

**ACADEMIC PERFORMANCE OF HEARING IMPAIRED LEARNERS IN AN  
INTERGRATED SETTING IN KAPCHORWA TOWN COUNCIL  
KAPCHORWA DISTRICT**

**BY**

**CHELIMO BETTY SYLVIA**

**BED/ 17118/71/DU**

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**DECLARATION**

I **Chelimo Betty Sylvia**, declare that this report is my original work and has never been presented to any other university for the award of any academic certificate or any thing similar to such. I solemnly bears and stands to correct any inconsistency.

Signature .....  ..... Date ..... 7<sup>th</sup> OCT. 2009 .....

Chelimo Betty Sylvia

## APPROVAL

This report was carried out under my supervision as a university supervisor.

Signature .....  ..... Date 7<sup>th</sup> / 10 / 2009 .....

KIBUUKA MUHAMMAD

SUPERVISOR

## **DEDICATION**

I would like to dedicate this research report to my dear children Derick, Gloria, Esther, Jackline and my mum Faith Kokopmashandich for their tireless efforts.

## ACKNOWLEDGEMENT

I would like to extend my sincere gratitude to my supervisor Mr. Kibuuka Muhammad for his valuable supervision and guidance which helped me to complete this report.

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## **LIST OF ABBREVIATIONS**

HI: Hearing Impairment

SNE: Special Needs Education

P.L.E: Primary Leaving Examination

U.P.E: Universal Primary Education

UNISE: Uganda National Institute of Special Needs Education

KISE: Kenya Institute of Special Education

UNESCO: United Nations, Education, Social and Cultural Organization

## DEFINITION OF TERMS

**Integration:** refers to the education provided to all children in the mainstream classrooms.

**A Child:** refers to a person below the age of 18 years.

**Impairment:** Refers to a sensory or body damage which can be due to diseases, accident.

**Hearing impairment:** Is a general term to persons with hearing loss ranging from mild to profound.

**Deaf:** refers to a person who can not hear sound completely.

**Hard of hearing:** This refers to person who has some remaining hearing and can hear better with use of electronic devises that amplifies sounds.

**Inclusive education:** Refers to the ideas of involving children with disabilities in all programmes from home, school and in the community.

## ABSTRACT

This study set out to determine the impact of integration on the academic performance of learners with hearing impairment using three primary schools of Kapcharwa demonstration school, Kpchorwa primary school and Elgon primary school, all in Kapchorwa Town Council Schools. The study employed a descriptive comparative research design. Random sampling was used to select 99 pupils and the student's samples t-test was used to compare test results of the learners with HI and those who were normal.

The findings showed that over 8% of learners in the sampled schools had hearing problems, 6% had physical disability and majorities (86%) were normal. The study also found out that the mean scores of learners with hearing impairment and normal pupils significantly differed in all subjects except in mathematics. This indicated by significant P- values for all subjects except mathematics i.e. English (P = 000), math's (P = 0.243), social studies (P =000) and science (P =002). The researcher concluded that the number of hearing impaired learners, although small (8%), is enough to call for special attention to cater for their problems, academic performance of learners with hearing impairment significantly differs from that of normal learners if taught together, with hearing impaired learners having the worst scores. There fore integration of hearing impaired learners with normal learners, negatively affects their (HI) academic performance in terms of scores. The researcher recommended that the government, school administration and teachers should make special arrangements for hearing impaired learners, because their number is relatively big to be neglected. The researcher further recommended that hearing impaired learners should be taught from their special classes, since integrating them with normal learners negatively affect their performance.

## CHAPTER ONE

### INTRODUCTION

#### *1.0 Introduction*

This chapter shows the background of the study, statement of the problem, purpose of the study, objectives of the study, research questions and significance of the study.

#### *1.1 Background of the study*

The study determines the impact of integration in the teaching of learners with hearing impairment. The researcher decided to undertake this study because there has always been complains on children's academic performance especially those with hearing impairment in an integrated setting.

Different professionals use the term inclusion and mainstreaming synonymously to mean integration and the researcher also uses the same terms in the research. Skjorten M.D (1997) defines interaction as providing education services to children with special educational needs within the regular school system. Indeed this is a process of ensuring that schools, centers of learning and educational systems are open to all children with special needs. This enables learners to be included in all aspects of life.

The Salamanca statement (1994) world conference on special needs education organized by UNESCO on inclusive education stated that, every child has a fundamental right to education and must be given opportunity to achieve and maintain an acceptable level of learning, be given the opportunity to achieve and maintain an acceptable level of learning.

Indeed it's true that all children must be given a right to education that should cater for all the categories of children with disabilities and other vulnerable groups like the street children, HIV and Aids children, the orphans, children from war zones and "normal" children. All children shall benefit from this programme hence the able children interacting with the disabled which will result to societal responsibility, and chance to education for all and also calls for adjustments in curriculum, methods of teaching, and adaptation of teaching/ learning materials to suit all children at the nearest regular school.

The government white paper (1992 pg 88), recommends inclusive education as the best approach of accessing education to children with disabilities. If this policy is to be successful, then many changes need to be made or modified on the environment so that it enables all the categories of children to move freely, effecting teachers with various communication skills for example sign language which will enable them teach deaf learners, and adjusting the curriculum to suit all the learners. Without all these made then it means the learners will continue to receive abstract education and especially those with hearing impairment who do not understand the spoken language the teachers in regular classrooms use.

Learners with hearing impairment in schools have many challenges that need to be addressed in order to help them improve in academic performance and includes; the understanding of spoken language that the teachers use in the class. Teachers assume that all the learners understand yet the hearing impaired may not be picking anything at all. The teachers in most cases teach without instructional materials which still becomes hard for the hearing impaired learners to understand what is going on. On top of that, the methods of teaching may be inappropriate as they may be teacher centered whereby no demonstrations

and experiment being used which will enable the hearing impaired learners to follow the lesson systematically. Another big challenge is the use of undifferentiated curriculum that is not flexible for hearing impaired learners to pick. With the many challenge mentioned, it may not be possible for the hearing impaired learners to perform well academically and to benefit from the government programme of inclusive education.

This study therefore agrees with Ndeezi (2000) who observed that the profoundly deaf children are not yet benefiting from the Universal primary Education Scheme. The researcher therefore wonders as to when the inclusive education will or integration fully function if in the initial stages the aims were very clear that would enable all learners to benefit as they would be included in all aspects of life. It meant identifying, removing or reducing barriers within and around the school that may hinder learning, it emphasized that teachers, schools, and systems need to modify the physical and social environment so that they can fully accommodate the diversity of learning needs of pupils.

In the Jumien declaration on education for all (1990) where most developing countries signed, every person shall be able to benefit from educational opportunities designed to meet their basic learning needs. The researcher then affirms that Uganda government is making an effort to fulfill the aims of integration or inclusive education in providing education for all.

The challenges left now is in the implementation stage where authorities at the lower level need to play their roles effectively through support supervision, monitoring the teachers activities, providing relevant materials and evaluating the process. The teachers on the

other hand need to be committed in their work as teaching is an obligation that must be fulfilled.

### ***1.2 Statement of the problem***

Despite the innovations made by government to improve on the education of all the learners, that of hearing impairment is still low. Kizito H. (1987) noted that, while educational provisions for deaf children have developed over recent years, the area of vocational rehabilitation and resettlement of school learners has been largely neglected yet this sought to assess the level of integration and economic independence enjoyed by these persons with hearing impairment.

Generally the learners with hearing impairment are performing poorly in academics in integrated settings as can be observed in the recent primary living examinations for example the last year's results which were on the New Vision and Monitor papers of January 17<sup>th</sup> Wednesday 2009. In this results, only the "normal" children's names were shown and from schools mainly in the urban areas.

### ***1.3 Purpose of the study***

The purpose of the study is to determine the impact of integration on the academic performance of learners with hearing impairment in Kapchorwa Town Council Schools.

### ***1.4 Objectives of the study***

The objectives of the study are:-

- (i) To identify the available learners with hearing impairment.

- (ii) To examine the academic performance of learners with hearing impairment in an integrated setting.
- (iii) To establish the impact of integration on the performance of learners with hearing impairment.

### ***1.5 Research questions***

- i Are hearing impaired learners available in schools.
- ii How are learners with hearing impairment performing in an integrated setting?
- iii. What is the impact of integration on the academic performance of learners with hearing impairment in an integrated setting?

### ***1.6 Null Hypothesis***

Ho: Integration of learners with hearing impairment has no significant impact on their performance.

### ***1.7 Significance of the study***

This study is basically important because it provides information to the professionals who are interested in the field of hearing impairment. These will mainly be teachers and other stake holders who matter in the implementation of government programmes. For example the school management committees and he officers from the education office all over the country. As a student of education, the findings of the study helps the researcher pass as research is a requirement it also help the researcher in the career attainment of knowledge.



## CHAPTER TWO

### LITERATURE REVIEW

#### *2.0 Introduction*

This chapter involves systematic analysis of existing literature about academic performance of learners with hearing impairment with an aim of identifying the strength and weakness and to look for the possible ways of overcoming the weaknesses.

#### *2.1 Conceptual Frame Work*

Learners with hearing impairment are those who have difficulty in understanding spoken language. These learners experience challenges in learning especially when spoken language is used and also when teachers teach without enough demonstration of the skill learnt and if teaching/ learning aids are not used. Learners with hearing impairment use visual clues where by the observation skill is very important as this make them understand the concept taught.

These learners generally require practical approaches to be used, and ensuring that the classroom organization does not prevent any child from looking at the teacher signing and using facial expressions.

Okot et-al (2000), points out that the idea of sitting arrangement in class, adjustment of curriculum to suit learners needs, remedial work or, additional lessons to cater for individual differences. That the use of special learning resources and adjustment of communication mode is essential.

However; its true that the learner with hearing impairment need special communication modes in order to learn in an integrated setting and to be given remedial work which covers the area that the children did not understand during the teaching/ learning process.

Serwaniko (2000) examines the use of extra assistance provided to learners to overcome barriers to learning and development.

In brief, the researcher affirms the above provision in order to improve on the performance of learners with hearing impairment yet the challenge in the primary schools is that very few teachers have special training in handling learners while the classroom enrolment is too high that the teachers resort to using their tradition enrolment is too high that the teachers resort to using their tradition methods of teaching hence resulting to lower or poor academic performance of hearing impaired learners. Ndeezi (2000) notes the challenges of providing education to children with disabilities with current teacher pupil 1,110 in some schools. That this is extremely high and not conducive to proper learning and good standards yet the ratio of teachers of learners with hearing impairment is 1:4 such that 1.110 are extreme cases.

## **2.2 Available learners with hearing implement in an integrated setting**

Efforts to make provision of learners with impairments be integrated into the school system started far back in 1989 when the Universal Primary Education policy was launched and the Education Assessment and Resource services (EARS) has done a lot of identification, assessment and placement of learners with disabilities into the regular schools in their localities for example a unit was raised in (1998) at Kapchorwa Demonstration school for children with hearing impairment. These children learn with the rest of the children in class but are taken to a resource room for extra lessons in the evenings. Kabonyoro S. (2000) observes that the Educational, Assessment and Resource Services, (EARS) have done a lot in ordinary schools by training ordinary teachers in identifying children with disabilities and referring them to be further assessed by other professionals . In this respect, the

communities around can now send their children to any nearby school hence making the hearing impaired learners enjoy the social interaction from their peers.

### *2.3 Academic performance of learners with hearing impairment in an integrated setting*

The academic performance of learners with hearing impairment is generally low as observed by Kizito H. (2000) in the research study to find out the level of learners with hearing impairment where the results showed that most of the learners did not reach primary seven. That they fall off in primary six and join vocational and rehabilitation centers.

In support of that, the primary living results of 2008, as seen on both papers of New vision and Motor on 17<sup>th</sup> January Wednesday 2009, still affirms that the hearing impaired learners have a lot of challenges. The teachers need specific training in areas of communication for example in sign language, and in acquainting themselves with methods of teaching learners with hearing problems. They should try to adapt the materials sent from the ministry of Education and Sports to suit learners with hearing impairment, and also make and use their own materials from the local environment. Ndeezi (2000, in ) notes that, the special education teachers in areas such as Deaf Education where sign language is used are inadequate and non-existent in most primary schools.

Ndeezi continues to note that the Universal Primary Education emphasizes mainstreaming of all categories of children but the profoundly deaf learners are not yet benefiting much from the scheme.

This is true and the researcher agrees with the above scholar that learners with hearing impairment are not benefiting.

#### *2.4 The Impact of Integration on the Academic performance of Learners With Hearing Impairment*

Integration of learners with hearing impairment has led to many learners accessing education although many of them drop out of school before they do their primary leaving examination. Most of the positive aspects that hearing impaired learners acquire from the process of integration is development of life skills which they acquire from their normal peers. This enables them to have a positive learning and to continue being in school for a long period.

On top of developing positive attitude about living, these learners with hearing impairment learn to share resources which creates opportunities for them to interact, cooperate, team spirit is build and the hearing impaired learners will then develop relationships. Another important aspect is learning to grow in the environment that they will eventually leave and work in future. Lastly both pupils and teachers gain virtues of being accommodating, accepting, patient and humble as they support one another.

## CHAPTER THREE

### METHODOLOGY

#### 3.0 *Introduction*

This chapter presents the designs and methodology on which the research is based. It also presents the research environment, research population, sample procedure, research instruments, and methods of data analysis.

#### 3.1 *Research Design*

The research used a descriptive comparative research design to compare the academic performance of hearing. Impaired learners in an integrated setting with that of normal learners.

#### 3.2 *Area of the Study*

This study was carried out in Kapchorwa Town, in Kapchorwa District. The researcher used this area because it has a number of learners with hearing impairment integrated into the classes. For example Kapchorwa demonstration school has twenty pupils with hearing impairment who are integrated into the main stream classes but they are taken to a resource room for sign language in the afternoons.

The five schools of the town council were used and these are Kapcharwa demonstration school, Kpchorwa primary school, Elgon primary school, Mountain Boarding and day primary school and Faith Homes primary school all in the town council.

#### 3.3 *Population*

The research used learners from the three schools of Kapchorwa demonstration school, Kapchorwa primary school and Elgon primary school.

### ***3.4 Sample Procedures***

To get the sample required the researcher used random sampling because the population was large and the hearing impaired learners were scattered in various classes so all members in the group sampled were used.

### ***3.5 Research Instruments***

The research used experimentation where the learners were given tests to do and were marked and the results were put on mark sheets, where each learner's performance was viewed and compared according to the need.

### ***3.6 Methods of Data Analysis***

Data was analyzed using students sample t-test to describe the effect of integration on performance of learners with hearing impairment and that of normal learners. Frequency table were used in analyzing data on the number of learners with hearing impairment in schools. According to Amin (2000) the t-test is suitable when comparing two sample means. The following formula was used to compute the t-test;

This t-test was used to test the null hypothesis that; integration of learners with hearing impairment has no significant impact.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION

#### 4.0 Introduction

This chapter shows data description, available learners with hearing impairment, academic performance of learners with hearing impairment in an integrated setting and the impact of integration on the performance of learners with hearing impairment.

#### 4.1 Data Description

This study was carried out in five schools of Kapchorwa demonstration school, Kapchorwa primary school, Elgon primary school, Mountain Boarding primary school and Faith Homes. The study used primary data from these schools. Data was collected through a series of tests administered by the researcher and class teachers when hearing impaired learners were taught from an integrated class. Tables 4.1 and 4.2 show the description by school and nature of learners' disability.

*Table 4.1: Description of Pupils by School*

|                                     | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------------------------------------|-----------|---------|---------------|--------------------|
| Valid Kapchorwa Demostration School | 52        | 52.5    | 52.5          | 52.5               |
| Kapchorwa Primary School            | 26        | 26.3    | 26.3          | 78.8               |
| Elgon Primary School                | 21        | 21.2    | 21.2          | 100.0              |
| Total                               | 99        | 100.0   | 100.0         |                    |

Table 4.1 shows that majority of pupils tested (53%) came from Kapchorwa demonstration school, while Kapchorwa primary and Elgon primary schools produced 26% and 21% respectively. The two schools of mountain and homes primary, did not have learners with hearing impairment, so they were left out in the analysis.

It is also clear from table 4.2 that only 14% of the learners in the said three schools were in the category of special needs, where as over 86% were normal learners.

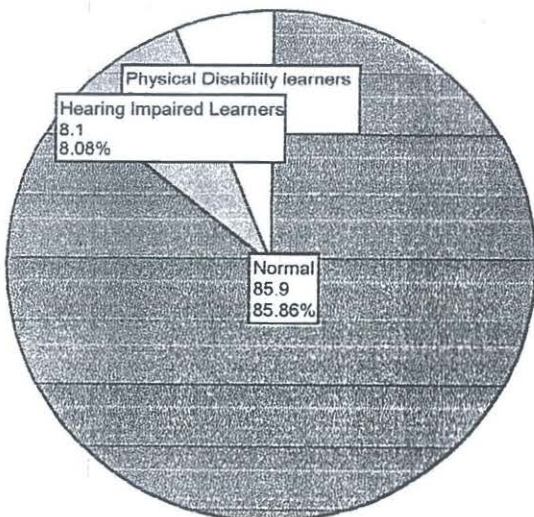
**Table 4.2: Students Described by Nature of Disability**

|       |                              | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------------------------|-----------|---------|---------------|--------------------|
| Valid | Normal                       | 85        | 85.9    | 85.9          | 85.9               |
|       | Hearing Impaired Learners    | 8         | 8.1     | 8.1           | 93.9               |
|       | Physical Disability learners | 6         | 6.1     | 6.1           | 100.0              |
|       | Total                        | 99        | 100.0   | 100.0         |                    |

It's clearly indicated in table 4.2 that from the sampled students, only 8% had hearing impairments in whom the researchers had interest.

#### 4.2 The available learners with Hearing Impairment

In this case, the researcher was interested in finding out the extent of availability of learners with Hearing Impairment in terms of numbers. The researcher used integrated classes to determine this number during the administration of the tests, where learners were required to show their status in terms of disability. Some indicated that they were normal, others showed that they had physical problems while some indicated that they had hearing problems. Results are presented using a pie chart in figure 1.



**Fig. 1: Students' Nature of Disability**



Figure 1, shows pupils with hearing impairment were 8%, those with physical disability were 6% and majority (86%) were normal. This implies that over 8% of pupils in this region have hearing problems.

#### **4.3 Academic performance of learners with hearing impairment in an integrated setting**

Learners with hearing impairment are hampered in their academic performance (in terms of scores) due to their hearing problems. As such they need special attention and care, although it is sometimes costly, and that is why programs to integrate them with normal learners are put in place. But in so doing, their performance (in such an integrated setting) is questionable, because there is a question of whether they can compete favorably with their normal counterparts. The researcher in this study wanted to examine how learners with hearing impairment perform in an interpreted setting and whether integration positively or negatively impacts their academic performance. To achieve this objective, tests were given in different subjects in different schools visited and were critically studied. Results were summarized using frequency tables and cross tabulations, using SPSS package. Table 4.3 shows the description of results in general and table 4.4 shows the performance of learners with hearing impairment vis-a-vie normal learners.

**Table 4.3 Description of pupils' scores**

|                          | N  | Minimum | Maximum | Mean  | Std. Deviation |
|--------------------------|----|---------|---------|-------|----------------|
| Scores in English        | 52 | 5       | 75      | 45.44 | 17.478         |
| Scores in Mathematics    | 25 | 20      | 70      | 52.84 | 9.758          |
| Scores in Social Studies | 26 | 5       | 75      | 51.23 | 17.998         |
| Scores in Science        | 21 | 20      | 82      | 58.29 | 14.107         |
| Valid N (listwise)       | 0  |         |         |       |                |

Table 4.3 Shows that the best mark (82%) was science and the worst was social studies and English (5%). On average, the mean score for science was again the highest (58%) and the worst was in English (45%). This implies that pupils in the sampled school are still badly

off in English, even its standard deviation is higher than subjects, indicting poor performance by the majority.

When academic score results were cross-tabulated with student's nature of disability, the results indicate poor/low scores for learners with hearing impairment compared to normal students. These results re indicated in table 4.4.

**Table 4:4a Students nature of Disability and scores in English**

| Count   |    | students' Nature of Disability |                           | Total |
|---------|----|--------------------------------|---------------------------|-------|
|         |    | Normal                         | Hearing Impaired Learners |       |
| Scores  | 5  | 0                              | 2                         | 2     |
| in      | 20 | 5                              | 0                         | 5     |
| English | 25 | 1                              | 0                         | 1     |
|         | 30 | 6                              | 0                         | 6     |
|         | 35 | 3                              | 0                         | 3     |
|         | 40 | 3                              | 0                         | 3     |
|         | 45 | 5                              | 0                         | 5     |
|         | 50 | 6                              | 0                         | 6     |
|         | 53 | 1                              | 0                         | 1     |
|         | 55 | 7                              | 0                         | 7     |
|         | 60 | 4                              | 0                         | 4     |
|         | 65 | 5                              | 0                         | 5     |
|         | 70 | 1                              | 0                         | 1     |
|         | 75 | 3                              | 0                         | 3     |
| Total   |    | 50                             | 2                         | 52    |

As indicted in the table 4.4a, learners with hearing impairment had the worst results. It is clear that two learners with hearing impairment did the English test and all of them got 5%. The highest mark was 75% got by three learners, all of whom were normal. This implies that learners with hearing impairment are at disadvantage when taught English together with normal learners.

The same trend is seen in mathematics (Table 4.4b), as the worst mark (20%) was for only the hearing impaired learner, and none of them (HI) got the best marks (70, 65 and 62). Its only normal learners who scored these marks.

**Table 4.4b: Students' Nature of Disability \* Scores in Mathematics**

*Cross tabulation*

| Count                 |       | Students' Nature of Disability |                           | Total |
|-----------------------|-------|--------------------------------|---------------------------|-------|
|                       |       | Normal                         | Hearing Impaired Learners |       |
| Scores in Mathematics | 20    | 0                              | 1                         | 1     |
|                       | 40    | 1                              | 0                         | 1     |
|                       | 45    | 1                              | 0                         | 1     |
|                       | 49    | 1                              | 0                         | 1     |
|                       | 50    | 9                              | 1                         | 10    |
|                       | 55    | 1                              | 1                         | 2     |
|                       | 56    | 0                              | 1                         | 1     |
|                       | 59    | 1                              | 0                         | 1     |
|                       | 60    | 2                              | 1                         | 3     |
|                       | 62    | 1                              | 0                         | 1     |
|                       | 65    | 2                              | 0                         | 2     |
|                       | 70    | 1                              | 0                         | 1     |
|                       | Total | 20                             | 5                         | 25    |

The trend is the same for science and social studies, as no learner with hearing impairment managed to be among those who scored high, instead they all had the worst results (see appendix table 4.4c & d)

#### **4.4 The impact of integration on academic performance of learners with hearing impairment**

The basic question here is does integration of learners with hearing impairment among normal learners bring better or worst results- for hearing impairment learners? To do this, the researcher impaired tested a null hypothesis that: the mean score for learners with hearing impairment and normal learners do not significantly differ. To test this hypothesis, results got from tests (see section 4.3) were used. The student's samples t-test was used in testing the hypothesis. Results are indicated in tables 4.5a through d

*Table 4.5: independent samples t-test results*

| <i>Subject</i> | <i>F-test</i> | <i>t-Test</i> | <i>Sig. (2tailed)</i> | <i>Df</i> | <i>Std error diff</i> | <i>Mean Difference</i> |
|----------------|---------------|---------------|-----------------------|-----------|-----------------------|------------------------|
| English        | 4.577         | 0.37          | .000                  | 50        | 4.835                 | 42.060                 |
| Math           | 3.151         | .089          | .243                  | 23        | 4.835                 | 5.800                  |
| SST            | 6.577         | 4.421         | .000                  | 24        | 6.787                 | 30.000                 |
| Science        | -             | 3.965         | .002                  | 13        | 10.990                | 43.571                 |

As indicated in table 4.5, the mean scores of learners with hearing impairment and normal pupils significantly differed in all subjects except mathematics. Basing on these results, we reject the null Hypothesis stated above and accept the alternative that the mean scores for learners with hearing impairment and those who are normal significantly differ, when taught in an integrated class. This indicated by significant p-values for all subjects except mathematics, i.e. English (p=000) and science (P.O. 243), social studies (p=000) and science (p=002) also looking at the respective mean differences (MD), these results are highly accepted, i.e. English (MD= 42.060), math (MD 5.8) Social studies (MD=30,000) and science (MD=43.571)

These results surprising imply that integration of learners with hearing impairment in the class of normal learners has a significant negative impact on their (HI) performance. However one needs to question why their performance in mathematics is not so negatively affected like other subjects. The explanation may be that mathematics involves also demonstration, where examples are taught practically, so hearing impaired learners can ably see and grasp the content, than in other subjects which require a lot of explanation and here hearing impaired learners have a problem of listening properly to what the teacher says. The same question would be asked for science, but as seen; the significance reduces compared to other subjects.

## CHAPTER FIVE

### SUMMARY, CONCLUSION AND RECOMMENDATION

#### *5.0 Introduction*

This chapter shows the summary of major findings, conclusion and recommendations. The areas for further research are also indicated.

#### *5.1 Summary of major findings*

The findings showed that over 8% of learners in the sampled schools had hearing problems, 6% had physical disability and majorities (86%) were normal. It was found out that the best mark (82%) was in science and the worst was in social studies (5%) for normal learners and learners with hearing impairment respectively.

It was also found out that the mean score for science was 58% and the worst in English was 45%. This implies that learners in the sample schools are still badly off in English as its standard deviation is higher than other subjects, indicating poor performance by the majority.

The study also found out that the mean scores of learners with hearing impairment and normal pupils significantly differed in all subjects except in mathematics. This indicated by significant P- values for all subjects except mathematics i.e English (P = 000), math's (P = 0.243), social studies (P =000) and science (P =002). These results imply that Integration of learners with hearing impairment in a class of normal learners has a significant negative impact on their performance.

## ***5.2 conclusions***

Basing on the above findings the researcher concludes that the number of hearing impaired learners, although small (8%), is enough to call for special attention to cater for their problems. The researcher also concludes that academic performance of learners with hearing impairment significantly differs from that of normal learners if taught together, with hearing impaired learners having the worst scores.

It is therefore generally concluded that, basing on the findings of this particular study, integration of hearing impaired learners with normal learners, negatively affects their (HI) academic performance in terms of scores. However there is a need to compare these results with results, when hearing impaired learners are taught in a special class.

## ***5.3 Recommendations***

Basing on the above findings, the researcher recommends that a government, school administration and teachers should make special arrangements for hearing impaired learners, because their number is relatively big to be neglected.

The researcher further recommends that hearing impaired learners should be taught from their special classes, since integrating them with normal learners negatively affect their performance. However if they are to be integrated, they should be adequately provided with relevant materials such as charts and teachers should be oriented in teaching hearing impaired learners.

## ***5.4 Areas for further research***

A similar study can be conducted in a class of learners with hearing impairment in a non integrated setting for better results.

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## APPENDICES

### Appendix A: Computations of cross tabulations and t-tests for all subjects

**Table 4.4c: students' Nature of Disability \* Scores in Social Studies Cross tabulation**

Count

|              |    | Students' Nature of Disability |                           | Total |
|--------------|----|--------------------------------|---------------------------|-------|
|              |    | Normal                         | Hearing Impaired Learners |       |
| Scores       | 5  | 0                              | 1                         | 1     |
| in           | 10 | 0                              | 1                         | 1     |
| Social       | 22 | 0                              | 1                         | 1     |
| Studies      | 40 | 1                              | 1                         | 2     |
|              | 42 | 1                              | 0                         | 1     |
|              | 45 | 2                              | 0                         | 2     |
|              | 48 | 1                              | 0                         | 1     |
|              | 50 | 4                              | 0                         | 4     |
|              | 53 | 2                              | 0                         | 2     |
|              | 55 | 1                              | 0                         | 1     |
|              | 58 | 0                              | 1                         | 1     |
|              | 60 | 1                              | 0                         | 1     |
|              | 62 | 1                              | 0                         | 1     |
|              | 65 | 1                              | 0                         | 1     |
|              | 66 | 1                              | 0                         | 1     |
|              | 70 | 2                              | 0                         | 2     |
|              | 73 | 1                              | 0                         | 1     |
|              | 75 | 2                              | 0                         | 2     |
| <b>Total</b> |    | 21                             | 5                         | 26    |



**Table 4.4d: students' Nature of Disability \* Scores in Science**

| Count             |    | Students' Nature of Disability |                           |                              | Total |
|-------------------|----|--------------------------------|---------------------------|------------------------------|-------|
|                   |    | Normal                         | Hearing Impaired Learners | Physical Disability Learners |       |
| Scores in Science | 20 | 0                              | 1                         | 0                            | 1     |
|                   | 39 | 0                              | 0                         | 1                            | 1     |
|                   | 49 | 0                              | 0                         | 1                            | 1     |
|                   | 50 | 3                              | 0                         | 2                            | 5     |
|                   | 55 | 1                              | 0                         | 0                            | 1     |
|                   | 56 | 1                              | 0                         | 0                            | 1     |
|                   | 60 | 2                              | 0                         | 1                            | 3     |
|                   | 65 | 1                              | 0                         | 0                            | 1     |
|                   | 66 | 0                              | 0                         | 1                            | 1     |
|                   | 70 | 2                              | 0                         | 0                            | 2     |
|                   | 72 | 1                              | 0                         | 0                            | 1     |
|                   | 75 | 2                              | 0                         | 0                            | 2     |
|                   | 82 | 1                              | 0                         | 0                            | 1     |
| <b>Total</b>      |    | 14                             | 1                         | 6                            | 21    |

**Table 4.5a: Independent Samples Test**

|   |   | Scores in English       |                             |
|---|---|-------------------------|-----------------------------|
|   |   | Equal variances assumed | Equal variances not assumed |
| Levene's Test for Equality of Variances | F   | 4.577                   |                             |
|   | Sig.                                      | .037                    |                             |
| t-test for Equality of Means            | t   | 3.738                   | 18.866                      |
|   | df  | 50                      | 49.000                      |
|   | Sig. (2-tailed)                           | .000                    | .000                        |
|   | Mean Difference                           | 42.060                  | 42.060                      |
|   | Std. Error Difference                     | 11.253                  | 2.229                       |
|   | 95% Confidence Interval of the Difference | Lower<br>Upper          | 37.580<br>46.540            |

**Table 4.5b: Independent Samples Test**

|   |   | Scores in Mathematics   |                             |
|---|---|-------------------------|-----------------------------|
|   |   | Equal variances assumed | Equal variances not assumed |
| Levene's Test for Equality of Variances | F   | 3.151                   |                             |
|   | Sig.                                      | .089                    |                             |
| t-test for Equality of Means            | t   | 1.200                   | .781                        |
|   | df  | 23                      | 4.455                       |
|   | Sig. (2-tailed)                           | .243                    | .474                        |
|   | Mean Difference                           | 5.800                   | 5.800                       |
|   | Std. Error Difference                     | 4.835                   | 7.426                       |
|   | 95% Confidence Interval of the Difference |                         |                             |
|   | Lower                                     | -4.202                  | -14.014                     |
|   | Upper                                     | 15.802                  | 25.614                      |

**Table 4.5c: Independent Samples Test**

|   |   | Scores in Social Studies |                             |        |
|---|---|--------------------------|-----------------------------|--------|
|   |   | Equal variances assumed  | Equal variances not assumed |        |
| Levene's Test for Equality of Variances | F   | 6.577                    |                             |        |
|   | Sig.                                      | .017                     |                             |        |
| t-test for Equality of Means            | t   | 4.421                    | 2.964                       |        |
|   | df  | 24                       | 4.513                       |        |
|   | Sig. (2-tailed)                           | .000                     | .036                        |        |
|   | Mean Difference                           | 30.000                   | 30.000                      |        |
|   | Std. Error Difference                     | 6.787                    | 10.121                      |        |
|   | 95% Confidence Interval of the Difference | Lower                    | 15.993                      | 3.116  |
|   |   | Upper                    | 44.007                      | 56.884 |

**Table 4.5d: Independent Samples Test**

|   |   | Scores in Science       |                             |   |
|---|---|-------------------------|-----------------------------|---|
|   |   | Equal variances assumed | Equal variances not assumed |   |
| Levene's Test for Equality of Variances | F   | .                       |                             |   |
|   | Sig.                                      | .                       |                             |   |
| t-test for Equality of Means            | t   | 3.965                   | .                           |   |
|   | df  | 13                      | .                           |   |
|   | Sig. (2-tailed)                           | .002                    | .                           |   |
|   | Mean Difference                           | 43.571                  | 43.571                      |   |
|   | Std. Error Difference                     | 10.990                  | .                           |   |
|   | 95% Confidence Interval of the Difference | Lower                   | 19.829                      | . |
|   |   | Upper                   | 67.314                      | . |