

**AN INVESTIGATION INTO THE FACTORS THAT AFFECT THE  
PERFORMANCE OF VISUALLY IMPAIRED PUPILS IN THE NATIONAL  
EXAMINATIONS AT GRADE TWELVE LEVEL**

**BY**

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**A DISSERTATION SUBMITTED TO THE UNIVERSITY OF ZAMBIA IN  
PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF  
THE DEGREE OF THE MASTER OF EDUCATION IN SPECIAL EDUCATION**



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## DECLARATION

I Dyness Mulubwa do declare that this dissertation is my own work which has not been submitted for a degree to this or any other University.

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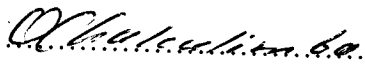
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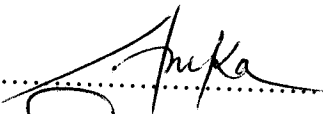
## **DEDICATION**

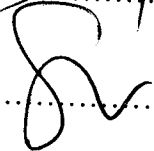
I dedicate this work to my family (Luwayas), parents (Mr. and Mrs. Mulubwa), sisters and brothers and the Choobes for the support and love they rendered to me throughout my study period.

**APPROVAL**

This dissertation by Dyness Mulubwa is approved as partial fulfillment of the requirements for the award of the Master of Education Degree (Special Education) of the University of Zambia.

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## ABSTRACT

This study investigated the factors that influence the performance of the visually impaired pupils in the national examinations at grade twelve (12) level in Zambia. The three objectives of the study were: to determine the trend of performance of visually impaired pupils in the national examinations in the past five years, to investigate how learning/teaching materials, equipment and infrastructure affect the performance of the visually impaired pupils at grade 12 level and to analyze the relationship between teachers' qualifications and attitude on one hand and performance of the visually impaired pupils in grade 12 examinations on the other.

The sample consisted of thirty-six pupils, (eighteen boys and eighteen girls), twelve teachers, (six males and six females), three school managers (all males) and two male ECZ officials. Pupils and teachers were selected using random sampling method while school managers and Examination Council of Zambia officials were purposefully picked since these were only three and two respectively. A questionnaire was used to collect data from twelve teachers while semi-structured interviews were used to collect data from forty-one (41) respondents (36 pupils, 3 school managers and 2 ECZ officials).

In order to determine the trend of performance of the visually impaired pupils in grade 12 examinations, the national results for five (5) years from 1999 to 2003 were analyzed.

The findings of the study revealed that the performance of the visually impaired pupils had been poor in the past five years (1999 -2003) compared to

that of pupils without visual impairment. This poor performance was attributed to the following factors:

- Lack of learning/teaching materials and equipment. Visually impaired pupils lacked appropriate learning/teaching materials and equipment.
- Poor infrastructure in terms of resource rooms. The resource rooms which visually impaired pupils used were in poor conditions.
- Lack of specialist teachers and negative attitude of ordinary teachers towards the visually impaired pupils. There was a critical shortage of qualified teachers to teach visually impaired pupils, and the attitudes of the ordinary teachers towards visually impaired pupils were bad.
- The setting and marking of grade 12 examinations did not take into consideration the problems of the visually impaired pupils as setters and markers were not specialized teachers.

In general the results revealed that there was a significant correlation between learning/teaching materials, equipment, infrastructure, teacher's qualification and attitudes on one hand and performance of the visually impaired pupils in the national examinations at grade twelve (12) level on the other.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **BACKGROUND**

In recent years, the visually impaired children have been integrated in regular high schools with the view to improving their performance in both class work and in the Grade 12 national examinations. On completion of high school, at the end of Grade 12, pupils sit for the school certificate examination, and admission to tertiary education is determined by performance at school certificate level.

However, there has been concern about the performance of visually impaired pupils in public examination at Grade 12 level in Zambia. The pass rate of students with visual impairment has not been impressive. Out of a total number of one thousand four hundred and four (1,404) visually impaired pupils who sat for the Grade 12 School Certificate examinations between 1994 and 2004, for example, only 0.008 percent obtained full school certificates (Examinations Council of Zambia Report 2005). This shows that few visually impaired pupils who do well in public examinations and proceed to tertiary institutions.

A number of factors has caused this situation. These include learning/teaching materials, equipment, infrastructure and teachers' qualifications and attitudes. According to Siame (1986), many factors influence academic achievement such as learning/teaching materials, equipment, and

infrastructure and teacher qualifications. Gould (1993) states that the decrease or non- supply of educational materials, furniture and other learning aids have a negative influence on the performance of children in integrated schools. Tansley and Guildford (1960) state that the major problems schools face in third world countries are overcrowding (60-70 pupils per class in high schools), lack of textbooks, low teacher morale and few dilapidated infrastructure, few furniture and equipment. These factors are cardinal to the performance of visually impaired pupils.

According to Gould (1993), quality education and good performance are measured by inputs such as teaching material, equipment and teaching staff. If the pupils' performance has to be good, especially that of the visually impaired children, these inputs should be available in good condition and adequate quantities.

Batman (1967) states that the minority groups such as the blind have-not been adequately catered for in terms of learning/teaching needs such as provision of brailled textbooks, charts, equipment and trained staff.

In Zambian integrated high schools, the learning taking place, especially in units for pupils with visual impairment, is adversely affected by non-availability of educational materials, inadequate specialized teaching staff, equipment and infrastructure (Kasonde-Ngandu and Moberg, 2001 and Katwishi, 1988).

Performance in examinations is a great concern to parents and educationists. Parents generally regard access to education for their children as a "passport out of poverty"; and so, achievement in examinations, especially national examinations becomes a major issue of concern (Katwishi, 1988). To



the parents and children, educational problems centre on achievement in examinations. In fact, parents' interest focuses largely on the performance of pupils in the national examinations that mark the end of one stage of education and serves as a selection instrument for admission to the next stage, and to the labour market. The acquisition of knowledge in class at high school level is reflected by the way pupils perform at the end of the course; and this is through the national examinations at the end of Grade 12.

Both psychologists and educationists have expressed concern over the stimulation and maintenance of performance and the kind of social and personal problems that result from this performance (Show, 1961). In a culture where education and its users are highly valued, good performance represents such an important goal. In fact, failure to perform well in both class work and national examinations represents major educational failure in life (Houghton, 1980).

## **STATEMENT OF THE PROBLEM**

Although it has been acknowledged by various stakeholders that the performance of the visually impaired pupils in grade twelve school certificate examinations has been poor, not much has been done to show their performance in the examinations and the factors which have contributed to their poor performance. The purpose of this study was, therefore, to analyse the performance of visually impaired pupils in Grade 12 national examinations and to investigate the impact of learning/teaching materials, equipment, infrastructure and teacher's qualifications and attitudes on the performance of

the visually impaired pupils in these national examinations at grade twelve (12) level.

## **PURPOSE OF THE STUDY**

The purpose of this study was to investigate factors that influence the visually impaired pupils' performance in the national examinations at Grade Twelve (12) level. In addition the study intended to show the performance of students with visual impairment in five years – from 1999 to 2004.

## **GENERAL OBJECTIVE**

The general objective of this study was to investigate the factors that influence the performance of visually impaired pupils in the national examinations at Grade twelve (12) level over a period of five years.

## **SPECIFIC OBJECTIVES**

The specific objectives of this study were:

- (a) To determine the trends of performance of visually impaired pupils in the last five years in the Grade 12 national examinations.
- (b) To investigate the impact of learning and /teaching materials, equipment and infrastructure on the performance of the visually impaired pupils in national examinations at grade 12 levels.
- (c) To analyse the effect of teacher qualification, and attitudes on the performance of the visually impaired pupils, in the Grade 12 national examinations.

## **RESEARCH QUESTIONS**

In line with the above objectives, the following were the research questions in this study:

- (a) How have the visually impaired pupils performed in the Grade 12 national examinations from 1999 to 2003?
- (b) How do learning/teaching materials, equipment and infrastructure affect the performance of visually impaired pupils in the national examinations at Grade 12 level?
- (c) How do teacher qualifications and attitudes influence performance of the visually impaired pupils in the national examinations at Grade 12 level?

## **SIGNIFICANCE OF THE STUDY**

The findings of the study may enlighten teachers on the factors that influence the performance of the visually impaired pupils in the national examinations at Grade 12 level in Zambia. It is hoped that class and subject teachers would understand factors that may contribute towards enhancing the visually impaired pupils' performance at Grade 12 level.

The data collected may give a new phase in the Zambian education system, especially the department dealing with special education. It would encourage renovation of specialized infrastructure, training of more specialized teachers, printing of brailled textbooks and provision of specialized equipment for the visually impaired pupils. Such developments would ensure that the visually impaired pupils are fully taken care of in the learning process by ordinary teachers in Zambian integrated high schools.

Further, in the light of the government's policy on inclusive schooling, educational authorities may find the study useful in coming up with ways on how pupils with visual impairment can best be helped in order to improve their performance. It is hoped that the study will highlight the factors and how they influence the performance of pupils with visual impairment in integrated high schools, which may prompt policy change with regard to the education of pupils with visual impairment in integrated high schools.

The findings of the study would also stimulate further research in finding means and ways of improving the performance of visually impaired pupils in the grade 12 national examinations in Zambia. The factors that influence the performance of pupils with visual impairment positively in the national examinations at Grade 12 level would help in meeting the aspirations of the Ministry of Education's policy of inclusive schooling and that of the United Nations' Millennium Development Goals (MDGs) of education for all.

## **THEORETICAL FRAMEWORK**

This study will be guided by the ecological theory (Graden, Casey, and Christenson, 1985, Wilson and Silverman, 1991, Ysseldyke and Thurlow, 1984). This theory views pupils' performance in relation to learning/teaching materials, equipment, infrastructure and teacher qualifications. These are considered as major factors in enhancing learners' academic performance. In this theory it is argued that pupils can benefit from instructions in ordinary classroom if appropriate learning/teaching materials, equipment, infrastructure and well-qualified teaching staff were provided. Therefore, intervention methods resulting

from this viewpoint focus primarily on the instructional environment in influencing pupils' performance.

## **DEFINITIONS OF TERMS**

**Integrated schools** are mainstreamed schools, which were initially meant for the sighted but are now being attended by the visually impaired students.

**National Examination** – examination that is written by all pupils in a particular grade at the end of a school course. Throughout the country, all pupils in that particular grade sit for the same paper regardless of their abilities. In this study the emphasis is on grade 12 examinations

**Ordinary class teacher** – teacher trained to teach in the mainstream.

**Specialist teacher:** teacher already in the teaching service but has received additional specialist training in the field of special education.

**Resource room:** This is a specialised room where the visually impaired students go for remedial work.

**Visually impaired:** Unable to see, thus not being able to read print but Braille, using fingers.

## **ORGANIZATION OF THE STUDY**

The study has six chapters. The first chapter comprises the introduction, statement of the problem, purpose of the study, general objective and specific objectives of the study, research questions, significance of the study, theoretical framework and definitions of terms used in the study. Chapter two consists of literature review, while chapter three contains methodology. The research

findings are presented in chapter four. Chapter five consists of discussion of the findings and chapter six contains conclusion and recommendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This chapter reviews literature on the importance of examinations in the education system. The chapter further highlights literature on the factors that may influence the performance of the visually impaired pupils in general and in grade 12 national examinations in particular.

#### **IMPORTANCE OF NATIONAL EXAMINATION IN THE EDUCATION SYSTEM**

An examination tests a student's level of acquisition of knowledge or skills in a particular subject. According to Kelly et. al. (1986), examinations exercise a very great influence on the work undertaken in schools and on the way the education system is run. Examinations also promote better learning and teaching, and they stimulate the acquisition or development of abilities, skills and knowledge which are relevant to the pupil whether s/he is one of the minorities (disabled) or majority.

Educational Reforms (1977) refer to examinations as the most important variable in the learning process for they can provide the teacher or student with information on the effectiveness of learning and teaching.

Analysis of the examination results can reveal aspects of the learning and teaching situations that may be difficult to pupils as well as to teachers. Moreover, individual pupils' weakness and strengths can be identified through examination analysis. Alberto et. al. (1986) indicate that national examinations can help to assess the teachers' effectiveness by seeing the number of pupils

who have passed from each institution of learning. Additionally, examination results can be used to find solutions to problems faced by both the teacher and the pupil in their teaching and learning processes respectively. Examinations can also reveal the factors that affect the performance of pupils in general, and that of the visually impaired pupils, in particular.

Furthermore, the information provided by the responses in an examination can lead to adjustments in teaching methods, organization of syllabi and structure of the curriculum. Such adjustments would ensure that the overall intellectual development of the students is adequately catered for, especially that of the visually impaired pupils (Bronfenbrenner, 1979).

Examinations could be an incentive for hard work on the part of students. Students work hard in order to pass examinations. In that way they are enabled to reach excellence, not only in comparison with the performance of other pupils, but even more importantly, in terms of progress made with respect to the demands of their educational programme. According to Heinemann in Simwanza(1993), examinations are used to indicate the level of attainment and most of them lead to certification. They also provide statements about the degree of competence attained by an individual as measured by the particular examinations.

National examinations help in the establishment of a comprehensive feedback system that would provide the inspectorate and schools with detailed information on the strengths and weakness of pupils. Further, examinations evaluate how successful or unsuccessful the school system has been in attaining very specific curricular objectives. National examinations also help the



Ministry of Education to develop evaluation procedures that can assess not only narrow intellectual areas but also attitudinal and dispositional outcomes (National Policy in Education, MOE 1996).

Governments use examination results to identify and respond to potential problems and determine how successful the teaching and the schools' curriculum have been in meeting specific learning objectives. National examinations are generally a means of maintaining or improving the general standard of quality of the education system. By having national examinations, it is possible to maintain quality and uniformity since all candidates for a particular programme are subjected to the same measurement.

#### **FACTORS THAT MAY INFLUENCE VISUALLY IMPAIRED PUPILS' PERFORMANCE.**

Factors affecting the performance of the visually impaired pupils in grade 12 national examinations have not received a lot of attention in research in Zambia. But studies that have been done elsewhere have given a lot of insights into the factors influencing the performance of the visually impaired pupils in national examinations (Haggis in Hallaham et al (2005)). Wendy (1996) acknowledges that the low performance of the visually impaired students is primarily caused by such factors as inadequate learning and teaching materials, poor infrastructure and ill-qualified teachers to handle such children.

### **(i) Educational Materials and the performance of the visually impaired pupils**

Educational materials and equipment are aids to the teaching and learning processes, but must be consistent with the objectives of the curriculum if they are to reinforce the teaching methods which may have been devised to support a particular curriculum. They aid the teaching and learning processes effectively and develop the intellectual ability and skills of the student; the acquisition of knowledge and its intelligent application to life situations. It is obvious that learning tools must be adapted to the needs of a visually impaired child who relies, in his/her acquisition of knowledge, almost exclusively upon the senses of touch and hearing (Kirk in Simwanza (1993))

Educational materials such as maps are embossed for a blind pupil to read well. Embossed and relief maps are important in the teaching of history or geography, for example. Besides Braille maps, relief maps and audible electric maps and relief globes are used in the learning and teaching of the visually impaired children to enhance their performance in class work as well as in the national examinations (Simwanza, 1993). According to Vernon Report of 1968, the importance of maps was not only to supplement the study of history or geography but also to help orient the blind pupils to their immediate environment and improve their class performance.

Since the books available in Braille are limited, talking books have become standard educational media for imparting information to the blind in the world, though there are few of these books found in Zambia. With the opening of

the Zambia National Library and Cultural Centre for the Blind, talking books are now becoming available though not in an adequate quantity. The inadequacy of books and other learning aids has affected the class performance of the visually impaired pupils, resulting in poor performance in the national examinations at grade 12 level (Hearty in Kapijipanga (1988).

Schumacher (1981) states that successful learning and teaching of visually impaired pupils requires the availability of educational aids like charts, brailled textbooks and equipment. Charts and pictures serve different purposes in teaching, especially in the teaching of the visually impaired pupils. According to Farrant (1980), pictures help to illustrate and bring a sense of reality to what is taught. Thus pictures are of use in stimulating interest, creating correct impressions, resulting in the lesson being interesting. Charts, on the other hand, are more useful as a means of presenting the material that is to be learned in a memorable form and play part in concluding parts of particular topics or lessons. These contribute to the positive performance of visually impaired children in class work and promote participation in the lesson. We all know that visually impaired children use hand to understand pictorial illustrations. The more they use picture illustrations, the better they understand the learnt material. This helps the visually impaired pupils to perform well both in class work and in Grade Twelve (12) National Examinations. The visually impaired children would be able to answer questions related to map work in subjects like geography or history.

Elsewhere in the world, studies conducted on the factors that influence the performance of visually impaired pupils academically support the importance

of educational materials in the teaching of the visually impaired pupils. For instance, Batman (1967), report that the history of teaching children with visual impairment in an environment with adequate educational materials had been in practice in America over the past two centuries. It has been proved that such an environment contributes to the good performance of the visually impaired children in class work as well as in the national examinations at 'A level' and other levels of education. Mercer (1997) states that educational materials make the learning/teaching process effective and develop intellectual ability and skills of the student, which result in good performance in the national examinations.

Basically, educational needs of a blind child are similar to those of a sighted child. The curriculum of all pupils, including that of the blind, should be directed towards helping each child attain he/her maximum potential. The visually impaired child needs access to specialized educational materials that would enable him/her learn in the classroom setting as normally as possible. Undoubtedly, therefore, educational materials would contribute to the positive performance of visually impaired children in class work as well as in grade 12 national examinations (Lowenfeld, 1974).

#### **(ii) Infrastructure and the performance of visually impaired pupils**

Since the government's goal is to achieve universal education, the ideal situation would be one where each integrated school would be built to cater for both the disabled and 'normal' children. However, in the interim period, integrated schools will exist with the existing infrastructure that is unfriendly to pupils with disabilities. A well-organized, good looking and well kept school is a necessity because the school provides an environment for all who use it which

affects positively their performance, morale and happiness. According to Farrant (1980) there is nothing that can be done about the shape, size or orientation of a school once it has been built. But there is much that can be done about how its accommodation is used and its appearance is cared for in order to contribute to the positive performance of the pupils in class work.

Schumacher (1981) has indicated that when beauty and interest are united as they can be by the display of pictures on the walls, or flowers on the table in the classroom, for example, they can produce a powerful educative force for learning and understanding the learnt material. Furthermore, good colour scheme also contributes to the understanding of the learnt information. For example, the resource room where remedial lessons take place for the visually impaired pupils must be painted white so as to reflect light for their better understanding of the material. The room must be built spaciouly as to retain sound that enhances understanding during learning/teaching period.

With the ever-swelling number of visually impaired children attending school, the government has difficulties in enrolling the visually impaired pupils due to inadequate school spaces. This has come up because no more school buildings are being constructed due to lack of money by the government to build more schools to accommodate the swelling number of children (MOE 2003). This has resulted into classroom congestion, hence affecting children's performance negatively in both class work and in the national examinations.

The recent trend of integrating pupils has proved a failure. The government has found it difficult to do so because of lack of infrastructure that can suit the integration system (Educating Our Future, MOE 1996). It has been

difficult for the government to put up specialized buildings and these have resulted into school managers setting aside classrooms for the visually impaired pupils to use as resource rooms. Since the rooms set aside are not specialized they tend to affect the performance of the visually impaired pupils. The rooms have damaged floors, they have few desks to use and there are no books to use during remedial period.

There has been little or no expansion of school infrastructure in the recent years and this has contributed to overcrowding in classes, consequently, affecting the performance of pupils negatively, including that of the visually impaired pupils. The ECZ (2005) Manual reports that the performance of the children with visual impairment has not been impressive in the past years. It further states that the reasons behind this performance may be lack of good classrooms and/or resource rooms where effective learning can take place.

### **(iii) Teachers' qualifications and the performance of the visually impaired pupils**

The quality of education offered in schools would depend on the competence and skills of the teachers graduating from Teacher Training Colleges. The effective implementation of the learning/teaching process would depend on the skills and dedication of the teachers. Teachers should be knowledgeable in their respective disciplines and competent for the stage of education for which they would be training the students (Farrant, 1980).

The importance of the teacher to the offering of quality educational programme for the visually impaired children cannot be overemphasised. It is the teacher who can help the blind child fit into the school programme through creative modifications and adaptations of the material. The teacher helps other people who have contacts with the child to know, to understand, and to accept the child's capacities and limitations. The specialist teacher also guides ordinary teachers in meeting the child's needs within the school programme (Wright, 1960). It is the teacher that transcribes work for the visually impaired pupils into Braille and also from Braille into ink print for the regular teacher to read and mark the work given to visually impaired pupils. For the teacher to manage transcribing, he/she should be a qualified special education teacher.

Further, the teacher helps the child meet and deal with the frustrations of the school experience and, most of all, helps him/her learn to cope with failure when necessary. The teacher identifies acceptable behaviour and reinforces that behaviour which would assist the child in eventual adjustment to sighted society. The teacher also guides the child through the whole of his/her education experience. All these roles are necessary and can only be performed by a well-qualified teacher (Lowenfeld, 1974).

Deteriorating economic conditions in Zambia have made it difficult for the high schools to retain the services of qualified local specialist teachers. The salaries that teachers get in Zambia are low in comparison with what their counterparts are paid elsewhere in Southern Africa (Simwanza, 1993). This has resulted in the exodus of highly qualified Zambian teachers at high schools and especially special education units. The units are left with inadequate and, in

most cases, untrained teaching staff. Consequently, this situation has affected the performance of the visually impaired pupils in class work as well as in the national examinations (National Policy in Education, MOE,1996). On the other hand, newly trained specialist teachers are not employed due to the deteriorating economic conditions. The government has no capacity to employ the newly trained teachers and this has worsened the staffing problem in special units. Pupils with special needs are handled by unqualified teachers and these have contributed to the poor performance of the Grade 12 visually impaired pupils in national examinations (MOE, 2003).

According to Lowenfeld (1974), blind pupils must be taught by qualified teachers who will recognize individual differences and their limitations and who use these insights to build effective curricula which are related to the ways in which visually impaired pupils comprehend concepts and ideas.

#### **(iv) Teachers' attitudes and the performance of the visually impaired pupils**

Another factor that has been identified as being of great importance in the education of pupils with visual impairment is the teachers' attitudes towards the pupils. When teachers positively perceive pupils with special educational needs in their classes, they are more likely to use effective teaching behaviour (Prior 1996). Lerner (1997) points out that teacher attitude can facilitate or hinder the learning of pupils with visual impairment. Hallham et al (2005) states that people with disabilities are some times denied access to education because of teachers' negatives attitude towards them. Haggis' observation agrees with



those of Albert (1974), whose thoughts on an action plan for development of inclusive education took into consideration the factor of teachers' attitudes. He asserted that the Africans' superstitious beliefs about the cause of disabilities have resulted in negative attitudes, which, in turn, have affected inclusive education in Africa. Abosi further observed that teachers are unwilling to have children with disabilities in their classes.

Although Albert does not discuss teachers' attitudes in relation to the performance of pupils in the national examinations which is the focus of this study, he makes a significant observation that teachers' negative attitudes towards the disabled pupils are a cause for their unwillingness to have disabled pupils in classes. If teachers are unwilling to accept pupils with visual impairment in classes, then it is feared that their attention towards these pupils' learning needs would not be guaranteed.

Alberto et. al. (1986) made the point on teachers' attitude very clear. They argued that the most conspicuously unfavourable factor in school that could lead to child's poor performance is unfriendly teachers or teachers with unfavourable personality with harsh, gloomy faces. They further argued that effective learning could only take place when a child was able to work out tasks alone well. This could only happen when the teacher is friendly to the child. The non-encouragement from the teacher's bad attitudes may result in poor performance by children with visual impairment.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter discusses the design of the study, population, sample and sampling procedure, instruments used to collect data, data collection procedure and methods of data processing.

#### **Design of the study**

The study was survey in design. It involved both quantitative and qualitative methods. In the quantitative approach, questionnaires were administered to both ordinary and specialist teachers from four (4) integrated high schools. In the qualitative approach, semi-structured interview schedules were used. The semi-structured interview schedules were used to collect data from the visually impaired pupils, school managers and the Examination Council of Zambia (ECZ) officials.

#### **Population**

The population was made up of all the visually impaired grade twelve pupils, ordinary and specialist teachers, school managers from the eight government-integrated high schools in Zambia, and ECZ officials dealing with special education examinations at grade 12 level. The visually impaired grade twelve pupils were selected because they had written national examinations twice before writing the school certificate leaving examinations. Therefore, factors that influenced their performance could easily be identified at this stage

Ordinary and specialist teachers, school managers and ECZ officials have been analyzing the performance of the visually impaired pupils as

compared to that of the sighted ones for many years to try and see why visually impaired pupils perform the way they do. It is for this reason that they were included in the sample.

### **Sample and Sampling Procedure**

The sample was drawn from four (4) government integrated high schools in Zambia. They were drawn from both rural and urban areas in order to provide an equal representation in relation to the socio-economic status of the participants. The rural schools were in Mumbwa and Mporokoso while the urban schools were Munali boys and girls high schools.

In the sample from the urban area, eight visually impaired pupils were selected from one single sex school for girls and another four came from one school exclusively for boys. Further, four teachers were selected from the two urban integrated high schools, two were specialist teachers and the other two were ordinary teachers. Apart from that, school managers of the two schools were also included in the sample. Two officials from Examination Council of Zambia were also part of the urban selected respondents and this came to twenty respondents from urban area. Twenty-four (24) visually impaired pupils, eight teachers (four specialist and four ordinary teachers) and two school managers were selected from two rural integrated high schools.

The two groups (pupils and teachers) of respondents from both urban and rural schools were selected using random sampling procedure. This technique was used

because it provided each element in the population an equal opportunity to be selected as a study sample. The total number of participants was therefore, fifty-four (54). Table 1 below shows the respondents according to sex and area.

**Table 1:** Gender and area of respondents in the study

Gender	Category of respondents	Urban	Rural	Total
Female	Pupils	8	16	24
	Teachers	2	3	5
	School Manager	1	0	1
Male	Pupils	4	8	12
	Teachers	2	5	7
	School Managers	1	2	3
	ECZ Officials	2	0	2
Total		20	34	54

The ages of the respondents in the sample (pupils, teachers, school managers and ECZ officials) ranged from 18 to above 29 years. The oldest amongst the respondents were 51 years old and the youngest were 18 years old.

**Instruments for Data Collection**

A questionnaire and semi-structured interview schedules were used to collect data from fifty-four (54) respondents. A questionnaire for six specialist teachers and six ordinary teachers (Appendix A) included questions on different aspects of the educational situations in the schools in the sample.

To collect data 36 visually impaired pupils, a semi-structured interview schedule (Appendix B) was used, soliciting information about their opinions on

the learning and teaching situation and grade 12 examinations. A semi-structured interview schedule (Appendix C) was used to get information from school managers, and another semi-structured interview schedule (Appendix D) was employed to get information from the two Examinations Council of Zambia (ECZ) officials. These instruments were used to get first hand information from all three categories of respondents – visually impaired pupils, school managers and ECZ officials.

### **Data Collection Procedures**

Two main instruments (the questionnaire and semi-structured interview schedules) were used for this research.

Questionnaires were distributed to teachers to fill them in. The distribution of questionnaires was done at the same time in each school to avoid researcher's interference with the answering of the questionnaire. The questionnaires brought out the factors that affected the performance of the visually impaired pupils in the grade 12 national examinations.

An interview, each lasting fifteen minutes were conducted with thirty-six visually impaired pupils, three school managers in selected integrated high schools and ECZ officials. The researcher devoted a few minutes towards introducing the exercise to all respondents and reminding them about the importance of the exercise they were about to undertake. Respondents were reminded to present information in good faith about themselves and factors influencing the performance of visually impaired pupils in the national examinations at grade 12 level.

## **Data Analysis**

Analysis of data involved finding out whether or not educational materials and equipment, teachers' qualifications and attitudes and infrastructure had an effect on the performance of pupils with visual impairment in the grade 12 national examinations.

Descriptive statistics was used were frequencies and percentage distribution on the adequacy of educational materials, infrastructure and teacher qualifications were determined.

Data analyses focused mainly on the correlation between educational materials, infrastructure, teacher's qualifications and attitudes on one hand, and performance of the visually impaired pupils on the other.

Interpretation of quantitative data involved the use of frequencies and percentages. The analysed data is shown in form of bar graphs and tables. Data presented in tables were subjected to cross-tabulation analysis for the purpose of ranking and comparing the frequencies and percentages.

## **Problems Encountered during Data Collection**

I had difficulties to leave and collect questionnaires from Examination Council of Zambia (ECZ) officials. Each time I went to Examination Council of Zambia (ECZ), people in question were reported out of office or attending meetings. Some teachers were reluctant to complete the questionnaires or participate in the interviews. As a result not all questionnaires distributed to teachers were completed.

Another challenge was the reluctance of some pupils to participate in the interviews. They viewed the study as one of the common studies that just take their time without yielding any results. The researcher had to solicit for support of the school managers and specialist teachers for the pupils to participate in the study.

### **Limitations of the study**

Due to financial and time limitations, the researcher could only study a small number of respondents in a few isolated schools. Therefore, generalization of findings should be made with caution. Another limitation to the study was the fact that there was limited literature on the topic being researched on, especially on the Zambian situation. It was therefore not easy for the researcher to have a wide and clear understanding of the situation in Zambia, thus limiting the general application of the findings to the whole Zambian situation on the factors which may influence the performance of the visually impaired pupils in the class work and in grade 12 national examination

## CHAPTER FOUR

### PRESENTATION OF FINDINGS

This chapter presents the research findings according to the three specific objectives of the study. These were: (1) to determine the trend of performance of the visually impaired pupils in the last five years in the Grade Twelve national examinations; (2) to investigate how learning/teaching materials and infrastructure affect performance of the visually impaired pupils in national examinations, and, (3) to analyse the effect of teachers' qualification and attitudes on the performance of the visually impaired pupils in the Grade Twelve national examinations.

#### PERFORMANCE OF THE VISUALLY IMPAIRED PUPILS OVER FIVE YEARS

The Examinations Council of Zambia (ECZ) officials interviewed revealed that the performance of the visually impaired pupils had been poor in the past five years as shown in the table below.

**Table 2:** Grade 12 Examination result analysis for both 'normal' and visually impaired pupils in the past five years

Year	'Normal' pupils (A)					Visually impaired pupils (B)					Total of A and B
	Sat	Cert	%	Fail	%	Sat	cert	%	Fail	%	
1999	17,292	16,803	63.3	489	18.	24	7	21.1	17	53.1	17,31
2000	13,050	11,401	58.3	1,649	8.4	21	9	29	12	38.7	13,07
2001	20,268	19,816	66.3	452	1.5	31	6	15	25	62.5	20,29
2002	21,076	19,496	70.6	1,580	5.7	23	10	29.4	13	38.2	21,09
2003	23,411	21,712	57.8	1,699	4.5	27	8	23.5	19	55.9	23,43
Total	95,097	89,228	93.8	5,869	6.2	126	40	31.7	86	68.3	95223



Table 2 shows that the 'normal' pupils performed better than the visually impaired pupils. Out of 95,097 of the 'normal' pupils who sat for examinations, 89,228 (93.8%) obtained full school certificates compared to 5,869 (6.2%) pupils who failed. But out of 126 visually impaired pupils who sat for examinations, only 40 (31.7%) passed while 86 (68.3%) failed.

When this information is further analysed, out of 95,223 pupils who sat for the examinations, only 40 (0.04%) pupils with visual impairment passed the examinations while 94% of the 'normal' pupils passed the examinations

The researcher tried to find out from the pupils how they felt about grade 12 national examinations, in terms of who prepared the examinations and the quality of examinations. The responses of the pupils are shown in table 3 below.

**Table 3:** Responses by visually impaired pupils as indicators of inadequate examination preparation

Responses	frequency	percentage
No Visually impaired / specialist teachers to prepare and mark their answer scripts.	17	45.9
Examinations full of mistakes.	15	40.5
Fairly prepared	3	8.1
Not stated	1	2.7
<b>Total</b>	<b>36</b>	<b>100.00</b>

There was a feeling among the pupils that because of the way examinations were prepared, their performance was adversely affected. For example some national examinations papers are usually with a lot of mistakes and some papers had diagrams which were not embossed diagrams and this made their

writing difficult for they could not answer questions based on the diagrams, hence failing the examinations.

Besides the study analyzing the trend of performance its other objective was to analyse the factors which contributed to the performance of the visually impaired pupils in grade 12 examinations. Among these factors, were learning/teaching materials and equipment, infrastructure, teachers' qualifications and attitudes.

#### **(i) Learning/teaching materials and equipment**

The school managers and the visually impaired pupils interviewed revealed that there was a shortage, and in some cases, lack of learning/teaching materials and equipment such as Perkins Brailers, computers, tape recorders, embossed maps and diagrams in every school in the study. None of these schools had any of these materials and equipment in a sufficient quantity which could allow each student to have access to it. For example, at Mumbwa High School there were only four Perkins Brailers which were used by four pupils out of 40. These were the only pupils given responsibility to transcribe on behalf of their friends. This situation was considered to have contributed to the poor performance of the pupils with visual impairment in the national examination.

Table 4 shows comments of respondents on the learning/teaching materials and equipment according to the pupils in the sampled schools.

**Table 4:** Responses of pupils on the inadequate teaching/learning materials and equipment

Responses	Frequency	Percentage
Lack of brailled textbooks	20	24.6
Lack of equipment to use to write	5	15.9
Cannot do practical subjects due to lack of brailled textbooks	2	8.3
Lack of embossed diagrams and maps	3	12.5
Sighted peers have a lot of textbooks to read compared to us.	6	18.7
<b>Total</b>	<b>36</b>	<b>100.0</b>

Information obtained showed that 36 (100%) pupils indicated that lack of materials and equipment affected the pupils with visual impairment in terms of national examination performance at grade 12 level.

**(ii) Infrastructure**

In this study, one of the concerns under the factors that may influence the performance of the visually impaired pupils was the infrastructure.

All 36 pupils with visual impairment mentioned that they had resource rooms in their respective integrated high schools though these rooms were not specifically built for the use of the visually impaired pupils.

The pupils commented on the status of the resource rooms that they were not in good condition to be used as resource rooms. Of the 36 pupils who said that they had resource rooms, 4(10.8%) mentioned that the status of their resource rooms were good

and the rest revealed that their resource rooms were not as expected. Table 8 shows the pupils' responses on the status of the resource rooms.

**Table 5:** Pupils' responses on the status of the resource rooms

Response	Frequency	Percentage
Bad	18	48.6
Good	4	10.8
Fairly good	14	37.8
Total	36	100.0

The three school managers mentioned that the resource rooms that were being used were improvised to be used by the visually impaired pupils. There were no rooms specifically prepared (built) for the learning purposes of the pupils with visual impairments.

Two (66.7%) of the school managers revealed that the rooms that had been set aside were not in good condition for they had been in existence for many years and had never been renovated for a long time. The same rooms were not well equipped so as to enhance the good performance of the visually impaired pupils who were in need of good infrastructure.

**(iii) Teacher qualifications**

The school managers revealed that teachers' qualifications ranged from teachers' diploma to degree. The 66.7% of school managers stated that there were inadequate specialist teachers while 33.3% mentioned that there were no specialist teachers in their schools at all. This situation was considered to have

affected the performance of the visually impaired pupils in both class work and the national examinations.

From the information obtained from pupils (all 36) with visual impairment revealed that specialist teachers were not adequate to attend to their needs. In some schools there were no specialist teachers. This forced ordinary teachers to attend to pupils with visual impairment though they had no special education know how. Table 5, below shows the responses of pupils concerning the situation about specialist teachers.

**Table 6:** Pupils' responses on the adequacy of specialist teachers

Responses	Frequency	percent
Not adequate	24	66.7
No specialist teachers	8	22.2
Undecided	4	11.1
T0tal	36	100.0

The school managers and ECZ officials revealed that there were 1,111 ordinary teachers who taught, prepared and marked the visually impaired pupils despite not having knowledge on how to handle them as against 31 specialist teachers who were overloaded with work for the visually impaired pupils. The thirty-one (31) specialist teachers were not adequate to attend to the needs of the visually impaired pupils.

Table 7: shows the number of ordinary teachers against specialist teacher, with their qualifications who teach the visually impaired pupils and who prepare and mark their answer scripts.

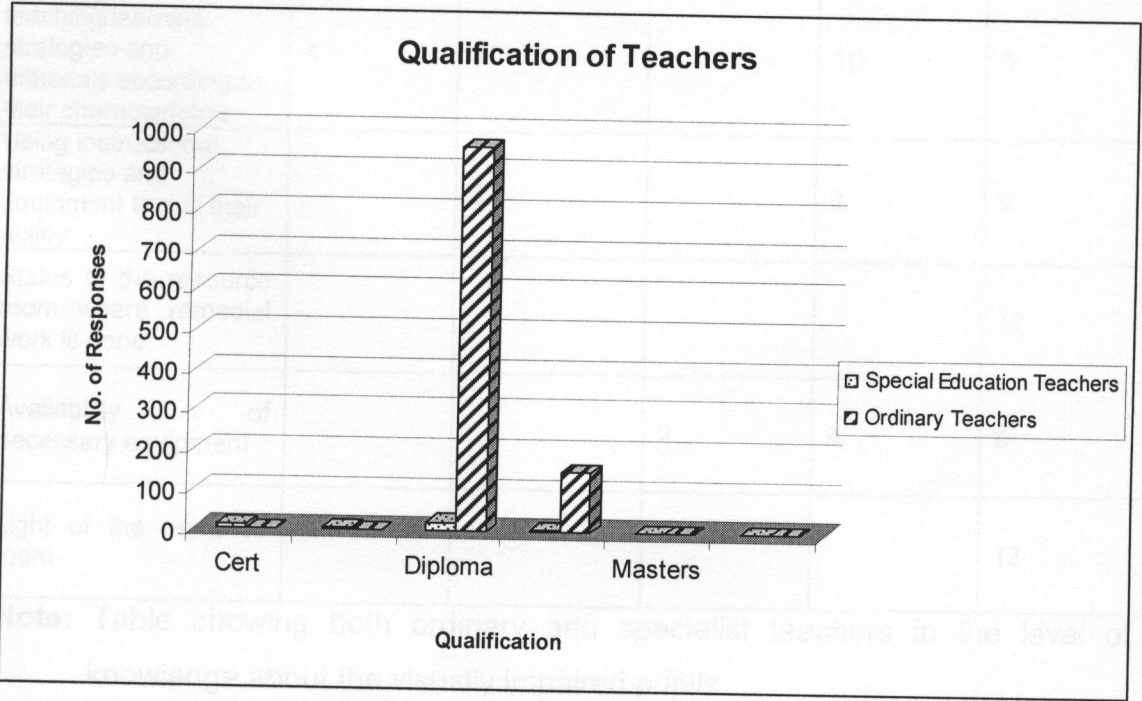
**Table 7:** Qualifications of both ordinary and specialist teachers teaching in schools and those preparing and marking examinations.

Respondents	Qualification	Ordinary Teachers		Specialist Teacher		Total	
School manager	Diploma	138	92%	12	8%	150	75%
	Degree	45	90%	5	10%	50	25%
ECZ officials	Diploma	800	97%	11	3%	811	86.1%
	Degree	128	98%	3	2%	131	13.9%
Total		1111	97.3%	31	2.7%	1142	100.0

**Note:** School managers gave information on teachers who were teaching in their schools, while ECZ officials gave information on teachers who prepared and marked examinations.

As can be seen from Table 6, the education system had very few qualified teachers to handle the visually impaired pupils. Showing the qualifications of both ordinary and specialist teachers who teach visually impaired pupils in integrated high schools.is the figure 1 below

**Figure 1:** qualifications of teachers who taught and who prepared and marked examinations



The study also examined the level of knowledge of teachers in handling the visually impaired pupils, and its effects on the performance of the visually impaired in the grade 12 examinations. The responses on this issue are shown in table 7.

**Table 8:** Responses from teachers on level of knowledge in the areas of Instructional content and practice as related to teaching visually impaired pupils.

Statement	Rate					Total
	No knowledge	Limited knowledge	Undecided	Moderate knowledge	Adequate knowledge	
The visually impaired has different learning style	5	1		1	5	12
Adopting to teaching/learning styles of visually impaired pupils		6	1	2	5	12
Instructional and remedial methods for visually impaired pupils		3	2	2	5	12
Techniques for modifying teaching methods and materials	2	4	1		5	12
Selecting teaching/learning strategies and materials according to their characteristics	4	2		1()	5	12
Using instructional strategies and equipment to suit their ability		3		4	5	12
Status of the resource room where remedial work is done					12	12
Availability of necessary equipment			2	4	6	12
Light of the resource room					12	12

**Note:** Table showing both ordinary and specialist teachers in the level of knowledge about the visually impaired pupils

The findings from responses of teachers interviewed revealed that there was a general lack of knowledge and skills in teaching the visually impaired pupils. Responses ranged from 'no knowledge' to having 'adequate knowledge'. Out of 12 respondents, 2 (24.6%) of them had no knowledge on how to teach the visually impaired pupils while 3 (26.3%) of the teachers had limited knowledge, and 1 (3.4%) were undecided.

Furthermore, 4 (14.4%) had moderate knowledge and 6(31.4%) had adequate knowledge on the methods, materials and equipment to use when teaching the visually impaired pupils.

#### **iv) Teachers' attitudes**

It will be remembered that this study also investigated the effect of teacher attitudes on the performance of pupils with visual impairment in grade 12 examinations.

Responses from 32 (89%) out of 36 visually impaired pupils interviewed, revealed that teachers did not like them because of their disability.



## **CHAPTER FIVE**

### **DISCUSSION OF FINDINGS**

This chapter discusses results that were presented in the previous chapter. The chapter will deal with the performance of visually impaired pupils in grade 12 examinations over five years, impact of learning/teaching materials and equipment, infrastructure, teachers' qualifications and attitudes on the performance of the visually impaired pupils in Grade twelve (12) national examinations. It should be noted that the discussion of these findings are guided by the theoretical framework employed in this study, that the instructional environment is important in determining the performance of pupils and the teachers.

#### **PERFORMANCE OF VISUALLY IMPAIRED PUPILS OVER FIVE YEARS**

The importance of examinations in any system of education cannot be overemphasised. Farrant (1984) indicates that the purpose of examinations was to monitor pupils' performance at the end of the course.

The Examination Council of Zambia (E.C.Z) faces a lot of challenges in examining the visually impaired pupils at Grade 12 level. These challenges influence the performance of the visually impaired pupils negatively. For example, modification of questions was a challenge because examiners do not know how to emboss the maps and diagrams found in subjects such as biology (practical) and geography (map work). Therefore, diagrams and maps are not included in their examination papers. The preparations of examination papers were based on the materials covered in all schools around the country including

integrated high schools, and this suited both the visually impaired and sighted pupils. But the marking had a negative influence since not all subjects written by visually impaired pupils were marked by specialist teachers.

The language of visually impaired pupils can only be understood by specialist teachers because they write like short hand secretaries who use symbols to represent a word. Since most examiners and markers were not specialist teachers, the visually impaired pupils' answers were usually marked wrong. This was as a result of transcribers transcribing exactly as the child had written which did not make sense to people without special education know-how. This contributed to the poor performance of the visually impaired pupils in the national examinations at grade 12 level.

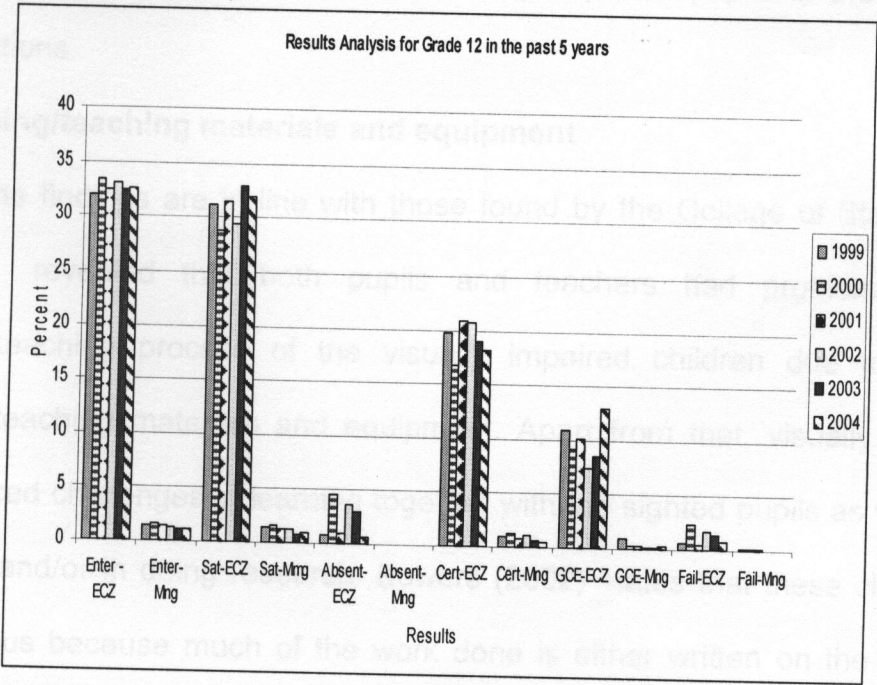
The above mentioned factors prompted the visually impaired pupils to suggest that their examination papers be prepared by either the visually impaired or specialist teachers. They said that if the mentioned teachers were involved in the preparation and marking of their answer scripts there would be no missing results, which was common. There would be also improvement in their (visually impaired pupils) performance in the national examinations at grade 12 level. In support of the outlined suggestion, Katwishi (1988) states that the involvement of specialist teachers in the preparation of any work for the visually impaired pupils makes it easier for them to understand, for the specialist teacher knows the needs and limitations of the visually impaired pupils.

From the Examination Council of Zambia (ECZ) examination analysis, it was noticed that there was an improvement in the general performance of the grade 12 pupils in the national examinations in the past five years. In 2003 for

example 37, 599 pupils sat for the examinations, 21,720 pupils obtained school certificates out of which 8 were visually impaired pupils and in 2000, 19,592 pupils sat for the examinations, 11,410 pupils obtained school certificates to guarantee them continuity to tertiary education, but only 9 out of 21 visually impaired pupils obtained school certificates. This shows that though the general performance was good, it was not so when it came to the performance of the visually impaired pupils in the school certificate examinations.

From the findings it was further revealed that most visually impaired pupils either obtained a GCE certificate or failed completely. Only a few managed to get school certificate to enable them continue to tertiary education. Figure 2 below shows details about the performance of the visually impaired pupils in the national examinations in the past five years.

**Figure 2:** Result analysis for grade 12 in the past five years for both visually and ‘normal’ pupils



Source: ECZ Report, 2005 ECZ – Examination Council of Zambia, Mng – Manager

## **FACTORS THAT INFLUENCE THE PERFORMANCE OF THE VISUALLY IMPAIRED PUPILS IN THE GRADE 12 NATIONAL EXAMINATIONS**

Quigley and Paul (1986) have stated that learning/teaching materials, equipment, infrastructure and teachers' qualifications and attitudes have a great influence on the performance of pupils at any level of education. In support of Quigley and Paul, Garvey and King (1977) also stated that effectiveness of learning/teaching process was dependent on the use of proper teaching/learning materials, equipment, infrastructure and teacher qualifications and attitudes toward the pupils. It was clearly revealed that shortage and/or lack of the above mentioned factors would negatively affect the performance of the visually impaired pupils in the Grade Twelve (12) national examinations.

The findings of this study revealed that learning/teaching materials, equipment, infrastructure and teachers' qualifications and attitudes had an influence on the performance of the visually impaired pupils in the grade 12 examinations.

### **(i) Learning/teaching materials and equipment**

The findings are in line with those found by the College of State (2004) which revealed that both pupils and teachers had problems in the learning/teaching process of the visually impaired children due to lack of learning/teaching materials and equipment. Apart from that, visually impaired pupils faced challenges in learning together with the sighted pupils as well as in studying and/or in doing research. Bowers (2002) states that these challenges are obvious because much of the work done is either written on the board or found in textbooks which visually impaired pupils cannot read. He further states

that subjects such as geography, history and biology which involve diagrams are difficult to learn/teach because much of the exposition of diagram technique relies on the use of verbs such as 'look at' 'look for' and 'identify'.

It was revealed by visually impaired pupils and school managers that learning/teaching materials and equipment had a great influence on the performance of the visually impaired pupils at grade 12 examination. It was discovered that lack of learning/teaching materials such as Braille text books, embossed maps and charts and equipment such as talking calculators, computers, Perkins Braillers, Braille frames, stylus etc had a negative influence on the performance of visually impaired pupils especially at grade 12 level. According to Barraga (1970) effectiveness of learning/teaching is dependant on the use of appropriate instructional and resource materials. Such materials include textbooks, equipment, audio-visual aids and reference books for which were not in the library. In most cases, the few books that were available had been imported and were thus largely unsuitable for local curriculum.

The National Policy on Education (MOE,1996) states that materials and equipment support the effective teaching/learning that is required by all pupils. Things such as classroom furniture, books, and various types of learning materials, science apparatus and other classroom equipment enhance effectiveness of learning/teaching of pupils especially that of the visually impaired pupils. But that was not the case. There was lack of all these items in all schools. This is confirmed by Kapijimpanga (1988) who states that there is lack of teaching materials and equipment in schools. For instance she mentions

that specialist teachers have been forced to teach sighted pupils due to lack of teaching materials and equipment in resource rooms.

Dependence on the notes given by a class teacher who sometimes does not cover all the topics in the syllabus has also contributed to the poor performance of the visually impaired pupils. It disadvantaged the visually impaired pupil who depended on

the sighted pupils to dictate notes or read notes from the ink printed notes as they discuss the topics which are not taught in class. Sandler and Coren (1981) state that

textbooks and charts are cardinal in the learning/teaching of pupils for they enhance understanding of the materials learnt in class. Textbooks are used for studying, writing of exercises as well as for researching. The visually impaired pupils find it difficult to study and research since they do not have brailled textbooks to use. Since the visually impaired pupils have no brailled textbooks, time for studying is wasted in writing of notes

and exercises because during classes sighted pupils who dictate for them are busy writing for themselves.

Visually impaired pupils had no equipment to use in writing apart from few Braille frames which were used for writing. Equipment such as computers, Perkins Braille, typewriters make writing easy and fast. Talking calculators help the visually impaired pupils solve mathematics with fewer problems. Generally, lack of learning/teaching materials and equipment has a great influence on the performance of visually impaired pupils in grade 12 national examinations.

The government has also contributed to the lack of learning/ teaching materials and equipment for the visually impaired pupils because when making the national budget for school requirements, they only budget for materials used by sighted pupils and not the visually impaired pupils. The government and school managers are unable to budget for the visually impaired pupils because they say that materials and equipment for the visually impaired pupils are too expensive and the country and schools cannot afford. In the absence of such materials, one can expect that pupils with visual impairment would not do well in their class work, and later on in their examinations.

## **(ii) Infrastructure**

The reader will remember that one of the concerns of this study was to analyse the impact of infrastructure on the performance of the visually impaired pupils. Proper infrastructure is important in the education of all children to enhance their understanding of the learnt materials. A well built and equipped specialized room is cardinal in the education of the visually impaired pupils because it enhances the understanding and promotes interest in learning. The resource room, for instance should have right chairs and tables for the visually impaired pupils to use and it must be big enough to allow free movement of the pupils (MOE, 2003). Some visually impaired pupils revealed that the resource rooms were termed to be big enough because their school had enrolled few visually impaired pupils. Others mentioned that at their school the rooms were not enough to accommodate all the pupils. When the room is not big enough

pupils tend to squeeze and writing as well as understanding becomes a problem and this may result in the poor performance by pupils.

From the findings, it was discovered that the three integrated schools in the study had no specialized resource rooms; instead the school managers had set aside classrooms which were being used as resource rooms. The classrooms set aside were not well equipped with necessary materials and equipment to be used by the visually impaired pupils during their learning/teaching period. The school managers further revealed that the classrooms set aside were not in good condition for they had been in existence for many years and had never been renovated for a long time. Pupils were unable to use the resource rooms because the rooms were full of potholes which made their mobility difficult during their remedial sessions.

The National Policy on Education (MOE,1996) states that the over-use of school buildings, through double sessions and large classes, coupled with near-absence of public funds for school maintenance and repair has left most schools in an unacceptably poor physical condition. Except in a few rehabilitated schools, classrooms were typically bare with few or no desks. Such a situation affects the public perception of schools and what they have to offer. They also affect the ability of schools to provide education of reasonable quality. Integrated schools are not of exception. Alberto and Trountman (1986) stated that the status of the resource rooms had an influence on the learning/teaching of visually impaired pupils. The visually impaired pupils learn well in a room painted with white colour which reflects light and lighting system should be enough to enhance learning during remedial work time.



The visually impaired pupils mentioned lack of funding from the government for the renovation of the existing dilapidated resource rooms had contributed to the poor learning environment of the visually impaired pupils which resulted in their performance being bad.

### **(iii) Teachers' qualifications**

Schumacher et al (1977) stated that the quality and effectiveness of an education system depended heavily on the quality of its teachers. Teachers are the key persons in determining success in meeting the system's goals. In view of this, the calibre of teachers and of teaching profession is of paramount importance. The competencies required in most teachers are mastery of the material that is to be taught and the skill in communicating that material to pupils.

Therefore, the importance of the teacher to a quality educational programme for the visually impaired pupils cannot be overemphasized. It is the teacher who can help the visually impaired pupils fit into the school programme through creative modification and adaptation. This can only be done by a well committed special education teacher with good qualifications. A well qualified specialist teacher helps ordinary teachers with necessary information on the needs of the visually impaired pupils, the information that would assist ordinary teachers in dealing with the visually impaired pupils. Specialist teachers help ordinary teachers to understand and accept the visually impaired pupils' capacities and limitations, and guide them in meeting pupils' needs within the school programmes. Wright (1960) indicates that the handicapped may, however, encounter greater difficulty

in adjusting to the position because they lack a well-defined group with whom to identify and the wide variance within the school community emphasises difference rather than similarities.

The Examination Council of Zambia (ECZ) officials, school managers and the visually impaired pupils revealed that the government had contributed to the shortage of specialist teachers because a lot of teachers in special education had been trained but the government did not employ them to beef up the existing number of special education teachers in integrated high schools as well as in segregated schools.

The school managers mentioned that although teachers' qualifications ranged from primary teacher certificate to a degree, there were few specialist teachers in integrated schools. One of the three integrated schools visited had only one specialist teacher against 40 visually impaired pupils. The specialist teacher had a lot of work to do since he was the one heading the special education department. Despite being well qualified, the teacher was unable to work effectively due to the work load. Samuel and Miller (1985) indicate that the effectiveness of the teacher is known by the performance of pupils being taught. They further stated that the teacher could be effective when there were learning/teaching materials and a reasonable class of pupils. The school managers mentioned inadequacy of specialist teachers; they said that they had very few specialized teachers in their schools. The few teachers were unable to attend to the needs of the visually impaired pupils enrolled in their schools. This had contributed to the poor performance of the visually impaired pupils in the

national examinations at grade 12 level since they were not effective due to teaching overload.

When it came to transcribing the work done, the visually impaired pupils mentioned that it took time for the lonely teacher to do work for the 40 pupils, for example. It was noticed that the visually impaired pupils' work took long to be marked and sometime not marked due to delays in transcribing. This resulted in pupils not knowing their weaknesses where they needed to improve. When a person has no idea of the areas where s/he needs to improve studying becomes a challenge, sometime a person may relax in areas which s/he needs to improve and this may result in failing the national examinations. Scott, et al (1986) stated that children learned to assess their capacities and limitations by comparing themselves with their peers in school work and examination performances, where such a situation does not exist, as in the case of the schools in the sample, pupils may perform badly in their national examinations.

Lowenfeld (1974) states that the effective teacher must know more than how to use special devices and materials because they are frequently called upon to teach skills and concepts that most children acquire through vision. It follows therefore that teachers of visually impaired students must be knowledgeable, competent and creative. Teachers must plan and carry out activities that would help their students gain as much information as possible through non-visual senses and by participation in active and practical experiences. These activities can only be carried out by well qualified special education teachers. But in the sampled schools, although ordinary teachers

were all qualified subject teachers, they had no knowledge on the teaching of the visually impaired pupils.

From the findings, it was observed that instead of the ordinary teachers helping the visually impaired pupils, they were frustrating them by not involving them during lessons. For example, teachers (ordinary) were not pointing at visually impaired pupils despite them putting their hands up. Furthermore, ordinary teachers wrote notes or gave sighted pupils to write notes on the board instead of dictating for the benefit of the visually impaired pupils who could not read on the board. This disadvantaged the visually impaired pupils who depended on hearing for their grasping of information during their lessons since there were no Braille textbooks to copy from. Lowenfeld (1974) indicates that the teachers' teaching should be directed toward helping each child attain his/her maximum potential and realize his/her own personal objectives and not frustrating their effort, a situation that might bring about failure on the side of the child. The ordinary subject teachers behaved like this because of lack of knowledge on how to teach and meet the visually impaired pupils' needs.

#### **(iv) Teachers' attitudes**

According to Siame (1986), pupils' academic performance can be influenced by many factors. One of these factors may be teacher's attitude toward the visually impaired pupils. Cultural orientation and personal perception about the visually impaired pupils influenced teachers' attitudes. When a teacher exhibits uncaring attitude or responds to the visually impaired pupils without due thought and patience, pupils tend to lose self-confidence. Consequently, the visually impaired pupils experience academic failures.

## **CHAPTER SIX**

### **CONCLUSION AND RECOMMENDATIONS**

This chapter presents the conclusion and recommendations on salient points emanating from the study's findings and ends with suggestions for further studies.

#### **Conclusion**

In light of the theoretical framework on which this study is underpinned, that educational materials, equipment, infrastructure, teacher qualifications and attitudes, or in short, instructional environment, is an important factor in influencing the performance of the visually impaired pupils in the community, which is confirmed by the findings of this study, it would be fitting to conclude this study with a few remarks about the visually impaired pupils' poor performance in the national examinations at grade 12 level.

In Zambia, as in any other independent state in Africa, visually impaired pupils are often referred to as slow learners. What kind of nation Zambia will be, may depend to some degree, on the kind of pupils' Zambian education system produce, and the manner of those pupils will depend on the kind of learning/teaching materials, equipment, qualified specialist teachers and infrastructure schools have. But in spite of these important issues and the fact that the Zambian society expects good performance from the visually impaired pupils, the Zambian education system has given very little in return. Visually impaired pupils have been lacking learning materials, equipment, and specialised infrastructure and, qualified teachers, a situation which has affected

their performance negatively. In addition, teachers' negative attitudes towards them, have negatively affected these pupils' performance.

If, as we have already stated, learning/teaching materials, equipment, infrastructure and qualifications of teachers affect the performance of the visually impaired pupils in the national examinations at grade 12 level, we would expect their performance being affected adversely because of lack of the mentioned factors. These factors are: learning material and equipment which are the things desired in learning. Those who have them could do anything to secure and enhance learning for the visually impaired pupils. Some visually impaired pupils work hard or do extra lessons if that would help them perform well in the national examinations at grade 12 level. The opposite may be true for those who can not afford or have no one to encourage them to work hard.

## **RECOMMENDATIONS**

Based on the findings of this study, the following recommendations are made:

The government should:

- Provide brailled learning/teaching materials such as brailled textbooks, embossed maps and charts in order to improve visually impaired pupils' performance in the national examinations at grade 12 level, in particular, and school performance in general.
- Provide enough educational materials and equipment such as Perkins Braille, Braille frames, styli, computers talking calculator etc to be used by visually impaired pupils in their writing.

- Build or renovate enough resource rooms and equip them with necessary materials to be used by pupils with visual impairment.
- Train more specialist teachers in all subjects learnt in secondary schools to teach in integrated secondary schools.
- Sensitize sighted pupils, ordinary teachers and other school workers to accept and treat the visually impaired pupils just like sighted persons. The government can do so by holding work shops/seminars where both teachers and sighted pupils could be told how to relate and teach the visually impaired pupils in case of ordinary teachers.
- Introduce deliberate policy to offer different types of employment to the visually impaired pupils after leaving school apart from teaching and switchboard operation.
- Reduce number of pupils in ordinary classes in which visually impaired pupils were integrated to allow teachers attend to the needs of both the sighted and the visually impaired children.
- Train specialist teachers as examiners and markers for the visually impaired pupils' answer scripts to avoid the missing results that usually occur every year.
- Allow visually impaired pupils to be learning practical subjects and sciences (physics), basket making, woodwork etc.

## **SUGGESTIONS FOR FUTURE RESEARCH**

Since the factors involved in the performance of the visually impaired pupils are many and varied, the issue concerning the factors which affect their performance is a very important one. It needs thorough investigation, if we have to have a clear picture of the issue. Therefore, the study suggests that:

1. Future research could be undertaken to investigate the effect of integration on the performance of the visually impaired pupils.
2. Building on this study, research could be undertaken to assess the effect of examination preparation on the performance of visually impaired pupils at grade 9 level as well as grade 12 level.
3. Studies to establish the best practices for intervention for the visually impaired pupils with learning disabilities should be carried out.
4. Further investigations must be carried to ascertain the extent to which teachers' status could affect the visually impaired pupils' performance. This will give a more realistic estimation of the problems of teachers' status on the performance of pupils and in turn, take measures to help teachers to improve in their performance.



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## Appendix A

### Questionnaire for specialist and regular teachers who teach visually impaired pupils)

School ----- District----- Province-----  
---

Level of school— a) Basic school (1-9) [ ] b) High school (10-12) [ ]

c) Secondary school (8-12) [ ] d) Middle Basic school [ ]

Type of school--- a) Government [ ] b) Private [ ]

c) Self-Help [ ] d) Government Aided school [ ]

Gender----- a) Male [ ] b) Female [ ]

Age (Tick age group) a) Under 25 [ ] b) 25-30 [ ]

c) 31-40 [ ] d) 41-50 [ ] e) Over 50 [ ]

Qualification----- a) Certificate [ ] b) Diploma [ ]

c) Degree [ ] d) none [ ]

There are two parts in this questionnaire. Please indicate your level of knowledge in the area of instructional content and practice as related to teaching visually impaired pupils. Rate each item based on the scale below.

For each given item mark x in the appropriate column of score from 1 to 5 to represent your choice from your scale. Your response will be treated in strict confidence. This is not a test; hence, there is no right or wrong answers.

#### SCALE

KNOWLEDGE
1. No knowledge
2. Limited knowledge
3. Undecided
4. Moderate knowledge
5. Adequate

#### KNOWLEDGE

SN	STATEMENT	1	2	3	4	5
(a)	That Visually impaired pupil has different learning styles.					
(b)	Adopting to teaching/learning styles of visually impaired pupils					
(c)	Instructional and remedial methods for visually impaired pupils					
(d)	Techniques for modifying teaching methods and materials					
(e)	Selecting teaching / learning strategies and materials according to characteristics of the visually impaired pupils					

(f)	Using instructional strategies and materials according to characteristics of the visually impaired pupils					
(g)	Selecting teaching/learning aid and equipment to suit their ability					
(h)	Status of the resource room where remedial work is done					
(i)	Availability of necessary equipment					
(j)	Light of the resource room					

**THANK YOU**

## Appendix B

### SEMI-STRUCTURED INTERVIEW SCHEDULE FOR GRADE 12 VISUALLY IMPAIRED PUPILS

Name of school -----District ----- Province -----

Level of school ---- a) Basic, 1-9 [ ] b) High school, 10-12 [ ] c) Secondary, 8-12 [ ]

Sex----- a) Male [ ] b) Female [ ]

Age ----- a) Under 18 [ ] b) 19-23 [ ]  
c) 24-28 [ ] d) Above 29 [ ]

Type of school--- a) Government [ ] b) Self-Help [ ]  
c) Private [ ] d) Government Aided [ ]

Setting----- a) Rural [ ] b) Peri-urban [ ] c) Urban [ ]

#### Part One

1. How many are you in the regular class? A) Below 30 [ ] b) 31-40 [ ]  
c) 41-50 [ ] d) Above 50 [ ]
2. How many are you in the special class? A) Below 5 [ ] b) 6-10 [ ]  
c) 11-15 [ ] d) Above 15 [ ]
3. How does it feel learning together with the sighted peers?  
A) Interesting [ ] b) Fairly interesting [ ]  
c) Uninteresting [ ] d) I can't explain [ ]
4. What difficulties do you face in regular class during lessons -----  
-----  
-----  
-----  
-----
5. What should be done to make you more integrated with the school community? -  
-----  
-----  
-----  
-----
6. Do you have a resource room at your school? A) yes [ ] b) No [ ]
7. If yes how well equipped is it to enhance learning  
a) Well equipped [ ] b) fairly equipped [ ]  
c) Not equipped [ ] d) none [ ]

8. What effect does learning materials and equipment have on your performance especially in the national examinations-----  
-----  
-----  
-----  
-----

9. How good is the resource room in terms of infrastructure? A) Bad [ ] b) Very Good [ ] c) Good [ ] d) Fairly Good [ ] e) Very Bad [ ]

10. Is the resource room big enough to accommodate all the Grade 12 visually impaired pupils without squeezing a) yes [ ] b) no [ ]  
comment -----  
-----

11. Do you have enough and rightful chairs in your resource room a) yes [ ] b) no [ ]

Comment-----  
-----

12. How many times do you go to the resource room for remedial work per day a) once [ ] b) Twice [ ] c) three [ ] d) four [ ] e) as need arises [ ]

13. How often are you given homework a) daily [ ] b) twice a week [ ]  
c) Three times a week [ ]

Comment-----  
-----

14. What difference do you see in teaching between the regular and the specialist teachers-----  
-----  
-----  
-----  
-----

15. Does the preparation of national examinations have any effect on your performance especially at grade 12 level-----  
-----  
-----

16. Under what condition do you write your national examinations—a) same [ ] b) bad [ ]

c) Fair [   ] d) very bad [   ] e) good  
[   ]

**17.** Does the condition under which you write your examinations affect your performance

a) Yes [   ] b) No [   ].

Comment-----  
-----  
-----  
-----

General comment-----  
-----  
-----  
-----  
-----  
-----  
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**THANK YOU**



## Appendix C

### SEMI-STRUCTURED INTERVIEW SCHEDULE FOR SCHOOL MANAGERS

Tick the appropriate answer and also comment where you feel necessary to comment.

Province----- District -----

Name of school----- Grade of school -----

Level of school a) Basic school (1-9) [   ] b) High school (10-12) [   ]  
c) Secondary school (8-12) [   ]

Setting ----- a) Rural [   ] b) Peri-urban [   ] c) Urban [   ]

Type of school a) Government [   ] b) Self Help [   ]  
c) Government Aided [   ] d) Private [   ]

#### **PART ONE**

(A) In the diagram below indicate the number of visually impaired Grade 12 pupils enrolled in your school according to the sex and years.

YEAR	NUMBER OF BOYS	NUMBER OF GIRLS	TOTAL
1999			
2000			
2001			
2002			
2003			
2004			

(B) Indicate the number of other Grade 12 pupils receiving ordinary education enrolled in your school

YEAR	NUMBER OF BOYS	NUMBER OF GIRLS	TOTAL
1999			
2000			
2001			
2002			
2003			
2004			

(C) All Grade 12 examination analysis for the past five years

Year	No Entered	No Sat	No Absent	Division1	Division2	Division3	G.C.E	Fail
1999								
2000								
2001								
2002								
2003								
2004								
Total								

(D) Grade 12 visually impaired pupils examination analysis for past five years.

Year	No Entered	No sat	No Absent	Division1	Division2	Division3	G.C.E	Fail
1999								
2000								
2001								
2003								
2004								
2005								
Total								

(E)Teacher qualification

Field	Certificate	Sp Ed Certificate	Diploma	Degree	Masters	Untrained	Total
Sp Ed Teachers							
Regular Teachers							

## PART TWO

- How is the condition of infrastructure in your school to cater for the visually impaired pupils? A) Bad [ ] b) Fair [ ] c) Good [ ]  
d) Very Good [ ] e) Excellent [ ]

Comment-----  
-----  
-----  
-----

- Availability of specialized infrastructure for the visually impaired pupils.  
A) Inadequate [ ] b) Fairly adequate [ ]

c) Adequate [ ] d) Improvised. [ ]

Comment-----  
-----  
-----

3 How do you rate integration of visually impaired pupils in your school?

A) Bad [ ] b) Fair [ ] c) Good [ ]  
d) Very Good [ ] e) Excellent [ ]

Comment-----  
-----  
-----

4 The attitude of visually impaired pupils towards sighted pupils.

A) Bad [ ] b) Fair [ ] c) Good [ ]  
d) Very Good [ ] e) Excellent [ ]

Comment-----  
-----  
-----

5 The attitude of sighted pupils towards the visually impaired pupils.

A) Excellent [ ] b) Good [ ] c) Bad [ ]  
d) Very Good [ ] e) Fair [ ]

Comment-----  
-----  
-----

6 How has the integration system worked in your school?-----

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-----  
-----  
-----

7 Availability of teaching and learning materials for visually impaired pupils in your school. A) adequate [ ] b) inadequate [ ]

c) Fairly adequate [ ] d) only improvise [ ]

8 Attitude of teacher towards visually impaired pupils.

A) Excellent [ ] b) Good [ ]  
c) Fair [ ] d) Bad [ ]

Comment-----  
-----  
-----

9 How adequate are the specialist teachers who teach the visually impaired pupils?

A) Very adequate [ ] b) Not adequate [ ]

c) Fairly adequate [    ] d) No specialist teachers [    ]

Comment-----

10 Comment on the performance of visually impaired pupils at Grade 12 school certificate examination level-----

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

11 Do you consider integration system beneficial to the visually impaired pupils?  
Yes [ ] No [ ]

Comment \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12 How do you rate the skill and knowledge of your teachers to handle visually impaired pupils? A) Adequate [ ] b) Fairly Adequate [ ] c) Inadequate [ ] d) Very Inadequate [ ] e) Excellent [ ]

13 How do you rate the condition under which visually impaired pupils write their Grade 12 national examinations? A) Excellent [ ] b) Good [ ]  
c) Fair [ ] d) Bad [ ]

Comment \_\_\_\_\_

14 How do you generally feel about the examinations given to visually impaired pupils at Grade 12 national examinations? A) Fair [ ] b) Unfair [ ]  
c) Good [ ] d) Excellent [ ]

Comment \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**15** Comment on how you feel the following aspects may affect visually impaired pupil's performance at Grade 12 national examinations:

- Teaching and learning materials -----
- 
- 
- 
-

- Equipment and infrastructure.-----  
-----  
-----  
-----  
-----  
-----  
-----
- Teacher qualification and attitude -----  
-----  
-----  
-----  
-----  
-----
- The integration system. -----  
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THANK YOU

## Appendix D

### SEMI-STRUCTURED INTERVIEWS SCHEDULE FOR EXAMINATION COUNCIL OF ZAMBIA OFFICIAL

#### **PART ONE**

**A) Grade 12 pupils general examination result analysis from 1999 – 2004**

Year	No Entered	No Sat	No Absent	School certificate	G C E	Fail
1999						
2000						
2001						
2002						
2003						
2004						

**B) Grade 12 visually impaired pupils examination result analysis for 1999 – 2004**

Year	No of pupils Entered	No of pupils Sat	No of pupils Absent	No of pupils failed	G C E	School certificate
1999						
2000						
2001						
2002						
2003						
2004						

**C) Qualifications for school certificate examiners and markers for Grade 12 visually impaired pupils.**

FIELD	CERT	SP ED CERT	DIPLOMA	DEGREE	MASTERS	UNTRAINED	TOTAL
SP.ED. TEACHERS							
REGULAR TEACHERS							

#### **PART TWO**

**1.** How would you generally describe the performance trend of visually impaired pupils in the last five years at school certificate level?-----

-----



9. What should the government or schools do to enhance the positive performance of the visually impaired pupils in the national examinations at Grade 12 level?---

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-----  
-----  
-----

10. General comment(s) on the performance of the visually impaired pupils in the national examinations at Grade 12 level.-----

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**THANK YOU**