thousand & Villa, 1990), learners with learning disabilities (Saenz, Fuchs, & Fuchs, 2005; Wexler, Reed, Pyle, Mitchell & Barton, 2015) and learners with hearing impairments (Herring-Harrison, Gardner & Lovelace, 2007; Tobias, 2006).

On the other hand, there are scant studies on using peer tutoring with LVI in particular. For example, Mwakyeja (2013) and Semafafali (2003) report that the advantages of peer tutoring includes enhanced class interaction and enabling LVI to gain a higher level of learning by exposing them to different situations so that they can gain respect of their classmates and appreciate the differences. Extending the advantage, this strategy helps both teachers and peers to value LVI as important people in the school capable of contributing to the lesson. The researcher supports the idea that utilising peer

tutoring helps the learners to demonstrate quality leadership by leading their peers in class activities.

Ineffective Teaching Methods for LVI

There are various teaching methods, but the way the teachers apply them in the classroom practices may render them ineffective. Such a method includes the lecture method which consists of presentations and whole class discussions.

Lecture Method

The study found that the lecture method which includes presentations was the dominant method. According to a lesson observation, this method made learning difficult for LVI as it resulted in teachers becoming active role players whereas learners became passive listeners of explanations. This echoes the statements made by Katsiyannis and Maag (2001) who explained that using the lecture method disadvantaged the LVI because only the teacher disseminates the information while learners in most cases have no opportunity to participate. Compared to other studies, the lecture method may be effective depending on how the teacher applies the lesson content and its activities. It was discovered that the lecture method could be effective in teaching LVI. For example, if a teacher with a visual impairment prepared the lesson using multi-sensory strategies including the identification of learner needs and the use of appropriate strategies.

As far as the use of the lecture method when teaching LVI together with sighted learners is concerned, Mwakyeja's (2013) case study confirmed that teachers at an inclusive school used the lecture method often because they had large classes in which the application of participatory methods were difficult to apply. Despite the higher number of learners in inclusive school classes, it was found that the lecture method allowed them to complete the syllabus during the teaching process. It is equally important to consider the learning process. According to Penda et al (2015), failure by LVI to participate in the

classroom may result in their poor academic performance. To enhance LVI learning, they need to use their sense of touch and manipulate real objects as suggested by David and Kuyini (2014). The success of using the lecture method appears to depend on how the teacher presents it (using the appropriate tool for the right lesson) and the learner's engagement in the lesson.

Effective Teaching Strategies for LVI

The study established that teaching strategies for LVI include ways, approaches and tactics that teachers use to make the learners understand by using tactile media, models and tangible representations. Of importance is the fact that a teaching strategy cannot be effective in the absence of a teaching method; one cannot exist without the other because a teaching strategy relies on the teaching method and vice-versa. For example, sighted learners are provided with pictures while LVI are provided with tactile media and model pictures which allow them to actively engage and interact with their peers and teachers (Vygotsky, 1978). Based on the study, the following teaching strategies were identified as effective for use with LVI:

- use of storytelling,
- use of voice intonation and facial expression,
- addressing LVI by name,
- use of Braille resources
    - Braille text materials
    - models and tactile materials
    - audio recordings and ICTs
- use of open communication with LVI
- creating a mobility-friendly environment
- use of outreach and experiences

Use of Storytelling

Storytelling provides an opportunity for learners to relate to one another through the sharing of human experiences. This strategy not only teaches learners how to be more expressive, but also provides a way for learners to understand each other's emotions. Craig, Hull, Haggart and Crowder (2001) affirm that storytelling is a powerful classroom teaching strategy. Mokhtar, Halim and Kamarulzaman, (2011) indicate that storytelling is not limited to entertainment but can also be used as an effective teaching tool in a language classroom. It is claimed that by sharing their stories, the LVI are connected to their own past and where they intend to go. While there could be limitations of time, the inclusion of storytelling brings in variety. Hamilton and Weiss (2005) emphasises the need for teachers to make storytelling as part of their daily lessons. The author discovered that storytelling made the lesson more powerful, interesting and successful. It should be emphasised that this strategy encourages interaction, acceptance and mutual understanding among the learners and teachers.

Use of Intonation and Facial Expression

Special and inclusive school teachers should understand that LVI learn and read through the tone of the voice and by facial expression. Verbal communication is one of the most important ways of conveying information to LVI (Mwakyeja, 2013; Spungin, 2002). The modulation of the voice attracts attention and also indicates the mood of the speaker in context. Best (1992) and Mwakyeja (2013) emphasise the importance of the voice and suggest that the teachers' voice should be loud and pleasant. The researcher felt that a loud and pleasant voice can produce a relaxed atmosphere conducive to listening. The researcher, therefore, suggests that teachers should learn to express themselves accordingly to avoid confusing their learners. However, the teachers need to speak with an

audible and clear voice to enable the LVI to follow what is being said and participate in the classroom activities.

Use of LVI Names

It was found that teachers in the special school were aware of the impact of calling the learners by their names. Ferrel (2002), Mwakyeja (2013) and Niwagaba (2014) report that it is important for teachers to call the name of the learner first before addressing a specific issue, asking questions and giving instructions, so that the LVI knows specifically to whom the teacher is talking. In contrast, observations in the inclusive school showed that the teachers seldom used or addressed LVI by their names. The minimal use of learners' names is not good teaching and learning practice. Therefore, the researcher recommends a change of practice. Teachers should know and call learners by name to show that they value, recognise, and respect the learner.

Use of Braille Resources

Use of Braille Text Materials

Braille is a means of communication for individuals with visual impairments, specifically in accessing information through reading and writing. While the use of Braille materials was supported by teachers, the study found that some teachers in the special school were unable to use Braille materials and none of the teachers at the inclusive school was able to use Braille. Instead they depended on the teacher assistant. This finding was supported by Fraser and Maguvhe (2008) and Mukhopadhyay & Musengi (2012) who report that most educators involved in teaching LVI have inadequate skills resulting in low motivation to teach at special and inclusive schools. This practice is congruent with Fraser & Maguvhe, (2008) who conclude that teachers lack ideas and planning skills to adapt teaching resources in order to accommodate LVI. The correct application of Braille materials cannot be over emphasised. Erwin et al. (2001), Rooks & Maker (2009) and

Wagner (1995) value and acknowledge the adaptation of teaching and learning materials to enhance communication in class. In fact, for the effective teaching and learning and better performance of LVI it is critical that their teachers should be equipped with skills to read and write Braille contractions. This would enable them to braille and de-braille learners' activities and also provide the necessary support.

Utilisation of Models and Tactile Materials

The use of concrete materials (models and tactile media refines the lesson and contributes to the effectiveness of the teaching and learning processes for both the teacher and LVI respectively. The application of models and tactile media helps the teacher to explain easily and concisely what is being taught. It further enhances the internalisation of what is being taught through touch and visualisation. In support of this finding, Cox and Dykes (2001) emphasise that kinaesthetic materials are effective when presenting information to LVI since they come into contact with objects which they use daily.

Cox and Dykes (2001) suggested that teachers of LVI should plan and adapt the materials beforehand. The early preparation of materials assists the teacher to transpose objects, maps, graphs, and charts into formats (tactile forms or models) that add a greater educational value for LVIs' sense of touch. Wagner (1995), Zebehazy and Wilton (2014) also propound the value and the importance of using tactile materials in the teaching of LVI. Nonetheless, the identified lack and use of models and tactile materials remains a challenge leading to adverse implications for teacher practice and LVI learning. For teachers, the skills required to use these materials may be forgotten whereas for LVI, the non-use of the materials may affect their scholastic performance.

Use of Audio Recording and ICTs

The study recognised the importance of using audio materials. The attractive features of audio recordings and other ICTs were their efficiency and effectiveness in the

teaching and learning process. Mulloy et al (2014) emphasised the use of audio-optical and assistive technologies citing its potential to improve LVI outcomes in their scholastic performance. According to Hauss (2004), Mulloy et al. (2014), and Mitchell (2014) assistive technologies and devices provide LVI access to many school- related activities and enhances their existing sight and abilities and drawing on other senses. Therefore, the use of audio recordings and other ICTs allows LVIs to access information easily at their own pace and in their own time, reducing the inequalities that prevail among learners. Furthermore, Hauss (2004) posited that assistive technologies lessened the dependence of LVI in accessing and retrieving their educational information. Similar to the lack of, or use of models and tactile media, adapting to this strategy remained a challenge for teachers of LVI in both special and inclusive schools. Because the strategy of using audio recordings was identified during the study as an effective strategy for teaching LVI, the researcher feels that the use of this strategy should be strengthened. While most lesson activities for LVI would be successful, the use of these electronic aids would guarantee effective teaching and positive outcome of their LVI.

Open Communication with LVI

Open communication involves the interaction between teachers with VI, sighted teachers and LVI. During the study it was found that most teachers used this strategy with the purpose of providing assistance and strengthening their teacher-to-learner relationship. Open communication further motivated the learners to participate in the interaction. Lumadi and Maguvhe (2012) affirmed that effective communication creates quality teaching and learning which leads to the solution to some problems faced by LVI. Whitburn (2014) in his grounded theory study reveals that open communication enhances collaboration and increases the understanding of concepts. Apart from the advantages already discussed, open communication provides extra time for revisiting missed

information and unclear concepts. In addition, open discussions within the teaching environment make the LVI feel at ease. This notion hinges on an important aspect of social constructivism theory which claims that a child's development is guided by social interaction and communication. Therefore, encouraging open communication creates a sense of social acceptance and connection (Rooks, 2009; Rooks & Maker, 2009).

Create Mobility-Friendly Environment

The study uncovered that the movement of teachers with visual impairments as well as LVI depends on how the environment is arranged; furniture and objects should be organised to allow the free movement of teachers and learners. The importance of orientation and mobility skills was emphasised by Habulezi (2012). Thus, schools should be reminded to keep the environment, orderly and notify LVI should any change occur in the environment. In addition, Sahin and Yorek (2009) concluded that any adaptations made in an environment, must account for safety and proactively prevent any possible dangerous situations from arising. The arrangement of classrooms in the special school showed that it allowed free movement of learners and teachers with visual impairments and gave them a sense of independence in their own environment. It is important that when a LVI moves from one point to another within the classroom, he or she needs to be aware where the floor extension sockets and large pin plugs and other furniture and equipment are located. Therefore, teachers working with LVI should enhance the classroom environment to enable those learners and teachers with VI to manoeuvre with ease.

Use of Outreach and Experience

Using hands-on and outreach experiences as strategies improves the teaching and learning of LVI and contributes to its effectiveness. This finding is supported by Downing and Chen (2003) who report that physical guidance and demonstration are useful

discovery techniques used to help LVI with content and experience. This strategy reinforces understanding by including the physical objects or environment which they may not have been exposed to in the lesson.

One of the reasons that most teachers do not apply this strategy could be attributed to a disconnection between skills and knowledge to create, adapt and or modify the strategies accordingly. Consequently, the teachers opt to apply the easiest and most obvious teaching methods many times without a strategy.

Benefits of using effective teaching strategies for LVI

The study further revealed that the use of adapted and, or assistive technologies like tactile media, Braille materials and audio-visual materials enhanced the access to information and information provides better understanding of specific content. Moswela (2016) affirms the benefit of using assistive technology. It augments LVIs' learning thereby boosting their performance to succeed. Furthermore, other studies found that instructional styles influence what LVI learn (Downing and Chen, 2003; Habulezi, 2012). Other than learning effective teaching strategies the teachers of LVI also facilitate free movement and improve learners' ability to live independently (Bronfenbrenner, 1979; Vygotsky, 1978). The importance of using appropriate teaching strategies when teaching LVI cannot be overemphasised. For instance, the use of storytelling and outreach improves the confidence of LVI especially as they feel part of the community.

Benefits of using effective teaching strategies for Teachers

The use of effective teaching strategies assists the teachers to understand LVI and their needs. When teachers are competent to use effective teaching strategies, for example, Brailling, de-brailing and using Braille contractions in teaching, they prepare the lessons and meet LVI learning needs by providing the necessary support in their classrooms

(Erwin et al, 2001; Rule et al., 2011 & Twohig, 2000). Again, using effective ICT teaching strategies such as, computer with Jaws programmes and Duxbury, enables the teacher to be active, improves confidence and brings satisfaction in their work. In addition, it creates a passion to teach LVI which instils self-motivation and encourages self-evaluation. The use of effective teaching strategies encourages the teacher to apply a technique like scaffolding which accelerates the teaching of LVI and enables their learning.

Challenges in the Use of Teaching Strategies

The study identified frustrations brought about by the teachers' unpreparedness to use specific strategies when teaching LVI. Specifically, all teachers at the inclusive school and some teachers at the special school faced challenges when they wished to braille and de-braille their LVI's activities. Several studies supported this finding (Habulezi, 2012; Josua, 2013; Mwakyeja, 2013; Mukhopadhyay, 2011). These studies found that teachers lacked knowledge and skills in teaching LVI which hindered their progress in delivering proper and effective teaching.

This challenge is compounded by the presence of specialist teachers who are normally not conversant with the teaching of LVI. A study conducted by Habulezi (2012), supports this finding. In his study Habulezi discovered that most specialist teachers do not actively support LVI academically due to their lack of Braille skills. This resulted in teachers doubting their teaching potential which in turn led them to continue ignoring and neglecting LVI. On a different note, the study found that it was difficult for inclusive school teachers to teach LVI together with sighted learners in overcrowded classrooms. This challenge was extensive and required creativity on the part of the teachers. To curb the challenge of overcrowded classrooms, Mitchell (2008), suggested that teachers use teaching methods like group discussions when teaching large classes.

The study identified a shortage of Braille writers (Braillers) and Braille papers (Braillons) in the schools. This challenge prevented both the teachers and LVI to complete their planned lessons and learning activities on time. As mentioned earlier, there is a lack of Braillers and Braillons, so how can LVI perform well if not provided with the necessary basic equipment? The Government of Namibia (2014) is aware of this challenge and recommends that Braillers, Braillons and other adaptations should be provided to cater for effective and individual teaching and learning needs. Regrettably, the special and inclusive schools experienced problems in trying to acquire Brailled materials (Brailled textbooks, examination question papers and practical sheets for classwork activities) on time or not at all.

Another pertinent issue was the availability of the two faceted times required. Teaching LVI required time for the lesson (40 minutes period) and extra time to ensure that learners have completed their tasks. The allocated time for the lesson was not adequate to complete the lesson activities as well as provide support for the LVI since they required extra time compared to their sighted peers. This result echoed the findings by Mwakyeja (2013) and Penda et al (2015) who suggested that LVI and their teachers be given extra time. According to the Government of Namibia's (2014) supplementary curriculum framework for inclusive and special education, timetabling should be done in such a way as to provide opportunities for longer teaching and learning sequences, cross-curricular teaching, and project work. Double lessons should become much more usual than at present to enable LVI to complete their activities. However, due to a common time-table and subjects that are offered in the special and inclusive school such a stipulation has not been implemented yet (Mangope & Mukhopadhyay, 2015; Tobias & Mukhopadhyay, 2017).

The study established that training workshops were poorly organised. The participants were not accustomed to the workshop materials creating resentment and fear. Consequently, most participants either absconded or stayed away from attending these workshops as they did not receive relevant support from the workshop facilitators. In addition, there was a general lack of a platform to manage the interaction, collaboration and sharing of knowledge among the teachers from either the special or inclusive schools. In support of these finding, literature recommends collaboration and the use of in-house training and mentorship (David & Kuyini, 2014; Mangope & Mukhopadhyay, 2015; New Brunswick Association for Community Living, 2007).

The study identified orientation and mobility skills as another challenge that teachers face in their schools. Specifically, the LVI did not have adequate mobility skills and as a result they found it difficult to navigate spaces and locations independently in the teaching and learning environment. The lack of mobility affects the motor-coordination of LVI in the use of Braillers. A research study conducted by Chan, Wu, Liang and Yan (2015) found that training significantly influenced accuracy, reaction time and retention of finger sequences of both young and adult learners with visual impairments. However, due to the multi-complexity of visual impairments there is a need to supply appropriate information through compensatory channels as this may contribute to mapping of spaces and thereby improving LVI performance (Habulezi, 2012; Lahav & Mioduser, 2000).

School Support Systems

This study showed that the existing school support systems lacked the necessary resources. In order for the systems to function to their full potential and provide the much needed assistance to the sighted teachers, teachers with visual impairments and LVI, the systems needs to be well coordinated. The importance of support by means of the provision of resources and sufficient training for school principals and teachers was

expressed by Evans et al (1992), Landsberg and Gericke (2002). Of critical importance was the observation made by Solomon et al., (1992) and Twohig (2000) that the school principals play a major role in the provision of all the necessary equipment, sufficient instructional materials and teacher assistants to support regular and special teachers.

A supplementary curriculum for special and inclusive education for teachers to use was implemented by the Government of Namibia (Ministry of Education, 2014). The curriculum explains the support that teacher assistants are expected to render. For instance, at Gabriel Taapopi Inclusive School, the teacher assistant was largely responsible for coordinating the resource room and assisting both teachers and LVI in the creation of Braille materials and de-brailling of materials. However, this study revealed that at the inclusive school, teachers of LVI and teacher assistants did not have adequate support. On the other hand, the teacher assistants at the special school were of the view that teachers with visual impairments were fully supported. But overall, school management played a pivotal role in supporting the teachers and LVI.

Ways of Strengthening the Teaching Strategies for LVI

The study identified several ways to strengthen the strategies for teaching LVI in special and inclusive schools. Firstly, the research suggests strongly the need to increase budgetary allocations and remittance of funds to enable the purchase of all the necessary teaching and learning equipment for LVI. Secondly, the study proposes regular in-service training programmes for teachers teaching LVI and all stakeholders in their areas of need (the operation of embossers, Braillers and ICTs). Thirdly, it suggests that the supplementary curriculum for special and inclusive schools should be deployed to all schools and centres to guide the teachers. However, there should be proper orientation of the teachers on how to use the curriculum correctly. Fourthly, the study proposes that at the Teacher Resource Centre, the Government should appoint an experienced and

knowledgeable staff member with visual impairment- related abilities. The appointed staff could anchor and support advisory teachers who work closely with teachers with visual impairments and schools catering for LVI. It is believed that by doing so the training and examination processes of the teachers and LVI may in turn be accelerated.

Contribution to study

This was a comprehensive phenomenological study that has been conducted on the effects of teachers' experiences and knowledge in teaching strategies for use with LVI in Namibia. Previously, there has been a scarcity of literature in this field, particularly in Namibia. This study is, therefore, an important contribution to the knowledge that could be utilised in teacher preparation as well as in special education service delivery in Namibia. Based on the findings of this study, the researcher proposes the Improved Service Delivery Model. Currently, the University of Namibia provides both pre- and post- training that includes general teaching methods. However, this preparation excludes the practical part of Braille skills, specific strategies for teaching LVI and the use of LVI equipment. The model, therefore, recommends the identified skills to be included in pre- and post-training so as to produce competent teachers who will provide quality teaching which will lead to the improved scholastic performance of LVI. Furthermore, the researcher used multiple methods of data collection to gain a holistic picture and was aware that it was important to include teachers with visual impairments.

Based on the study findings, the researcher's contribution to the body of knowledge of the subject field is the Improved Service Delivery Model shown in figure 13. Currently, the University of Namibia provides both pre- and post-training courses that include general teaching methods. However, this preparation excludes the practical part of Braille skills, specific strategies for teaching LVI and the use of LVI equipment. The model, therefore, recommends the identified skills to be included in pre- and post-training, in

order to produce competent teachers who will provide quality teaching that will lead to improved scholastic performance among LVI.

Lessons Learned

The results of the study show that inadequate preparation in teaching and using appropriate strategies for teaching LVI resulted in some teachers not providing instructions to LVI during and after lessons. This was identified when the teacher failed to provide instructions on the relevant page numbers of brailled books. In addition, some teachers were using chalkboard to draw diagrams. However, those diagrams did not appear in the Braille books. Action, a teacher who has LVI in the class should always speak when entering the class and should clearly state the relevant page number and the topic for the day so that LVI are able to follow the lesson.

Furthermore, the results of the study highlighted the importance of an open communication strategy, but which is not practiced in some of the schools in Namibia. Communication between teachers and LVI is important in order to discuss and elaborate on both academic and non-academic issues as LVI are largely dependent on teachers for information. In addition, unstructured service delivery is disadvantageous to both teachers and LVI. For example, in the inclusive school, teachers lacked practical skills in facilitating and including LVI in group work activities. This became evident when LVI were provided with ordinary blank papers to write on instead of Braillons, which they could have used at a convenient time. Normally, tactile orientation on the embossed diagrams should have been done prior to the lesson or during group work activities to fully include LVI.

Due to inadequate training, the teachers assumed that they catered for LVI in lesson presentations. Hence the study suggests the Improved Service Delivery Model that calls

for training in Braille (reading and writing), specific teaching strategies and how to use and operate LVI equipment.

Implications for theory

Effective teaching is mostly influenced by a number of aspects of how the teaching process should be conducted and delivered. Vygotsky's (1978) social constructivist theory and Bronfenbrenner's (1979) bio-ecological system model were considered capable of lending effective strategies for teaching LVI. The bio-ecological model encourages collaboration and interaction among the stakeholders that was identified in this study and suggests an Improved Service Delivery Model for this study. It further encourages the school support system to adopt the idea of interaction in a mature, collegial and mobility-friendly environment. This led the teachers to develop and construct effective teaching methods and strategies adopting Vygotsky's teaching and learning scaffolding techniques by offering support to the LVI inside and outside the classroom (Donald et al, 2012).

Conclusion and Implication

The study explored the experiences of teachers of LVI in special and inclusive schools. As far as teaching methods are concerned, the teachers identified group work, pair work, individual work and peer tutoring as common and effective in their practice. The study further established that teaching methods worked hand-in-hand with teaching strategies for effective and efficient delivery of lessons. Strategies included the use of storytelling; voice intonation and facial expressions; addressing LVI by name, Braille resources, Braille text materials, models and tactile materials, audio recording and ICT; open communication and; the provision of a mobility-friendly environment coupled with outreach and experiential learning. The former featured heavily in their practice. Regrettably, despite these effective methods and strategies, the teachers lacked skills and knowledge in their application. Notably, a few teachers were formally trained to teach

LVI, while a majority of the teachers involved were not qualified or were under-qualified to teach LVI. Their lack of skills and knowledge in teaching LVI resulted in poor delivery of lessons consequently affecting the performance of the LVI. Besides teacher incompetency, the supplementary curriculum to guide delivery and appropriate induction for its use was hardly consulted.

The study again recognised the important role of the school support system in assisting both teachers and LVI during teaching and learning. The school support systems in the inclusive and special schools were composed of the school management, teacher assistants and collaborative teachers. However, the school support system was weak and required strengthening by improving coordination efforts among the key stakeholders, for instance. The weak support had adverse effects on the learning of LVI as these learners and teachers with visual impairments lacked timely and relevant support in the environment. The study also suggested that the teachers with visual impairments are important sources of information when the teaching and learning of LVI are researched. Finally, the study established that teaching LVI is a demanding undertaking that requires competent teachers and assistants to manage teaching, learning and assessment of the LVI. These conclusions demand regular and specific training programmes, appointment of relevant personnel at the regional office, collaboration and supply of LVI teaching and learning resources.

Recommendations

The purpose of the study was to explore the teachers' experiences with strategies for teaching and learning of LVI at special and inclusive schools. The results of the study indicates certain practices and challenges in the application of teaching methods and strategies, namely, lack of resources and inadequate support. These challenges have

implications for the delivery of lessons and the scholastic performance of LVI. Therefore, the researcher recommends the following:

Policy and Decision-Makers

- Strengthen the school support systems by providing them with relevant skills and knowledge in order to support the whole system.
- The Government should increase the budget for special and inclusive schools for the purchase of machinery, materials for LVI and in-house training.
- Enhance stakeholder involvement in decision-making at government, regional, circuit and school level (include teachers with visual impairments).
- Deploy the supplementary curriculum to all schools and orientate the users.

Practice

- The University of Namibia should organise training or trainer's workshops for staff in operating machines and equipment, at least two in each campus.
- The University of Namibia should organise special training on the development of quality teaching and learning resources for the visually impaired
- Key stakeholders should promote awareness among the teaching profession, schools and the educational authorities about the teaching and learning needs of teachers and learners with visual impairments.
- Government should urgently appoint a competent staff at the Oshana Regional Office to assist advisory teachers at OTRC.

A summary of an approach for training is displayed in Figure 13.

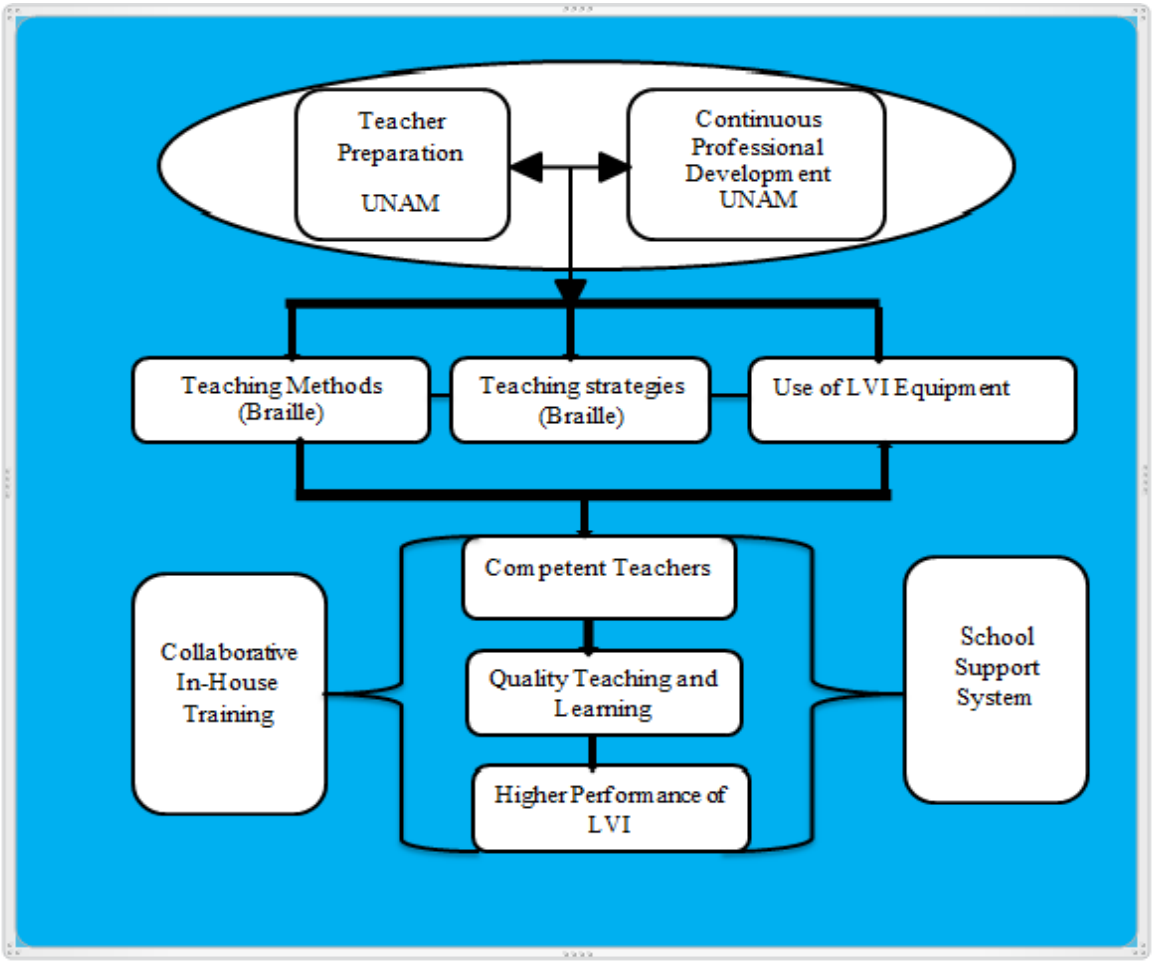

Figure 13: Improving the Service Delivery Model

Future Research

The current study focused on the experiences of teachers in the classroom practice and did not emphasise teacher preparation and continuous professional development. This was a qualitative research, however to gain more insights about how to teach and manage LVI; there need for further quantitative and mixed methods research studies. Thus, future researchers may evaluate the effectiveness of teacher preparation for teaching and learning of learners with visual impairments.

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APPENDICES

Appendix A

Semi- Structured One-On-One Interview Guide for Special & Inclusive School Teachers

My name is Elina Tobias a student at the University of Botswana pursuing a PhD in Special Education. You are kindly asked to participate and contribute your experiences and ideas to help make improvements in the area of teaching learners with visual impairment. Be assured that the information you provide will be handled with confidentiality that will protect your personal identity. The information you provide will be used for educational purposes and shall not be divulged to anyone for purposes other than what it is intended for. Kindly allow me to video or audio record the interview so that I can collect your views accurately.

This interview will take about fifteen to thirty minutes where the researcher reads the questions and you answer or can question, ask for clarification or decline to answer if you wish. The language of interview is English but let me know if you are not free to use it.

Thank you very much for agreeing to participate in this study.

School:

Region:

Anonymous Name:

Gender:

Qualification:

Teaching experience: (0-5) .....(6-10) .....(11-15).....(25+).....

Experiences in teaching learners with visual impairments:

Subject:

Date: .....Starting Time: .....Ending Time: .....

1. For how long have you been a teacher?

2. When did you start teaching learners with visual impairments?
3. What preparation did you get?
4. Were you prepared to teach learners with visual impairments?
5. How did you become a teacher for learners with visual impairments?
6. Explain briefly your experiences with teaching learners with visual impairments;
7. Will you kindly tell me the teaching methods that you use in your class?
8. Among those teaching methods that you have just mentioned, which one works well for LVI?
9. Which teaching methods do not work well with LVI?
10. Describe the teaching strategies that you use when teaching LVI
11. What makes the mentioned teaching strategies work well for LVI?
12. Now, will you tell me the teaching strategies that you used and did not work well?
13. What are the benefits of using the aforementioned teaching strategies to LVI?
14. What are the benefits of using the aforementioned teaching strategies for the teachers for LVI?
15. Tell me, is there any school support system that is provided to you in order to enhance the teaching strategies during delivery of lessons for LVI?
16. As an experienced teacher for LVI, how do you identify the learning needs of LVI in the classroom?
17. How do teachers scaffold their LVI in the classrooms during teaching practice?
18. What are your biggest challenges for you as a teacher for LVI?
19. How would you describe your relationship with your colleagues who teach LVI?
20. What suggestions do you have in order to improve the teaching strategies for LVI?
21. Is there anything else that you may want to say?

This is the end of our discussion and I thank you so much!

Appendix B

Semi- Structured One-On-One Interview Guide for Special & Inclusive School Principals

My name is Elina Tobias a student at University of Botswana pursuing a PhD in Special Education. You are kindly asked to participate and contribute your experiences and ideas to help make improvements in the area of teaching learners with visual impairments. Be assured that the information you provide will be handled with confidentiality that will protect your personal identity. The information you provide will be used for educational purposes and shall not be divulged to anyone for purposes other than what it is intended for. Kindly allow me to video or audio record the interview so that I can collect your views accurately.

This interview will take fifteen to thirty minutes where the researcher reads the questions and you answer or can question, ask for clarification, or decline to answer if you wish. The language of interview is English but let me know if you are not free to use it.

Thank you so much for agreeing to participate in this study.

Anonymous Name of the School Principal:

School:

Region:

Gender:

Qualification:

Teaching experience:

Subjects:

Experiences in heading the school

Date: .....Starting Time: .....Ending Time: .....

1. How do you feel, as you are heading a school that accommodates learners with visual impairments?
2. At management level, were you prepared to deal with teachers teaching learners with visual impairments and learners with visual impairments as well?
3. Tell me, do you have skills and knowledge about the teaching methods that your teachers use?
4. Tell me, do you have skills and knowledge about the teaching strategies that your teachers use?
5. Who provides support to enable you to use teaching strategies for learners with visual impairments in your school?
6. What type of support are you provided with in order to enhance the teaching of learners with visual impairments?
7. What are your main concerns about teaching strategies for learners with visual impairments and their performance?
8. What do you do to ensure the success of learners with visual impairments in your school?
9. Tell me, does the school have policies that are in place for supporting the teaching strategies for learners with visual impairments?
10. How does the school support the process of teaching LVI?
11. From your point of view, who should be involved in the successful teaching of learners with visual impairments among all the education stakeholders?
12. Now, from your point of view, what are the appropriate ways to strengthen the teaching of learners with visual impairments in special and inclusive schools?
13. Why do you think that the ways identified above are the best ways to enhance the teaching strategies for learners with visual impairment?

This is the end of our discussion and I thank you very much!

Appendix C

Semi- Structured Focus Group Discussion Guide for Teachers

My name is Elina Tobias, a student at the University of Botswana pursuing a PhD in Special Needs Education. The purpose of the focus group discussion is to gather additional information on the experiences of being a special or inclusive teacher using teaching strategies for learners with visual impairments. For confidentiality reasons and anonymity, we will use pseudonyms. Before we start, let's go around the group and introduce yourself using your pseudonym name, the grade that you teach, and the time you have been teaching learners with visual impairments. When you are answering the questions and have additional information, please state your pseudonym, each in turn. Do not feel bad when you cannot remember your pseudonym, it will smoothen as the discussion goes on.

1. Being a special and or inclusive teacher for more than two years, you have been facing various challenges with the teaching strategies for LVI. Could we please discuss those challenges and see if we have any proposed solution.
2. Now tell me, how is the component of teaching methods and strategies for learners with visual impairments incorporated in CPDs?
3. Do you feel supported by your seniors in the capacity in which you are teaching LVI?
4. When you have any need(s), do you ever present them to your seniors?
5. How would you describe your relationship with your colleagues who also teach learners with visual impairments in other schools?
6. From your point of view, what are the appropriate ways to strengthen the teaching strategies for learners with visual impairments in special and inclusive schools?
7. Why do you think that the ways identified above are the best to enhance the teaching strategies for learners with visual impairments?

8. Is there anything else that you may want to say?

Appendix D

Semi- Structured one-on-one interview guide for Teacher Assistants

My name is Elina Tobias a PhD student at the University of Botswana. You are kindly asked to participate and contribute your experiences and ideas to help make improvement in this area of teaching learners with visual impairments. Be assured that the information you provide will be handled with confidentiality that will protect your personal identity. The information you provide will be used for educational purposes and shall not be divulged to anyone for purposes other than what it is intended for. Kindly allow me to video or audio record the interview, so that I can collect your views accurately.

This interview will take fifteen to thirty minutes where the researcher reads the questions and you answer or can question, ask for clarification, or decline to answer if you wish. The language of the interview is English but let me know if you are not free to use it.

Thank you so much for agreeing to participate in this study.

School:

Region:

Pseudonym Name:

Gender:

Qualification:

Teaching Experience:

Experiences as Teacher Assistance:

Date: .....Starting Time: .....Ending Time: .....

1. For how long have you been a teacher assistant?
2. When did you start teaching learners with visual impairments?
3. How did you become a teacher assistant in this field?

4. Were you trained to work with teachers who have visual impairments and with teachers of LVI?
5. What type of preparation did you get?
6. Briefly explain about your experiences in working as a teacher assistant with both teachers who have visual impairments and learners with visual impairments;
7. Discuss your role in shaping the teaching strategies for LVI at your school. If you do not have a role, who are the decision-makers?
8. How and when do you collaborate with teachers who teach LVI?
9. From your own perspective, what are the benefits of using specific teaching strategies when teaching learners with visual impairments?
10. Now, tell me, is there a school support system that provides support to teachers, in order to enhance the teaching of learners with visual impairments as well?
    - List them
    - Explain how each contributes
11. What are your biggest challenges as a teacher assistant in terms of assisting the;
    - School
    - Teachers
    - Learners with visual impairments?
12. How would you describe your relationship with all the stakeholders?
13. What suggestions do you have for improving the teaching and the teaching strategies for use with learners with visual impairments?
14. Is there anything else that you may want to say?

Thank you very much for participating in this discussion

Appendix E

Classroom observation guide

Name of the School:

Anonymous Name of the teacher:

Grade observed:

Subject observed:

Date: ..... Starting time: .....Ending time: .....

Classroom observation: The practice in interactive classroom

Statement of practice (Do/Does)	**Comment/ Remarks**
Physical setting of the room allows for learners with visual impairment to move freely	
Classroom has adequate light for learners with visual impairments to scribe and take notes with their equipment	
Hand-out prepared and available in large font and in Braille	
Extends time for labs, tests and assignments	
Use of assistive technology	
Familiar with the supportive technology in the school available to assist LVI	
Familiar with the characteristics of LVI and the type of accommodation required	
Taken LVI into consideration when planning teaching and learning activities	
Planned a variety of presentation modes and assignments, textual, verbal, and visual, so as to accommodate the visual, audio, kinaesthetic,	

and tactile learners.	
LVI have equal opportunity to practice the skills taught in the class	
Provide LVI with equal opportunity to demonstrate what they have learned in the class.	
LVI have the right to inform the teacher concerning their needs	
Systematically adapts instructional methods	
Using group discussion/ co-operative learning	
Extra time (is given) allowed	
Addressing students by name	
Using sound projections	
The use of teaching materials, for example, visual and Audio devices and tactile materials	
Encouraging the use of learning devices	
Adapting written texts	
Differentiate instructions to address the content in multiple ways	
Explains the new concepts in the lesson	
Summarises the main points of the text	
Uses pictures and label modified	
Creates a cooperative atmosphere in the classroom	
Engages LVI in peer tutoring	
Engages LVI to participate in all types of classroom activities.	

Appendix F

Observation Guide for School Environment

Name of the School: .....

Date: ..... Starting time: .....Ending time: .....

Visual Description of the school

Statement of practice	**Comment/ Remarks**
Does the school have special and inclusive education policies?	
Is the school mobility friendly? (Safe and sound for LVI)	
Are there evidences of collaborative meetings with regard to the teaching of learners with visual impairments?	
Are funds in assisting the teaching of learners with visual impairment available?	
Are related professionals to help teachers of learners with visual impairments available?	
Is evidence of in-service training workshops organised by teachers to support the teaching of LVI available?	
Is the supplementary curriculum framework for inclusive and special education available? Or applied?	
Is the sector policy on inclusive and special education available or applied?	
Is evidence on the training or workshop on how to use the adapted curriculum for special and inclusive education available?	
Is evidence of school intervention on the teaching strategies for use with LVI available?	

Appendix G

Document analysis guide

Statement of availability	**Comments/ Remarks**
Supplementary Curriculum	
Teaching methods	
Teaching strategies	
System support	
Teacher preparation (CPD)	

Appendix H

Informed Consent Form

PROJECT TITLE: Teachers' experiences in teaching strategies for learners with visual impairments at Eluwa Special School and Gabriel Taapopi Inclusive Secondary School in Oshana Region of Namibia: Implications for Improving Classroom Practices.

Principal Investigator: Elina Ileimo Tobias [*Ph.D.*]

Phone number(s): +26776813671/ + 264 812184433

What you should know about this research study:

- We give you this informed consent document so that you may read about the purpose, risks, and benefits of this research study.
- You have the right to refuse to take part, or agree to take part now and change your mind later.
- Please review this consent form carefully. Ask any questions before you make a decision.
- Your participation is voluntary.

Purpose

You are being asked to participate in a research study on exploring the teaching strategies for learners with visual impairments in the Directorate of Education: Oshana Region of Namibia: Implication for classroom practice. The purpose of the study is to contribute to the knowledge of effective teaching strategies employed by teachers who teach learners with visual impairments in special and inclusive classrooms. You were selected as a possible participant in this study because you have experience in teaching strategies for learners with visual impairments accommodated in special and inclusive

schools. Before you sign this form, please ask any questions on any aspect of this study that is unclear to you. You may take as much time as necessary to think it over.

Procedures and duration

If you agree to participate in this study as a special and inclusive education teacher of learners with visual impairments, you will be invited to participate in a one-on-one interview. The interviews will take place in your classroom, or another agreed upon location. It is expected that the interviews will last not more than one hour. All interviews will be audio recorded in order to transcribe the interviews accurately. There are no minimum or maximum requirements. Secondly, you will be invited to be a part of a focus group discussion. The focus group will take place in one of the classrooms, or another agreed upon location. It is expected to last for an hour. The focus group will be audio-recorded for accuracy in transcription. Lastly, teachers who will participate in one-on-one interviews will be expected to allow the researcher to observe their lessons.

Risks and Discomforts

The study has minimal risks that you may encounter in everyday life, for instance, by spending time answering the interview questions. The great benefit will be that you are adding to the body of literature that exists on teaching strategies for learners with visual impairments accommodated in special and inclusive schools which could prompt change in best practices in the field of special education services.

Benefits and/or Compensation

Participants will not receive any payment or any types of compensation for participating in this study.

Confidentiality

The data from this investigation will be for scholarly purposes only and none of the data will be used for commercial use.

Voluntary Participation

Participation in this study is voluntary. If you decide not to participate in this study, your decision will not affect your future relations with the Ministry of Education Arts and Culture in Namibia and the University of Botswana, its personnel, and associated institutions**.** If you decide to participate, you are free to withdraw your consent and to discontinue participation at any time without penalty. Any refusal to observe and meet appointments agreed upon with the central investigator will be considered as implicit withdrawal and, therefore, will terminate the subject's participation in the investigation without his or her prior request.

Authorisation

You are making a decision whether or not to participate in this study. Your signature indicates that you have read and understood the information provided above, have had all your questions answered, and have decided to participate.

_____ _____

Name of Research Participant (please print) Date

_____ _____

Signature of Staff Obtaining Consent Date

(Optional)

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

If you have any questions concerning this study or consent form beyond those answered by the investigator, including questions about the research, your rights as a research participant; or if you feel that you have been treated unfairly and would like to talk to someone other than a member of the research team, please feel free to contact the

Office of Research and Development, University of Botswana, Phone: MS Dimpho Njadingwe on 355-2900, E-mail: research@mopipi.ub.bw, Telefax: [0267] 395-7573.

Appendix I

Checklist: application package for University of Botswana ethical clearance and government research permit

The following which make up the complete application package should be submitted to the IRB Office for ethical clearance and then forwarded to the relevant government Ministry for research permit application**.**

(☑Tick as applicable)

	Yes	No	N/A	Comment
1 Copy of duly completed and signed application form				
1 Copy of the study proposal.				
1 Copy of adult consent documents in English, Setswana (or any local language of study population) and back translation where applicable.				
1 Copy of assent documents in English, Setswana (or any local language of study population) and back translation where applicable. (For research involving minors)				
1 Copy of parental consent documents in English, Setswana (or any local language of study population) and back translation where applicable. (For research involving minors)				
1 Copy of authorisation letters from sites where study will be conducted(headmen, hospital, area chief etc)				
1 Copy of the instruments to be used, such as, questionnaire,				

interview guide, log sheets etc				
1 Copy of Approval letter from other IRBs				
1 Copy of Grant approval letter				
1 Copy of Up to date curriculum vitae/ resumé of the Principal investigator and co-investigators showing research experience and publications				
1 Copy of Any other supporting materials, i.e., recruitment scripts, brochures, flyers, etc				
1 Copy of support letter from Supervisor or Head of Department				

Checked by: _____Signature:_____Date:_____

CONTACT INFORMATION FOR THE UB IRB OFFICE

Office of Research and Development

Office 152 Block 243

University of Botswana

P Bag UB00708

Gaborone

Tel: (+267) 355 2911/2900

Fax: (+267) 395 7573

Appendix J

UNIVERSITY of BOTSWANA

Office of the Deputy Vice Chancellor (Academic Affairs)

Office of Research and Development

Corner of Notwane and Mobuto Road, Gaborone, Botswana

Pvt Bag 00708 Gaborone Botswana

Tel: [267] 355 2900
Fax: [267] 395 7573
E-mail: research@mopipi.ub.bw

Ref: UBR/RES/IRB/GRAD/213

22nd October 2015

The Permanent Secretary
Ministry of Education
Private Bag 005
Gaborone
Botswana

RE: RESEARCH PERMIT APPLICATION IN RESPECT OF A PROPOSAL SUBMITTED BY ELINA ILEIMO TOBIAS.

Since it is a requirement that everyone undertaking research in Botswana should obtain a Research Permit from the relevant arm of Government, The Office of Research and Development at the University of Botswana has been tasked with the responsibility of overseeing research at UB including facilitating the issuance of Research permits for all UB Researchers inclusive of students and staff.

I am writing this letter in support of an application for a research permit by Elina I. Tobias, a PhD student from Department of Educational Foundations at the University Of Botswana. The title of the proposed study is **"Teachers' Experiences with Teaching Strategies for Leaners with Visual Impairments of Oshana Education Region in Namibia".** The overall objective of the study is to explore the Teachers' Experiences with Teaching Strategies for Leaners with Visual Impairments in the Directorate of Education: Oshana Region in Namibia. In addition, this study seeks to find ways how teachers prepare their lessons.

The Office of Research and Development is satisfied with the process for data collection, analysis and the intended utilisation of findings from this research and is confident that the project will be conducted effectively and in accordance with local and international ethical norms and guidelines.

We will appreciate your kind and timely consideration of this application. We thank you for your cooperation and support.

Regards

2015 -10- 23

Dr M. Kasule
Assistant Director Research Ethics, Office of Research & Development

Encls Completed Application for Research Permit
Detailed Research Proposal
Data Collection Tools
Comments From UB IRB

Appendix K

REPUBLIC OF NAMIBIA

MINISTRY OF EDUCATION, ARTS AND CULTURE

Enquiries: *Ms. Amukana /Ms Gqwede*
Tel.: *061-293323357/3201*
Fax: *061- 2933922*
Email: *Hilleni.Amukana@moe.gov.na*
gqwede.selma@gmail.com

Private Bag 13186
WINDHOEK

Ref: **12/2/6**

To: Ms. Elina Ileimo Tobias
P.O. Box 2556
Oshakati, Namibia

Dear Ms. Tobias

SUBJECT: PERMISSION TO CONDUCT RESEARCH IN OSHANA REGION

Your letter dated 21 September 2015, on the above-mentioned matter is hereby acknowledged.

Your request to conduct research (phase – two main study) in Oshana Region on **Teacher's Experiences with Teaching Strategies for Learners with Visual Impairments**, is approved.

Please take note that the permission to visit the two schools (Eluwa Special School and Gabriel Taapopi Secondary School) is subject to the following conditions:

- You should first acquire authorization from the concerned Regional Director before you visit the schools.
- Interviews or discussions with teachers and learners must not be held during normal school time. In other words, the normal school programme of teaching and learning should not be interrupted.
- Liaise with principals of concerned schools for their permission as well as for the sake of securing their cooperation.
- Participation of learners and teachers in your interview is a voluntary action on their part.

All official correspondences to be addressed to the Permanent Secretary

The selected region is notified by copying of this letter to Regional Director of Education.

The Ministry of Education, Arts and Culture wishes you success with your study and waiting to share your research results with us.

Yours sincerely

Sanet L. Steenkamp
PERMANENT SECRETARY

2015-10-22

22/10/15
Date

CC: Ms. Dutte Shinyemba Director of Education: Oshana Region

All official correspondences to be addressed to the Permanent Secretary

Appendix L

REPUBLIC OF NAMIBIA

OSHANA REGIONAL COUNCIL

DIRECTORATE OF EDUCATION, ARTS AND CULTURE
Aspiring to Excellence in Education for All

Tel: 065 - 230057
Fax: 065 – 230035

Private Bag 5518
Oshakati
NAMIBIA
02 October 2015

Enq: Martin Shifotoka/ Helena Perestrelo/Hilma Shapaka
Ref: 15/2/15

To: Ms.Elina Ileimo Tobias
P.O Box 2556
Oshakati, Namibia

Dear Ms. Tobias

SUBJECT: PERMISSION TO CONDUCT RESEARCH IN OSHANA REGION

1. This letter serves to inform you that permission has been granted to Ms. Elina Ileimo Tobias to conduct research (phase- two main study) in two schools (Eluwa Special School and Gabriel Taapopi Secondary School) in Oshana Region on 'Teacher's Experiences with Teaching Strategies for learners with Visual Impairments'.

2. This permission is granted on conditions that the proposed activities will not disrupt the teaching and learning process in the two selected schools.

3. Participation should be free and voluntarily, and no learner should be forced to participate in this activity.

4. Your usual cooperation in executing this undertaking is appealed and highly appreciated.

Yours sincerely,

.....2/11/15.....
MRS. DUTTE N. SHINYEMBA
DIRECTOR: OSHANA REGION

DIRECTORATE OF EDUCATION OFFICE OF THE DIRECTOR OF EDUCATION 02 NOV 2015 OSHANA REGIONAL COUNCIL