Instructional Strategies and Academic Performance of Learners with Hearing Impairment in Primary Schools, Nyaravur Sub County- Nebbi District, Uganda

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B T E

KY U

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Declaration

I Jumadhewun Richard, a student of Gulu University, hereby declare that this work is my original work and to the best of my knowledge it has never been presented by any other person or institution for any academic award in and outside Gulu University.

Sign.......... Date:.....4/9/2025.....

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Approval

The research dissertation entitled "Instructional Strategies and Academic Performance of Learners with Hearing Impairment", Nyaravur Sub County -Nebbi District, Uganda was done under our supervision and it is ready for submission.

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Dedication

I dedicate this research report to my dearest wife Madam Gloria Omul (RIP), my twins Jesse Opio and Jude Odongo, relatives, friends and in-laws including all those who helped me throughout my education period.

Acknowledgement

Special thanks go to the Almighty God for the protection, provision of wisdom, knowledge and the strength he gave me when I needed it most.

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May the Almighty God bless you all.

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List of Acronyms

NCDC	National Curriculum Development Center
DHH	Deaf and Hard-of-Hearing
FOTIM	Foundation of Tertiary Institutions of the Northern Metropolis
MOEST	Ministry of Education, Science and Technology
CWHI	Children with Hearing Impairment
USD	Uganda Society for the Deaf
UNEB	Uganda National Examinations Board
LWHI	Learners with Hearing Impairment

Abstract

The major purpose of the study was to examine the influence of instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District. The following specific objectives guided the study; to examine the instructional strategies used in teaching learners with hearing impairment, to examine the academic performance of learners with hearing impairment, and to establish the relationship between instructional strategies and academic performance of learners with hearing impairment. A mixed method was used alongside cross-sectional survey and correlational designs. A sample size of 45 participants and 09 respondents were used which included head teachers, teachers and pupils with hearing impairments. Questionnaire, interview guide and documentary analysis were used as main data collection tools. The key findings were that the mostly used instructional strategies were gestures, sign language, real objects like shapes and clocks among others. Academic performance of learners with hearing impairment in inclusive classes were found to be poor compared to their counter parts who are hearing. Relationship was strong between instructional strategies and academic performance of learners with hearing impairment in inclusive classes. Findings from Pearson's correlation test showed there was a significant relationship between instructional strategies and academic performance as evidenced by understanding, good academic results, getting learning in real life situation as p value was 0.02. The tree variables tested under this study was related to academic performance with instructional strategies had the strongest relationship since the p-value was below 0.05. The best suitable instructional strategies according to conclusion were real objects, sign language and gestures that provided visual support which improved understanding and created a more inclusive education. Hence, the study further concluded that there was very strong relationship between instructional strategies and academic performance of learners with hearing impairment in inclusive classes in Nyaravur Sub County – Nebbi District. The study finally, recommended that sign language, gestures, models and real objects be used in all-inclusive schools, Continuous Professional Development especially for teachers in Special Needs Education lastly practical policy documents should be formulated to strengthen the existing relationship.

Chapter One

Introduction

1.0 Overview

Chapter one presented background, problem statement, general objectives, specific objectives, research questions, scope of the study, justification and last but not least conceptual framework.

The world over, academic performance of learners with hearing impairments has been a very serious matter of concern particularly in Pre Primary Leaving Examinations, standard mock and national examinations such as Primary Leaving Examinations across the country as this was be attested to by 2020 and 2023 PLE where learners with hearing impairment displayed poor results without any one candidate in first grade (Odongo, 2021).

1.1 Background to the study

The background to this study was presented as historical, theoretical, conceptual and contextual background.

1.1.1 Historical background

According to Allan (2003) reported that approximately half the number of learners with hearing impairment in the United States of America (USA) had poor academic performance that resulted from below reading achievement and exclusion practices during their low grades levels which were based on inappropriate and un effective instructional strategies. Data available at that time indicated that only 07 – 10% (percent) of learners were able to

perform slightly well when compared to other learners under the same inclusive setting. Most schools continued to post very low academic performance across several States significantly impacted on academic performance. The voices of learners with special needs and their mainstream peers are foregrounded and read alongside those of other interest parties, teachers who used instructional strategies in inclusive class, other professionals, parents as well as the more formal discourse of special needs.

In Sweden about 4,600 pupils With Hearing Impairment have some kind of hearing devices (Coniavitis, Gellerstedt and Bjarnason, 2015). Children with hearing loss in Sweden usually attend special and mainstream schools (85%). In both cases learners with hearing impairment

registered continuous weak and struggling academic performance compared to those without impairments. The remainder attends special schools for the deaf (9%), a special school for children with hearing loss (6%), or a special class in school for hearing (1%) (Hearing loss association of Sweden, 2014; Sweden Education Act, 2010; Sweden National Agency for Education, 2015).

In Mumbai, India preferred instructional strategies and academic performance of children with and without hearing impairment who attended inclusive classrooms primary concerns for the nation. The state engaged several partners to determine suitable instructional strategies or learning styles to primary school children with and without hearing impairment. The age at time of study of the selected group was 6 years to 9 years. (Mean age =7.5 years). A tool 'Learning Style Response Sheet' LSRS was developed and Cramer's 'V'- a non-parametric test was used. The result showed no association between hearing status and the preferred learning styles of students but it revealed a strong association between preferred learning styles and the grades of academic achievements since the obtain value of 'V' was one which indicates a perfect link between them (Jignya & Varsha Gathoo, 2017).

Hearing impairment is recognized as a global pandemic (Tucci, Merson and Wilson, 2009) and it is also the most common congenital abnormality found in newborns (Shemesh, 2010). The academic performance or achievement gap between students who hear and those with a hearing impairment is a frequently reported fact (Marschark, 2006; Meadow – Orleans 2001; Moores, 2003). Similarly, academic performance of deaf and hard-of-hearing (DHH) students is the result of a complex interplay of many factors. These factors include characteristics of the students (e.g., hearing thresholds, language fluencies, mode of communication, and communication functioning), characteristics of their family environment (e.g., parent education level, socioeconomic status), and experiences inside and outside school (e.g., school placement, having been retained at grade level) (Marschark, 2015).

In South Africa, limited data existed concerning students with hearing impairment using the Oral method of communication especially regarding their teaching and learning needs (Foundation of Tertiary Institutions of the Northern Metropolis-FOTIM, 2011). There was a lot of political upheavals during the apartheid era, many missionaries were sent to South Africa, and this missionary- minded approach also reached the South African Deaf community in the 1860s specifically to help poor academic performance that existed among learners with hearing impairment in the form of the Irish Dominican nuns and, later, the Dutch Reformed Church.

According to a study by Deginesh and Worku (2016) Integration of students with hearing impaired learners come as an education policy in Ethiopia so that the long trends of exclusion of deaf students from school gets solved. Important logic behind integration was not only the poor academic performance but also development of social relation of students with hearing impaired and social isolation get blocked. Accordingly, based on this review of the recent literatures, social benefit is weighing more than academic benefit for hearing impaired students in integrated class. Absence of resources centers in almost all public schools, lack off sign language skill among all classroom teachers, awareness gap among staff and teachers and less collaboration and commitment among stakeholders to implement integration policy considered as a key challenge for hearing impaired students not to benefit from the integration policy. The findings clearly indicated strong relationship between integration of learners with hearing impairment and their hearing counterparts in an inclusive settings.

According to ministry of Education, science and technology (MOEST), (2005) reported academic performance in national examinations like Kenya Certificate of Primary Education (KCPE), continued to be an indicator of the poor quality of education for learners with hearing impairment. Majority of these learners rarely score above 250 (out of a possible 500) marks and their pass mark to join secondary schools. Only a small percentage of these learners in Kenya, who acquire primary education proceed for further education at secondary schools and university levels (MOEST, 2005b).

In Uganda, a study conducted by Kasikye (2021) investigated the challenges of instructional strategies on grades of academic performance in cognitive learning of learners with hearing impairment within some few primary schools for the deaf in Kampala Capital City Authority. The study used thirty (30) participants as the total, 27 were teachers from deaf schools and three head teachers were respondents of the selected schools. The research design employed was exploratory research design and qualitative data analysis for the findings of the study. The study revealed that quite a good number of instructional strategies do exist and actively being used by teachers in day to day teaching and learning process to improve on academic performance particularly Sign Language albeit numerous challenges frequently encountered by both teachers and learners due to lack of mastery of the signs.

The history of instructional strategies for learners with hearing impairment in northern Uganda highlighted evolution of inclusive education practices and their impacts such as use of general or traditional instructional strategies and large classroom enrolment which did not encourage

learners with hearing impairments to concentrate during teaching and learning process. Recent studies indicated that the use of traditional instructional strategies have contributed to poor academic performance and continued that pedagogical strategies significantly influence the learning outcomes of these learners (UCU, 2023).

1.1.2. Theoretical Background

The theory that explains instructional strategies and academic performance of learners with hearing impairment was based on the Classical Liberal Theory of equal opportunities advanced by Sherman and Wood (1982). This theory asserts that each individual is born with a given amount of capacity. According to this theory, educational systems should be designed with a view to removing barriers of any nature for example, barriers based on socio-economic factors, socio-cultural factors, geographical factors, school-based factors which prevent learners who have a learning disability to take advantage of their inborn talents since disability is not inability (Kakooza, 2022; Akena, 2023).

These factors above combined, are translated into lack of assistive device, in adequate multimedia, social interaction, peer tutoring, sign language, task analysis/Individualized Educational Program, total communication, lip reading, finger spelling, adjusting content, visual support in terms of charts and diagrams, home based approach, dramatization, storytelling, picture representations, signed English and viewing boards and differentiated strategies (Mugisha, 2023; Akwakol, 2023).

The theory further stated that social mobility was promoted by equal opportunity for all citizens to access education. The theory assumed that given opportunities all individuals can go through all levels of education (primary, secondary and tertiary) to which access was not be determined by the disability of the learners but on the basis of individual capability. In this way, education would at least provide equality in performance where all classes, races and gender could benefit from excellent academic performance in terms of attaining above or high grades in Standard Mock, Pre PLE and PLE (Gaus, 2022).

The critics of the theory criticized it for failure to address unequal starting point people face for like race, gender and socio-economic and exploitation and creation of social problems (Fukuyama, 2022).

This theory directly linked to my study variables because it emphasized on the use of sign language, lip reading, finger spelling, task analysis, total communication, social interaction and similar others to achieve high grades in examinations such as standard Mock,

Pre- PLE and PLE consequently enhancing learning of children with hearing impairment in inclusive schools (Akena, 2023; Kakooza, 2022).

1.1.3. Conceptual background

Instructional strategies are the comprehensive sets of instructional events intentionally designed to promote learning and facilitate the achievement of specified learning objectives (Hirumi, 2013 AU104).

In addition, Joshua Hill and Linda Jordan (2021) posits that instructional strategies describes the instructional materials and procedures that enables learners to achieve the learning outcomes.

According to Virginia Department of Education (2019) contends that team members working with learners who are deaf and hard of hearing need to carefully consider each learner's unique needs and learning strategies to provide a standing point for thinking about possible adaptations. Such strategies include multimedia approach, sign language, lip reading (speakers communication attempts), total communication, finger spelling, enriched learning environment, differentiated strategies, cued speech, IEP (Individualized Education Program), task analysis, home based approach, dramatization, storytelling, picture representation, Singed English, use of assistive device, viewing boards, peer tutoring, visual supports(charts and diagrams) and adjusting content.

Similarly, Ellen and Angela (2022) viewed instructional strategies for academic performance for learners with hearing impairment in an inclusive school as proper classroom seating, sign language interpreter, visual materials, communication and modifying acoustical environment.

Instructional strategies refer to the technique's instructors use to deliver their lessons. Effective instructional strategies help learners become actively involved in the learning process. When done right, it supports learners in reaching their objectives (Persaud, 2021).

Finally, the researcher focused on the concept of instructional strategies contended by Virginia Department of Education (2019) which relates well with my study notably; use of multimedia

approach, sign language, lip reading (speakers communication attempts), total communication, finger spelling, enriched learning environment, differentiated strategies, cued

speech, social interactions, IEP (Individualized Education Program), home based approach, dramatization, storytelling, picture representation, Singed English, use of assistive device and viewing boards.

Conversely, (Ayala & Manzano, 2018) define academic performance as learners' achievement in terms of grades acquired during an education cycle.

In the same vein, Tadese, Yeshaneh andMulu (2022) define academic performance as the extent to which a learner, teacher or institution has attained their short- or long-term educational goals and is measured either by continuous or summative assessment in national, regional and school based examinations. Primary Leaving Examinations (PLE), standard mock and Pre-PLE are always measured interms of grades such as low, moderate or medium, average above average and high. Academic performance is further defined as the measure of learners' achievement in terms of grades for instance low, average and high acquired during an education cycle (Kimba, Mutua, & Mulwa, 2017; Rossi, 2017; Ayila & Manzano, 2018).

Sandbox (2017), states that children with hearing impairment are those with a loss in hearing whether permanent or fluctuating. Some children may have a hearing loss which is so severe that it completely precludes perception and interpretation of spoken language. Others may have mild or moderate hearing loss which permits perception and processing of spoken language although with difficulty. This implies that the existence of hearing loss may hinder children with this condition from participating in learning activities. Children with hearing impairment continue to lag behind their peers in academic performance especially in the areas of reading and mathematics. Heward (2017) indicates that the gap in achievement between children with normal hearing and those with hearing impairment usually widens as they grow older.

In this study, academic performance was defined as the overall results obtained such as first, second and third which are termed as pass grades by the Uganda National Examinations Board in Primary Leaving Examinations (PLE) as well as standard mock and Pre- PLE compared to the rest of the learners in the same examinations administered under the same setting and conditions especially for learners with hearing impairment (Dan, 2021).

1.1.4 Contextual background

The Uganda National Examinations Board (UNEB) Executive Secretary Odongo (2021) asserts that learners with hearing impairment did not perform well compared to their counter parts as displayed below in inclusive classes in all the subjects. He added that learners with hearing impairment did not perform well as their counterparts and this is not different from what happened with schools within Nyaravur Sub County, Nebbi District (Mugisha, 2022).

Kakooza (2022) argues that education of learners with hearing impairment in an inclusive classes remains multi- layered and challenging issue since most teachers do not use instructional strategies that promote their academic performance.

In Nyaravur Sub County, Nebbi District in particular teachers implement inclusive education policy through the of use ordinary or traditional instructional strategies such as group discussion, brain storming, demonstration, question and answer, Listen Use and Say and experimentation to teach learners with hearing impairment (Okwakol, 2023).

For many years few learners with hearing impairment have been obtaining first, second or third grades which are frequently referred to as pass grades compared to normal learners by the Uganda National Examinations Board in various examinations as can be attested to by PLE results from 2018 to 2023 in Nyaravur Sub County, Nebbi District as illustrated (Akena, 2023).

Table 1: National Examinations Board in various examinations as can be attested to by PLE results from 2018 to 2023

YEAR	2018	2019	2020/2021	2022	2023
DIV 1	00	00	00	00	00
DIV 2	00	00	00	01	00
DIV 3	00	00	00	00	01
DIV 4	01	01	01	01	00
DIV X	01	00	01	02	00
DIV 9	03	02	01	03	03
TOTAL	05	03	03	07	04

Source: Field data from individual school in the Nyaravur sub county, 2018-2023

It was upon this background that the researcher conducted a study about instructional strategies on grades of academic performance of learners with hearing impairment.

1.2 Problem statement

The Convention on the Rights of Person with Disabilities (UN, 2006) asserts that persons with disabilities particularly those learners having hearing impairments have right to education

without discrimination and should be given equal opportunities to an inclusive education at all levels of life-long learning. They should receive support required within the general education system to maximize academic and social development consistent with the goal of full inclusion (World Health Organization, 2022).

Several researches have been carried out in Uganda such as (Nkayiza, 2019) on adaptation of instructional materials for learners with hearing impairment; however, there is limited information on instructional strategies and their impact and academic performance in Nyaravur Sub County (Kakooza, 2022).

In schools within Nyaravur Sub County, Nebbi District learning was characterized by learners with hearing impairment attending inclusive classes and are taught by both teachers who are trained and those who are not trained in special needs education alike. The classes have large enrollment, the teachers use mainly charts as learning aids for teaching couple with traditional instructional strategies including but not limited to LSU- Listen Say and Use, group discussion, explanation and brain storming (Okwakol, 2023).

There was a wide spread absenteeism in class albeit government policy on Universal Primary Education- UPE due to parental involvement of school age going children including those with hearing impairment in petty business and garden work let alone poor socio – economic status of the parents which manifested itself inform of lack of books, pens, packed food for lunch and school uniform (Mugisha, 2022).

There was poor academic performance amongst learners with hearing impairment in Nyaravur Sub County, Nebbi District in the District Standard Mock, Pre- PLE and PLE for the last five consecutive years because of stereotype, stigmatization, and discrimination against by their peers, lack of expertise of teachers in using appropriate instructional strategies leading to drop out of schools (Akena, 2023). This was what interested the researcher to carry out the study.

My study intended to address the above problems by tackling each research specific objective and disseminating the research findings on instructional strategies that were found to be effective for teaching learners with hearing impairment in inclusive classes.

1.3 General objective

To analyze the effectiveness of instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District.

1.4 Specific objectives

1. To examine the instructional strategies used in teaching learners with hearing impairment in Nyaravur Sub County, Nebbi District.
2. To examine the academic performance of learners with hearing impairment in Nyaravur Sub- County, Nebbi District in Standard mock, Pre- PLE and PLE.
3. To establish the relationship between instructional strategies and academic performance of learners with hearing impairment in Nyaravur Sub- County, Nebbi District during Standard mock, Pre- PLE and PLE.

1.5 Research questions

1. What are instructional strategies used in teaching learners with hearing impairment in Nyaravur Sub County, Nebbi District?
2. What is the academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District?
3. Is there any relationships between instructional strategies and academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District?

1.6 Scope of the study

The study focused on instructional strategies used in teaching learners with hearing impairment such as; sign language, lip reading and total communication, academic performance of learners with hearing impairment examined and the relationship between instructional strategies and academic performance investigated in standard Mock, Pre- PLE and PLE.

This study was conducted in Nyaravur Sub- County, Nebbi district covering all the nine (09) primary schools within the Sub County. Nyaravur Sub County is located 16 kilometers west of Nebbi District headquarters and 33 kilometers East of Pakwach District along Pakwach-Nebbi road.

In a nut shell, this study was conducted basing on PLE, Standard mock and Pre PLE results from 2018 to 2023.

1.7 Significance of the study

The study was hoped to benefit the teachers through acquisition of knowledge in selecting appropriate instructional strategies used in teaching learners with hearing impairment in inclusive class. In addition, the head teachers are hoped to benefit by gaining necessary skills in monitoring and supervision of teachers during teaching and learning process.

The study would further be helpful to the learners with hearing impairments themselves by availing to them and incorporating the instructional strategies that were found to be relevant to improve their academic performance. In the same way, the study was meant to benefit the researcher or student himself by being acquainted with instructional strategies that positively impact on academic performance of learners with hearing impairment in inclusive classes.

Finally, this study was also beneficial to policy makers such as legislatures in parliament and practitioners like the disability activists, Ministry of Education and Sports (MoES), National Curriculum Development Centre (NCDC) among others. Legislation on instructional strategies for better academic performance was considered to be a national priority. It is also hoped that, it was to add to the body of knowledge especially on suitable instructional strategies that impacted positively on academic performance of learners with hearing impairment.

1.8 Conceptual Framework

The conceptual framework includes “Independent variable” which contains instructional strategies, “Dependent variable” includes academic performance, and “Extraneous variable”.

Figure 1: Conceptual framework

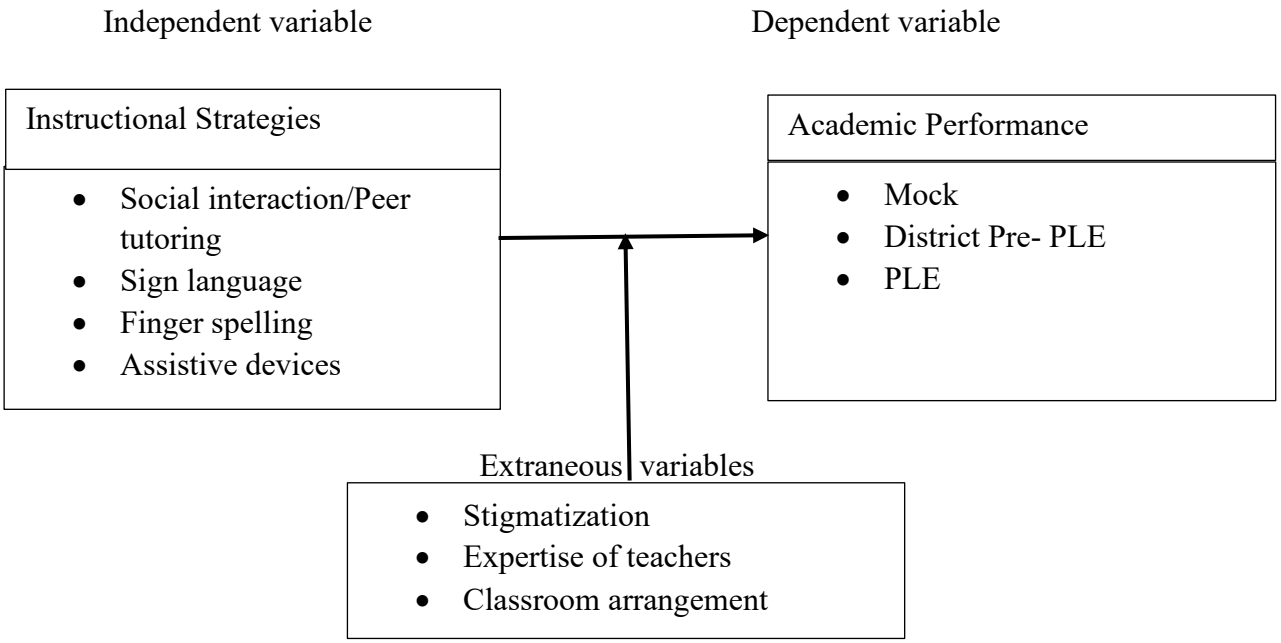


Fig 1. Instructional strategies such as sign language, finger spelling, enriched learning environment, social interaction, and assistive device above influence the level of academic performance of learners with hearing impairment which could be evident in continuous assessment, mock and PLE results.

The success of these strategies may also depend on their application by teachers in teaching and learning situation especially for learners with hearing impairment.

It should also be noted that other factors not mentioned above such as stigmatization, expertise of the teachers as well as classroom arrangement may also affect academic performance of learners with hearing impairment as illustrated in the figure above and these are referred to as extraneous factors and the researcher intended to control them by limiting their numbers. Stigmatization was controlled by carrying out guidance and counselling for learners with hearing impairment while expertise of teachers was controlled through further Continuous Professional Development lastly classroom management controlled by organizing school based training needs assessment before we look at Chapter Two.

Chapter Two

Literature Review

2.0 Introduction

In this Chapter, discussions focused largely on literature reviewed thematically according to the specific research objectives of the study. It also looked at the work that have been done by other scholars related to instructional strategies on one hand and on the other academic performance as well as the relationships that existed between instructional strategies and academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District.

2.1 Instructional Strategies used in teaching Learners with Hearing Impairment.

According to a study by Nwachukwu (2021) using descriptive survey design investigated the influence of teachers' instructional strategies on academic performance of learners with hearing impairment in inclusive classroom in Akwalbom state. The population of the study was 72 learners with hearing impairment. Sample sizes of 72 learners with hearing impairment were selected through purposive sampling techniques. Teacher Instructional strategies Questionnaire was used to elicit academic performance in core subjects like Mathematics and English. The findings showed that there was a significant influence of teachers' instructional strategies on academic performance of learners with hearing impairment in inclusive classes in Akwalbom state.

However, my study was conducted in Nyaravur Sub County Nebbi District purposively employed 09 learners with hearing impairment out of 09 and also 09 head teachers out of 09 with 45 teachers out of 50 using mixed method indicating a methodological gap. The findings also pointed at positive connection between instructional strategies and academic performance of learners with hearing impairment, Nyaravur Sub County- Nebbi District.

A study conducted by Namirembe (2019), Dodoma- Tanzania that investigated educating learners with hearing impairment in inclusive classroom, used qualitative methods and 42 respondents all from one school. Findings indicated that teachers and learners perceived inclusion of hearing impaired as a good thing but the choice of instructional strategies used and environment are what affected academic performance. The study further also revealed that, particularly learners with hearing impairment need a well-prepared environment couple with

relevant instructional strategies as well as good sitting arrangement like U shape and semi-circle, Aids and methods, motivations and trained teachers in special needs education. The gaps that exist are in the method, knowledge and geographical location due to the fact that my study used both qualitative and quantitative methods and cross- sectional design to establish instructional strategies appropriate for achieving academic performance for learners with hearing impairment in Nyaravur Sub County, Nebbi District hence, the findings may showed a diverse direction.

In the words of Tohara (2021) students must possess life skills, media literacy, and learning skills in order to succeed in 21st-century learning. According to studies, pupils' poor digital literacy abilities make it difficult for them to succeed in the digital learning environment thus affecting their academic performance without application of good instructional strategies in teaching and learning processes for specifically learners with hearing impairment. This study intends to analyze the idea of digital literacy abilities from the viewpoints of instructors in Malaysia to promote teaching and learning methodologies for SNS (Special Needs Students).

Through interviews with five (05) instructors who offered a course on desktop publishing among SNS, this idea has been tested as a preliminary study in a class. The research results demonstrated that the digital literacy skills model can enhance the teaching and learning approaches required for SNS in the digital environment. Whereas the above study investigated digital literacy skills in Malaysia my study tends to emphasize on instructional strategies and academic performance of learners with hearing impairment bearing in mind the use of mixed method in Nyaravur Sub County. Here, instructional strategies are defined as the way or means through which the intended content is clearly passed on to the learners. This study was carried out in Nyaravur Sub County, Nebbi District and there is a likely hood that a different result will be arrived at due to the fact that relatively greater number of participants or respondents will be reached out using cross-sectional survey and analyzed using content analysis.

This review paper aims at acquired hearing loss' interest in lip reading and lip reading instruction. When speech is impaired, most learners find it helpful to be able to see the speaker; however, the size of this advantage depends on how well they can lip-read, which is often not very good in individuals who have had normal hearing for the most of their life. Those with acquired hearing loss have been thought to benefit from lip reading training, although the majority of training methods have not proven very effective. The findings showed that lip reading is typically described as being restricted to vise me perception. Similar to auditory

spoken word recognition, lip reading relies on lexical restrictions. Lip reading has been proven to be challenging to better through training, however training can be effective and learning can transfer to untrained materials, such as audio-visual AV phrase stimuli in noise, under certain feedback and task conditions. The lip reading results have implications for training in auditory-only AO and AV as well as the use of acoustically processed speech in face-to-face interactions (Lynne et al., 2021). In this study however, there were both methodological and knowledge gap since mixed method approach was adopted and the purpose was to determine the instructional strategies and academic performance. This study was conducted in Nyaravur Sub County, Nebbi District possibly a different result was anticipated.

In a study conducted on how methods are being utilized to instruct learners with special needs in Kenya revealed that when developing their English literacy abilities, learners with hearing impairment (HI) are frequently exposed to American Sign Language (ASL). According to the Kenya Certificate Primary Education results published by the Kenya National Examination Council in Kenya starting in 2010, students at Njia Special School who have hearing impairments did poorly in the English language test. In this study, a descriptive design while utilizing questionnaires, schedules for observation and interviews were employed.

The study also indicated lack of a solid understanding of the methods and initiatives that may be used to help students with hearing impairments write better while employing continuous writing that was not done regularly, copying sentences, teaching new vocabulary and applying them in sentences. This was unable to raise students' writing ability to the desired degree (Beatrice and Patrick, 2017). In the study above, there is a knowledge gap in that instructional strategies for improved academic performance of learners with hearing impairment will be established with a different sample size of 09 pupils, 45 teachers, 09 Head teachers, in Nyaravur Sub County, Nebbi District thus prediction of different outcomes is inevitable.

This study explores the possibility of predicting (Human Speech Recognition) HSR for subjects with various degrees of hearing loss when listening to speech embedded in various complex noises using a modelling approach based on a DNN (Deep Neural Networks) that serves as a phoneme classifier [Spille, Ewert, Kollmeier & Meyer (2018). Comput. Speech Lang. 48, 51-66]. Eight noise signals are added to matrix words and shown to 20 hearing-impaired participants, ranging from simple stationary noise to a single competing talker measuring their Speech Recognition Threshold or the signal-to-noise ratio with a 50%-word recognition rate, in three groups of age-related hearing loss-impaired listeners. Five collected

from eight listeners with normal hearing are also examined. The average SRT prediction error is under 2 decibel for Normal Hearing patients and three groups of Hearing Impaired listeners (Bernd et al., 2022). However, in this study there was methodological gap where a mixed method with its relevant tools such as questionnaire and interview guides using content and thematic analysis used to determine the instructional strategies on academic performance of learners with hearing impairment in 09 primary schools in Nyaravur Sub County, Nebbi District.

Growing evidence indicates that fatigue associated with listening difficulties is particularly problematic especially to learners with hearing impairments. The use of best practices in test development included operationalizing the notion of listening-related awareness from the viewpoint of the target responders (i.e., children, their parents, and teachers). On the basis of feedback from these groups, test items were created. Using exploratory factor analysis, dimensionality was assessed. In order to develop the final versions of the VFS-Peds, high-quality items were first found using Item Response Theory and differential item functioning analyses. The VFS-Peds, which includes the child self-report (VFS-C), parent proxy-report (VFS-P), and teacher proxy-report (VFS-T) scales, and is suitable for use with children ages 6 to 17. The test findings were satisfactory across a wide range of fatigue intensities, and all scales generated satisfactory reliability and validity. Similarly, my study adopted a mixed method approach in disagreement to the above study and focused on instructional strategies on academic performance of learners with hearing impairment rather than listening- related fatigue. This study is intended to be carried out in Nyaravur Sub County among the government aided schools only consequently the researcher is anticipating a different display of results.

In summary, gaps existed in the research method which employed both qualitative and quantitative approach that is to say mixed method, geographical since my study was carried out in Nyaravur Sub County, Nebbi District and knowledge due to the fact that the researcher investigated instructional strategies and academic performance of learners with hearing impairment. When instructional strategies are carefully selected and applied during teaching and learning process in conducive classrooms environment can influence academic performance of learners with hearing impairment in inclusive primary schools as this can be attested to with above literatures reviewed. Most of these instructional strategies are not appropriately used in inclusive classes consequently led to poor conceptualization.

2.2 Academic Performance of Learners with Hearing Impairment.

According to Owour et al. (2020) on research aimed at determining the influence of socialization and interaction as instructional strategies and academic performance of learners with hearing impairment in Primary Leaving Examination, Pre PLE and Standard mock at Thawabu inclusive primary school in Nairobi Kenya, the use of case study design with questionnaire and interviews were involved. The findings revealed strategies such as family support program (assigning children and families in language learning), family – infant- toddler program and competent and consistent administration to promote learning hence improved academic performance in the future during PLE, Pre PLE and Standard Mock. On the other hand, there is a methodological gap since my study incorporated mixed method approach, cross- sectional survey were preferred in addition to documentary analysis, questionnaire and interview guides in determining instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District therefore, strong relationship was recorded.

Children who have hearing loss are more likely to perform poorly in terms of academic performance in schools during PLE, Pre PLE and Standard Mock. Based on descriptive data provided by the Government Agency Statistics Netherlands, this longitudinal study evaluated the grades in academic performance of a national Dutch cohort with and without Hearing Loss. From 2008 to 2018, 3,367,129 pupils attended primary education, 1,193 of whom had cochlear implants, and 8,874 of whom had hearing aids. Children with Hearing Loss attended standard primary education in 61% of cases and special education in 31% of cases. Children with hearing loss are more likely to have low grades of academic performance. The findings pointed at lower academic performance in language and arithmetic ability in primary school. However, in this study there is methodological gap because my study will utilize mixed together with descriptive design and involved not only (09) learners but also (45) teachers and (09) head teachers. This study will investigate instructional strategies on academic performance in all disciplines among hearing impaired as opposed to the above study which only compared performance of hearing and non-hearing learners in language and mathematics using longitudinal design thereby revealing a different outcome.

The purpose of this study was to ascertain the academic performance of hearing-impaired learners' in PLE, Pre PLE and Standard Mock on comprehension of the natural science exam questions using v. An exploratory descriptive approach and descriptive statistics are used in

this study. The participants in this study are 14 sixth-grade children with hearing impairments from Bandung, Cimahi, and Wonosobo in Saudi Arabia. 40 multiple-choice questions are used as the measurement tool for understanding among students. The findings indicated that pupils with hearing impairments have low comprehension grades point of 0.5 with average of 0.411 (Khasawneh, Mohammad and Pendidikan, 2021). In this study, there is a knowledge gap due to the fact that my study will be carried out in only 09 primary schools in inclusive settings for learners in Primary Six and Seven (P.7) between 14- 18 years focusing on instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District using descriptive study design.

Renata et al. (2021) carried out a systematic review's goal to learn how musical perception tests are graded and conducted on people with Hearing Loss in PLE, Pre PLE and Standard Mock. Hearing aids and cochlear implants can help reduce some of the difficulties that people with hearing impairment must deal with. Musical perception for these people continues to be challenging despite technological advancements in these assistive hearing is highlighted. It focused on tests and protocols designed to gauge this audience's musical perception. The PubMed/MEDLINE, Scopus, Web of Science, Latin American and Caribbean Health Sciences Literature, and ASHA Wire databases were searched for primary publications. Test results displayed poor performance of auditory perception abilities examined in relation to musical elements showed variation. The most common test environment, aside from timbre evaluation, was a booth with sound attenuation, and the average intensity for presenting sound stimuli was 70 Decibel. In terms of the tests, synthesized sound stimuli were the most frequently employed stimuli. According to my study, there also existed both methodological difference and knowledge gap in that I employed mixed method and encompasses mainly instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District.

Using a qualitative technique that explores characteristics and circumstances, the researcher was looking into how hearing disability affected academic performance during the PLE, Pre PLE and Standard Mock. In Kenya's Nyeri District, Mathira Division, four schools were chosen as a sample for the study. There were four primary schools: Kiamabara, Tumutumu, Ngunguru, and Karatina. In a sample population of roughly 20 teachers, fifteen questionnaires were returned during the data collection process, which lasted about a month. Questionnaires were utilized by the researcher to gather data. The researcher said that teachers should possess the appropriate skills based on the study's findings. Understanding and dispositions needed to

manage deaf students with the primary objective of raising their performance (Nduta, 2009). In this study, mixed method was used but not qualitative approach suggesting methodological discrepancy and investigation will focus mainly on instructional strategies and academic performance in all the nine schools within Nyaravur Sub County, Nebbi District therefore the results of my study pointed at a different or negative direction.

The purpose of this study was to ascertain the impact of a training program designed to help hard-of-hearing pupils pronounce English more accurately in Saudi Arabia. The study's goal was achieved by the researchers using a quasi-experimental methodology, and the study sample included thirty hearing-impaired children from Irbid's elementary schools. There were (15) students in the experimental group who studied according to the training program, and (15) students in the control group who studied conventionally. The development of a training program based on the curriculum and the creation of an image-naming test are two of the tools that have been created to help students with hearing impairments improve their English pronunciation. The findings demonstrated that there were statistically significant differences in favor of the experimental group between the control and study groups (Alkhawaldeh and Khasawneh, 2021). On the other hand, in this study there is methodological gap where a mixed (quantitative and qualitative) a mixed method is intended to be used with different categories such as learners, teachers and head teachers. The use of document analysis, participant and non-participant observation and questionnaire are preferred. The study aimed at investigating instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District consequently a varied findings were displayed.

Despite recent improvements in auditory prosthesis and earlier beginnings to intervention as strategies to improve instructions, children with hearing loss continue to struggle academically for higher grades at PLE, Pre PLE and Standard Mock, despite recent breakthroughs in language development. We speculate that one factor contributing to these discrepancies between language and academic achievements may be because as students move up the grade levels, the language demands of school grow, outpacing the language skills of children with Hearing Loss. At the end of middle school, 122 students took part, including 56 with normal hearing, 15 with moderate hearing loss who used hearing aids, and 51 with severe to profound Hearing Loss who wore cochlear implants. Children with Normal Hearing had the best academic performance in term of grades, children with cochlear implants had the lowest grades in academic performance, on children with Hearing Aids had a performance that was in

between those categories. Children with Hearing Loss performed consistently across the board on the challenge involving unclear sentences, regardless of audio logic variables. However, in this study only had 09 LWHI in upper primary participated in the investigation of instructional strategies and academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District using mixed method and descriptive survey design consequently a different methodological strategy involved.

To summarize here, according to the reviewed literatures academic performance of learners with hearing impairment in inclusive primary schools were considered poor since very few fell between first, second and third which are frequently referred to as pass grades by the Uganda National Examinations Board. The methodological, knowledge and geographical gaps in my study are that mixed method was used examining instructional strategies and academic performance of learners with hearing impairment in inclusive classes in Nyaravur Sub County, Nebbi District.

2.3 Relationship between Instructional Strategies and Academic Performance

The purpose of this study was to examine the degree of relationship between communication factors and the academic performance of deaf and hard of hearing students in Saudi universities. Data were collected from 298 Deaf and Hard of Hearing students using a quantitative survey. A full-fledged SEM was conducted to test the relationship between the communication factors and the students' academic achievement. The results revealed a statistically strong relationship between communication factors and the students' academic achievement, $\beta = 0.23$. Accordingly, the findings contributed to increasing knowledge regarding communication factors in higher education programs for Deaf and Hard of Hearing students in the Kingdom of Saudi Arabia. The finding was also useful to educators and policymakers in the Ministry of Education in the field of deafness and hard of hearing. This research also has the potential to positively reflect on Volume 7 Issue 45 (Manal, Alkharji & LohSau, 2022). However, there was a methodological gap because my study was conducted in Nyaravur Sub County Nebbi District with the help of mixed method involving 09 LWHI, 45 teachers and 08 head teachers.

Jignya & Varsha (2017) conducted a study to determine the preferred learning styles and the relationship between learning styles and academic achievement in Mumbai's inclusive classrooms for children with and without hearing impairment. 30 elementary school students,

both with and without hearing impairment, make up the sample. The age range of the chosen group was 6 to 9 years old at the time of the study. (Age on average = 7.5 years.) The authors created a tool called the “Learning Style Response Sheet,” or LSRS, and they examined the learning style preferences expressed by the parents and teachers of the chosen group. Cramer's “V,” a non-parametric test, was employed for the investigation. Using a tool, they developed called the “Learning Style Response Sheet,” or LSRS, the authors looked at the preferred learning styles mentioned by the parents and teachers of the selected group. The results indicated no relationship between hearing status and preferred learning styles. However, in this study there was a methodological gap since mixed method was used and the nine (09) government aided schools implementing inclusive settings with age brackets ranging from 15 to 40 years for schools and 55- above for education department. In addition, knowledge gap also existed due to the fact that my study was concerned about the instructional strategies on academic performance for learners with hearing impairment in Nyaravur Sub County, Nebbi hence a different result was envisaged.

This paper was a report of a study on the relationship between Hearing Impaired learners and composition writing and in answering comprehension questions in English language lessons (Wanyama & Ochieng, 2023). The study was carried out in selected special schools for the Hearing Impaired in Homa Bay County in Kenya in the year 2012. The study adopted Knowles (1973) theory of learning. The study utilized a descriptive survey design with a mixed methods approach. Head teachers were purposively selected to take part in the study while simple random sampling method and census technique were used to select the teachers and students who took part in the study. A total of 3 head teachers, 8 teachers and 39 learners with Hearing Impaired learners. Data collection employed structured interviews for the head teachers, teachers and comprehension and composition test for pupils. Analysis through descriptive statistic and thematic qualitative method revealed significant challenges faced by hearing impaired learners both in composition writing and comprehension skills (Kordiango & Symwene, 2024).

Descriptive statistics were used in the analysis of quantitative data. The research established strong relationship between Hearing Impaired and composition writing and in answering comprehension questions in English language lessons. This study shed light on some of the challenges encountered by the Hearing-Impaired learners during English language lessons which if addressed can facilitate them to achieve to their full educational potential for self-reliance (Omondi & Syomwene, 2016).

On the contrary, knowledge gap had been realized for the reason that it dealt with challenges faced by the hearing-impaired learners in Kenya in 2012 a position away from my study which determines instructional strategies and academic performance of leaners with hearing impairment in Nyaravur Sub County, Nebbi District. Furthermore, my study incorporates 09 Head teachers, 45 teachers and 09 learners with hearing impairment Nebbi District therefore, a different finding was arrived at.

This paper was a literature review and discussion of the relationship between barriers and facilitators of academic performance for learners with hearing impairments in Zambia. Learners with hearing impairments experience various learning barriers in Zambian schools. Adaptation of curriculum, effective use of assistive technology, and use of appropriate modes of communication are some of the prerequisites to the good academic performance of deaf students. In this article, very strong relationship existed between barriers and facilitators of academic performance of learners with hearing impairments (Kumatongo & KapaluMuzata, 2021).

Therefore, in this study there was a methodological gap due to the fact that mixed method or approach was very much adopted for investigating instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District rather than on barriers and facilitators of academic performance in Zambia. Seemingly the outcome of my investigation revealed also strong relationship.

A study during COVID-19 pandemic investigated relationship between new educational challenges for students, teachers, and caregivers due to the changed and varied learning environments, use of face masks, and social distancing requirements particularly was pronounced for students with hearing loss who often require specific accommodations to allow for equal access to the curriculum. The purpose of this study was to document the potential difficulties that students with hearing loss faced during the pandemic. A qualitative survey was designed to document the frequency of various learning situations (i.e., in person, remote virtual, and blended), examine the accessibility of technology and course content, and quantify hearing issues associated with safety measures and technology use in school-age students with hearing loss. Survey questions were formed and completed by 416 educational personnel who work with students with hearing loss.

The results showed moderate relationship between potential difficulties and COVID 19 prevalence since most of their schools were providing remote or blended (in-person and

remote) learning consisting of synchronous and asynchronous learning. Common accommodations for students with hearing loss were only provided some of the time with the exception of sign language interpreters, which were provided for almost all students who required them. According to the respondents, both students and caregivers reported issues or discomfort with the technology required for remote learning. (Erin, Schafer, Dunn & Lavi, 2021).

However, in this study there was a methodological gap because qualitative survey with 416 educational personnel were involved but my study aims at using a mixed method approach in data collection for the determination of instructional strategies on academic performance of learners with hearing impairment while considering only 63 participants all from Nyaravur Sub County, Nebbi District. Due to these identified differences in method, data collection tool, number of informants and the knowledge the results of my study registered a significant difference.

In another study carried out by Nwachukwu (2021) on the relationship of teachers' instructional strategies and academic performance of leaners in inclusive class with hearing impairment employed descriptive survey research design with 72 learners with hearing impairment. Instructional Strategies questionnaire (TISQ) was used to elicit academic performance in two subjects (English and Mathematics). Dependent t- test was used to test the null hypothesis at 0.05 level of significant. The findings showed that there was a strong relationship between teachers' instructional strategies and academic performance of learners with hearing impairment with a *p* value of 0.02 in inclusive class in Akwa Ibom state, Nigeria. In this study, there is a methodological gap since my study intends to adopt a mixed method employing descriptive survey design particularly cross – sectional and correlational survey comprising only 63 participants and respondents using both questionnaire and interview guides in Nyaravur Sub County, Nebbi District consequently the researcher is likely to predict a positive result.

The purpose of this study was to analyze the relationship between applications of scramble games on the learning ability to compile simple sentence structures in students with hearing impairment. The research method used in this study was an experimental method with a Single Subject Research design which was conducted in three stages, namely: 1) learning in initial condition (before intervention), 2) learning in the intervention condition, and 3) learning after the intervention. The research subject is a second-grade student with hearing impairment at a

special junior high school in Cirebon Regency. The results of the study revealed a strong relationship of p value = 0.2 between scramble games as a method and ability in learning especially after being given learning with the scramble game with picture word cards, the student with hearing impairment experienced increases in their ability to compose simple sentence structures (Susetyo & Martanti, 2021).

In this study, methodological gap also manifested itself in that my study hoped to carry out data collection using mixed method but not experimental method while focusing on instructional strategies and academic performance of learners with hearing impairment in primary schools within Nyaravur Sub County, Nebbi District. My study result is therefore not projected to be the same.

Finally, on this last objective the study above used quantitative survey involving 298 Deaf and Hard of hearing learners, while my study adopted a mixed method encompassed 09 LWHI, 45 teachers and 09 head teachers in order to collect data and the purpose was only to analyze the relationship between instructional strategies and grades of academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District consequently different findings from the above study were recorded.

Summarily, based on findings in each objective a study conducted in Tanzania on relationship between instructional strategies and educating learners with hearing impairment used qualitative methods, findings revealed that there was strong relationship between learners with hearing impairment and a well- prepared environment in terms of lesson plans, good sitting arrangement like U shape and semi-circle. There was methodological gap since my study intended to use mixed method with descriptive and exploratory sequential designs in Nyaravur Sub County, Nebbi District thus a different finding was expected.

In a study by Khasawneh (2021) that ascertained the relationship between academic performance obtained by learners with hearing impairment and use instructional strategies in Saudi Arabia involved only 14 participants using exploratory descriptive approach with multiple-choice questions as a tool. The results indicated that pupils with hearing impairment have strong relationship between academic performance in comprehension's grades and instructional strategies used conversely, my study employed both qualitative and quantitative methods comprising 63 participants and 09 respondents using questionnaire and interview guides respectively in Nyaravur Sub County, Nebbi District.

On the last objective a study carried out in Mumbai was meant to establish preferred learning styles and relationship between learning styles and academic performance involved only 30 learners aged 6 to 9 years old used Learning Style Response Sheet. The findings showed no association between hearing statuses and preferred learning styles. On the contrary, I adopted mixed method, descriptive survey design, questionnaire guide, interview involving 09 pupils within primary schools in Nyaravur, Nebbi District hence different findings are expected. We now shortly take a detail look into the next chapter that is Chapter Three.

Chapter Three

Research Methodology

3.0 Introduction

In this Chapter, presentation focused on research approach or orientation, research design, study population, sample size determination, sampling procedure, data collection methods, data collection instruments, quality control, administration, ethical issues and lastly data analysis.

3.1 Research approach

A mixed method was used. It helped you gain a more complete picture of the problem under study than quantitative or qualitative study alone as it integrates benefits of both methods (Tegan, 2022). As such, mixed method is based on assumption that combining quantitative and qualitative approaches best provide an understanding of the research problem (Manion & Morrison, 2018). Thus, the use of both research paradigms enrich data and enhance a fuller and more complete analysis, interpretation and discussion of study findings (Ochol, 2009, cited in Apili, 2014).

3.2 Research design

In this study, cross- sectional and correlational designs were adopted. Cross-sectional design described the various categories involved in eliciting the responses during the study in this case head teachers, teachers who were Special Needs Education School Coordinators (SNESCOs) and learners with hearing impairment from P.6 and P.7. The justification for the design was that these various categories helped to explain what actually happened on the ground about the study. On the other hand, correlational design examined the relationship between the two variables without manipulating them. It identified patterns of association, quantifying the strengths and direction of the relationship using measures like Pearson's correlation coefficient. The justifications were that it was essential for studying variables that could not be ethically manipulated, allowed for research in a real world settings, provided a cost effective way to identify variables and generated hypothesis for future studies, finally was useful for developing prediction models by showing the strength and direction of relationships between existing variables.

3.3 Study population

The study aimed at involving 09 pupils since these were the only numbers available, P.6 and P.7 classes because they were able to answer questions correctly both male and female from poor and moderate economic background. The researcher had been a residence within the Sub County for many years, made several visits before to these schools to ascertain their presence and number and believed they were able to respond to questions appropriately. All the nine (09) primary schools were chosen since they were the only schools up to P.7 class within Nyaravur Sub County, 50 teachers from these classes both male and female with academic qualification ranging from licensed to graduate specialized in different teaching disciplines. The researcher chose them because they were directly involved in the application of the instructional strategies in the class for learners with hearing impairment. Lastly 09 head teachers, 02 were female and 07 male all headed government aided Mixed and Day primary schools. Their choice was due to the fact that they were directly responsible for teaching and learning as well as the overall custodian of results of these learners in their respective schools.

3.4 Sample size determination

The study involved all the 09 learners with hearing impairment for instance mild, severe and profound using purposive sampling from only P.6 and P.7 classes because they were able to respond to questions and provided response accurately. The number of teachers included in the study was determined by Raosoft sample size calculator 2012 by Catherine Mc Dole Rao. Raosoft sample size calculator is used in social science research to determine the number of respondents needed to achieve a desired level of accuracy (Mc Crum-Gardner, 2010). The justification of the teachers was that they taught and spent a lot of time with these learners on daily basis hence had relevant data about them lastly 09 head teachers also used purposive sampling who were the administrators because they were immediate supervisors of these teachers who carried out instruction to these learners with hearing impairment in the classrooms.

Table 2: Sample size determination

	Category	Population	Sample	Sample technique
01	Pupils with Hearing Impairment	09	09	Purposive
02	Teachers	50	45	Simple random sampling
03	Administrators (Head teachers)	09	09	Purposive

3.5 Sampling procedure

Both probability and non-probability sampling techniques were used for quantitative and qualitative approach respectively. Probability sampling used simple random sampling while non- probability employed purposive sampling.

All the nine (09) schools were selected because of the fact that they were few in numbers within the sub county. 09 learners with hearing impairment, 45 teachers and 09 head teachers were selected. For pupils and head teachers, the researcher employed purposive sampling for the reason that they provided an in-depth and specific information that suited the purpose of the study. This method allows for collection of focused information and it is also time saving as well as resources (Oso & Onen, 2009).

The researcher used simple random sampling to select some teachers in each school by giving numbers from 1 to 4 and later picked all those who picked number 1 to form the study samples.

3.6 Data collection method/technique

Questionnaire survey

This was a large scale questionnaire survey which involved quite a large number of participants. Questionnaire was administered to 45 teachers and 09 head teachers.

Both open- ended and closed -ended questionnaires were used because of mixed method. It was appropriate due to the fact that it allowed easy distribution of questions depending on objectives which could be read, interpreted and responded to by the participants. Further justification was that it was applicable to large group or participants like the teachers and administrators combined. The choice of this techniques was guided by the nature of the participants and the size of the target population against the available time and space (Oso & Onen, 2009).

Interview

Interviews are structured, unstructured, and semi -structured (Bougie & Sekaran, 2020). Structured interviews have pre-set questions to which every informant is subjected (Chawla & Sondhi, 2018).

This was face to face interactions between the researcher and the informants. It was made up of short structured questions developed by the researcher that reflected the research specific

objectives of the study. It was relevant because it enabled the use of multi- sensory channels: verbal and non-verbal. The method explored issues in-depth and understood peoples' behavior, opinion, and actions. Interview was employed to gather in- depth data from people who held vital information about the study. Last but not least 09 learners with hearing impairment were interviewed.

3.7 Data collection instruments

Questionnaire

It comprised of sub sections such as introduction of the researcher, demographic information, and lastly the questions based on research specific objectives answered simply using Likert Scale rating in the space provided. Questionnaire was appropriate due to the fact that it could be easily administered for instance distributed, read, interpreted and responded to by the participants on their own with ease.

Interview guide

It was a self-designed short structured questions well aligned to the research specific objectives. Interview guide was suitable because researcher was able to take notes of responses being elicited during the interviews. Interview guide further helped me to get first-hand information from all respondents or informants on the phenomena under investigation (Gall et al., 2003).

Similarly, an interview guide encouraged capture of verbal and non-verbal questions and body languages.

Documentary analysis

Data was collected on the quality of academic performance such as first, second, third, fourth, seventh or nine grades obtained for the last five consecutive years from office of all the 09 head teachers. It was revealed that the academic performance of learners with hearing impairments were poor and the results were used to determine their academic performance in the second objective during analysis in Chapter Four. Its justification was that it was able to capture the exact results or academic performance of learners with hearing impairments in standard Mock, Pre- PLE and PLE over the years.

Data quality control and control of extraneous variables

Validity of the research instruments

In this study, the Content Validity Index (CVI) was used to test the validity of the instruments. To obtain this, the researcher identified three (03) experts who were asked to rate the items on the scale of relevant and irrelevant in terms of its relevance in the study (Odiya, 2009). The purpose and objectives of the study was first explained to each of them and each rater was believed to be well versed with measurement of the study attributes. The specialists were asked to rate each question on the scale of "relevant" (1) "irrelevant" (2). Thus, the CVI was computed as the number of items rated 1 and 2 by all the judges divided by the total number of items in the instrument. This was symbolized and computed as:

$$\text{CVI} = \frac{\text{Number of items rated relevant by all judge}}{\text{Total number of items in the questionnaire}} \quad \frac{12}{17} = 0.7$$

According to Amin (2005), cited in Odiya (2009) any content validity index of 0.7 or higher is considered valid for a study and those lower than 0.6 would be rephrased, adjusted, or discarded altogether.

Reliability

In this study, similarly the researcher used the test – retest method to test for the reliability of the instrument, which involves administering the instrument twice Amin (2005). This involved the collection of data from the source and few selected respondents using the same instruments at different point in time. Hence, the correlation coefficient (the reliability of the instrument) of a certain value/ figure were studied for adjustment.

In an attempt to control quality, the researcher improved on the reliability of the study instruments item sampling and modification to bring the value to at least 0.7, the least value generally accepted for survey studies (Kothari & Pals, 1993, cited in Apili – Esther, 2014).

Control of extraneous variables:

All the extraneous variables such as stigmatization, expertise of teachers and classroom management were controlled. Stigmatization was controlled by carrying out guidance and counselling for learners with hearing impairment while expertise of teachers was controlled through further Continuous Professional Development lastly classroom management by

organizing school based training needs assessment. These extraneous variables can also further be controlled by randomization (Babalola, 2011). Randomization is the random selection of respondents in order to obtain a sample from the population in which every participant has an equal chance of being included in the sample (Guzel, 2009). It spreaded the effects of other variables across the sample which helped in controlling these extraneous variables. Thus, the teachers were chosen randomly from all the selected schools that took part in the study.

3.9 Administrative Procedure

The researcher got permission by obtaining a letter of introduction from the Dean Faculty of Education and Humanities allowing him to visit the field to carry out the study after approval of the research proposal from Gulu University Research Ethic Committee (GUREC). He went ahead to the field piloting and testing tools later came back to train the research team.

The researcher also arranged a pre- visit to all the eight schools within the sub County to introduce himself and purpose of the visit and availed an introductory letter from the university permitting him to conduct the study. In turn, the researcher obtained permission from the individual school for access.

Finally, the researcher fixed an appointment with the schools for a precise date for conducting the research.

3.8 Ethical issue

A consent letter was prepared by the researcher to get approval from both ordinary and the teachers of special needs education on behalf of the children and their own behalf. Teachers consented together with the pupils that were involved in the study and their parents were far so the responsibility of the children were entrusted into the hands of the teachers.

The researcher made an effort to ensure that the information about the study was fully made clear to the participants and respondents using questionnaires and interview guides respectively. Even after receiving preliminary agreements of participation and before conducting the interviews, the researcher provided an additional explanation about the study. The participants were informed that their participation will be voluntary and that they had the right to withdraw from the research at any stage. Before singing the consent letters, the respondents had an opportunity to check the interview guide.

The researcher also used only codes of the respondents as further attempts to maintain or seal off information leakage. To honor respondents' contributions, the interviews was conducted at the most convenient time and place for the respondents. The input made was appreciated verbally after the interviews.

The questionnaires were administered to the participants for two weeks to allow them fill completely before collection for analysis.

The language of the reporting was based on Creswell (2012) that "an equally important aspect of ethical research practice resides in the writing and report phrase of inquiry". Therefore, the researcher tried not to use unethical statement while reporting the study statements. Finally, rights of the participants, confidentiality and the use of the information provided was protected.

3.10 Data analysis

Both qualitative and quantitative data were analyzed. It was based on the assumption that combining quantitative and qualitative approaches best provides an understanding of a research problem (Cohen, Manion and Morrison, 2018).

Qualitative data was sorted by putting the responses under each theme namely instructional strategies used in teaching learners with hearing impairment and academic performance of learners with hearing impairment in inclusive classes organized, cross- checked and shared before analysis.

More so, qualitative data analysis started immediately from the field after interviews through sorting and categorizing the responses from respondents according to themes. During sorting related responses were grouped together under the same theme highlighted above. Categorizing or coding involved assigning some letters to represent the respondents in order to promote confidentiality.

Objectives one and two were qualitative thus data were analyzed using content or thematic analysis by identifying the different themes and grouping the responses according to sub-themes in tables and pie charts such as instructional strategies commonly used, suitable instructional strategies, challenges faced when using, solution to the challenges, effects of using these instructional strategies, how effectively can be used, assessing academic performance, comparison of academic performance, causes of poor academic performance, effects of poor

academic performance and how academic performance can be improved. The contents of the tables and pie charts were interpreted and summarized separately.

All these were aided by identifying narrative hooks or "shouting statements" for instance which statements, who made it (them) and all were reported under each research specific objective one and two.

The transcribed data were converted to words, organized under each research specific objectives, categorized through codes, presented, analyzed and findings interpreted in the next chapter using system automatically.

On the other hand, quantitative data was first cleaned through removal of questionnaire which were not dully or completely filled, shared as well as embracing any failures that may exist immediately before analysis.

Objective three was quantitative hence the data was first cleaned by removing questionnaires which were not dully filled and entered before analyzed with the help of SPSS (St Package for Social Sciences) version 28 using inferential statistical analysis. Inferential analysis allowed the use of sample results to make generalizations about the populations from which the sample was drawn (Cresswell, 2012). Pearson correlation was particularly applied to measure relationship that existed between the two variables these are instructional strategies and academic performance of learners with hearing impairment.

This was because it was the most suitable technique in determining relationship between variables that is instructional strategies and academic performance (Koul, 1996).

The data were arranged in inform of figures in tables fully described and followed by interpretations according to the third objective before proceeded to Chapter Four.

Chapter Four

Presentation, Analysis and Interpretation of Results

4.0 Introduction

This chapter presented the socio-demographic characteristics of the respondents and participants and results, which the research discovered. The results were presented in line with the objectives of the study.

4.1 Socio-demographic characteristics of the respondents

The respondents' socio-demographic characteristics of the respondents were seen in terms of age, level of education and years of experience in teaching.

4.1.1 Age

Table 3: Age of respondent

Age	Frequency	Percent	Valid Percent	Cumulative Percent
20-30	14	22.2	22.2	22.2
31-40	30	47.6	47.6	64.8
41 &above	19	30.2	30.2	100.0
Total	63	100.0	100.0	

Results from table 2 above revealed that 22.2% of the respondents were between the age brackets of 20-30, 47.6% were in the age bracket of 31-40, and lastly 30.2% were in the age bracket of 41& above years.

This implies that majority of the respondents were in the age of 31-40 and mature enough to provide meaningful information for the study.

The age group from 41 and above showed uniqueness in response by saying that patience, tolerance and experience all add up to greater effective instructional strategies which lead to better academic performance.

4.1.2 Education level

Table 4: Education level

Education Level	Frequency	Percent	Valid Percent	Cumulative Percent
Diploma	32	50.7	50.7	50.7
Grade 111	23	36.5	36.5	49.3
O level	3	4.7	4.7	90.7
Graduate	5	7.9	7.9	100.0
Total	63	100.0	100.0	

Pertaining the education level of respondents in Nyaravur Sub County, it was found out that 50% had a Diploma level of education, then 35.2% had a a Grade 111 teachers; certificate, 5.6% had completed O level and lastly 9.3% had a Graduate Level of education.

The meaning was that majority were Diploma holders though Grade Three had many also, the results showed that Nyaravur Sub County teachers should up grade at least up to a Graduate level of education in order to improve on quality of education.

There was no any unique or a standalone response with these age brackets.

4.1.3 Experience in teaching

Table 5: Experience in teaching

Experience	Frequency	Percent	Valid Percent	Cumulative Percent
1-10 years	10	15.8	15.8	15.8
11-20	31	49.2	49.2	84.2
21& above	22	34.9	34.9	100.0
Total	63	100.0	100.0	

Results from table three above were on the experience the respondents had got from teaching, it was found out that 15.8% of had spent 1-10 years in teaching, 49.2% had spent between 11-20 years in teaching and lastly 34.9% had spent 21& above years teaching.

This implies that over 85% of the respondents had spent between 11-20 years in teaching and this means they had enough experience in dealing with learners with hearing impairment based on that experience.

The age bracket from 21 and above uniquely mentioned experience as a very important ‘’tool’ ‘in promoting academic performance for learners with hearing impairment.

4.2 Objective One: To examine the Instructional Strategies used in teaching Learners with Hearing Impairment in Nyaravur Sub County, Nebbi District.

4.2.1 Instructional Strategies used in teaching Learners with Hearing Impairment in Inclusive Primary Schools

Presentation of results under objective one, ‘instructional strategies used in teaching learners with hearing impairment’ are recorded in the table below from pupils.

Table 6: Instructional strategies used

Items	Responses
Commonly used instructional strategies for teaching	Gestures, charts, objects, sign languages, visual aids (pictures, sign language, total communication and differentiation and real objects
Best suitable instructional materials	Gestures, use of real objects and sign languages
Specific training on instructional strategies for teaching	Some of them had gotten some training specifically from Kyambogo University Faculty of special needs and rehabilitation and others from Save the Children Uganda
Challenges experienced when using instructional strategies	Time management, preparation of lesson plans, classroom setting, insufficient instructional aids, poor knowledge in using the instructional strategies
Solution to the challenges	More trainings are needed, more learning aids, creating a friendly learning environment for an inclusive class, organizing several refresher courses.
Effects of using instructional strategies	Increases their attention/retention span, motivates and increases the understanding, promotes inclusive learning, improves communication in class, reduces the rate of absenteeism
Effective use of instructional strategies	Through dramatization, group discussion and role plays, giving hand written notes, use private coaching, providing extra time for learners to complete their assignments

These were further illustrated in the table as below in terms of responses.

When participants were asked what instructional strategies do you commonly use when teaching learners with hearing impairment in your inclusive class

One of the participants said that

"Me I mostly use gestures here and that's what other teachers commonly use"

Another participant had this to say

"Here in our school we always have a budget for charts so we sometimes use charts while instructing on some of the lessons"

He further said that;

"We also have real objects like shapes of triangles, clocks, circles, ovals and these have helped us so much in numeracy lessons".

Another participant said that

"Here we have trained teachers in special needs education so for them what they do, they use sign language for easy interpretation while teaching learners with hearing impairment".

Another participant said that

For me I prefer to be audible enough and also use sign language and also charts in learning.

Another participant said that

I use visual aid like pictures, charts and diagrams to supplement verbal instructions and support the learning process.

One of the participants said that

We use real objects, explaining things (explanations), asking questions and we answer, sign language talking and signing total communication

Another participant said that

Allowing the learners with hearing impairment to sit in front of their fellow learners where their teacher can see them well.

This implies that the teachers meant most frequently used instructional strategies according to the above descriptions are gestures, sign language and real objects like shapes, clocks among others for learners with hearing impairment.

Best suitable instructional strategies for teaching

When participants were further asked which ones of the above do you think are best suitable instructional strategies for teaching learners with hearing impairment in an inclusive education. They had this to say

One of the participants said that

To me I think use of gestures is the best because gestures provide visual support and helping learners to understand hard concepts.

Another participant on this said that

Gestures provide supplemental communication and this communication becomes good for learners with hearing impairment.

Another participant said that

Use of real objects is the best because real objects are tactile in learning and makes learners explore these objects through touch. These real objects can be food, home objects.

One of the teachers said that

Me sign language is most suitable mode of primary communication because still it remains their primary mode of communication in that they easily get adapted to it.

Similarly another participant said that

Sign language in most classes I have taught has encouraged learner participation in class and has connected the learners to their deaf groups to teach each other.

Another one said that

Teachers see sign language as suitable because it demonstrates concepts, illustrates vocabulary and facilitates discussions.

Another participant said that

Instructional strategies like real objects can help to bridge the communication gap, facilitate understanding and create a more inclusive and supportive learning environment.

This implies that, the best suitable instructional strategies were; real objects can help to bridge the communication gap, facilitate understanding and create a more inclusive, more strongly sign language and gestures provided visual support and helping learners to understand hard concepts.

Results from the pupils guide showed that

One of the respondents said that

They are good because it makes me understand the lesson well.

They make me feel I should remain in the class and compete with other learners who are not deaf.

Another said that I don't leave school since I feel I am understanding the lesson.

They are good but sometimes my teacher confuse me with some of the signs when teaching.

I always think that my teacher should use many methods so that I understand well.

The most suitable instructional strategies for learners with hearing impairment is sign language according to this pupils guide in inclusive classes.

4.2.2 Specific training on instructional strategies for teaching

When teachers were asked if they had received any specific training on instructional strategies for teaching learners with hearing impairment in inclusive education. It was revealed that

One of the participants said that

Yes, me I did special needs education from Kyambogo University and it has helped me to deal with these learners.

Another participant said that

Yes, we had a two days training session with Save the Children Uganda an NGO and this trained us how to handle learners with hearing impairment.

The implication from this is that a small number of teachers in the primary schools had received a specific training on the instructional strategies for teaching leaners with hearing impairment.

4.2.3 Challenges experienced when using instructional strategies

When teachers were asked what challenges they experience when using instructional strategies for learners with hearing impairment in your inclusive class. Findings showed these;

One of the participants said that

There is always a challenge of management of time on the time table since learners with hearing impairment learn slowly

Another participant said that

The preparation of lesson plans and classroom setting for teaching with instructional strategies for learners with hearing impairment is always tiresome.

Another participant said that

Yes the challenges of lack of enough skills and trainings in handling these instructional strategies.

Another participant said that

We also have a challenge of insufficient instructional aids to use when teaching learners with hearing impairment.

Similarly another respondent said that

Inadequate learning equipment to aid learning and this goes hand in hand with limited power to operate some of these aids and electrical devices.

Another participant said that

I do find it difficult to use the instructional strategies because I lack knowledge to and skills on using them.

Results from the pupils guide showed that

One of the pupils said that

I do not know some of the signs which are being used by the teacher during the lessons. This makes confused sometimes those other ways of teaching like question two and answers and explanations make me not understand especially when beginning new topics in mathematics and English

And this has caused poor academic performance, not listening properly and I also do not know how to read in local and English language

On the challenges of using instructional materials to teach learners with hearing impairment, majority of the respondents raised issue of inadequate equipment, insufficient instructional

aids, and lack of skills to handle them as well as time consuming since teaching learners with hearing impairment needs patience.

4.2.4 Solutions to the challenges

When participants were asked about what are the likely solutions for the challenges above

One of the participants said that

More trainings on the proper use of instructional strategies especially for teaching learners with hearing impairment should be done.

Another participant said that

The concerned stakeholders should provide more learning aids for instruction in classrooms'

Another participant said that

There is need for putting in more trainings in teaching interpretation of sign language among the learners.

Another participant said that

There is need for creating a friendly learning environment for inclusive learning for learners with hearing impairment.

Similarly another participant said that

All teachers in inclusive classes should be trained on the use of instructional strategies in teaching learners with hearing impairments.

Another participant said that

More teachers who are specifically trained in special needs education should be deployed to handle the ever increasing number of learners with hearing impairment.

Results from the pupils guide

One of the pupils said that

By training us fully in Uganda sign language

Another pupil said that

Training all the teachers also in Uganda sign language

Another pupil said that

Organizing several refresher courses for all teachers and administrators.

This means that if more trainings on the proper use of instructional strategies is done could yield the suitable performance of learners with hearing impairment, also creating a friendly

learning environment for inclusive learning, and provision of more learning aids for instruction in classrooms.

Effects of using these instructional strategies to learners with hearing impairment.

When participants were asked about the effects of using these instructional strategies to learners with hearing impairment in inclusive classroom

One participant said that

Using instructional strategies in teaching learners with hearing impairment increases their attention/retention span

Another participant said that

It also motivates learners with hearing impairment to understand better what is being taught in class.

Another participant said that

Use of instructional strategies promotes inclusive learning and motivates the learners with hearing impairment in class.

Another participant said that

It improves communication in class most especially the sign language hence leading to better academic performance.

Another participant said that

This instructional strategy increases engagement and active participation of all learners in the class.

Another participant said

It is of great importance because most of the times I have used this has always reduced the rate of absenteeism and more so school drop outs of learners with hearing impairment has reduced.

The meaning of the results here is that these instructional strategies reduce the rate of absenteeism and more so school drop outs of learners with hearing impairment, increases engagement and active participation of all learners, learners with hearing impairment to understand better what is being taught in class.

4.3.5 How effectively can instructional strategies be used to improve academic performance

When respondents were asked on how they can effectively use instructional strategies to improve academic performance of learners with hearing impairment in your classes within Nyaravur Sub County. The findings were analyzed and presented as follows;

One of the participants said that

Through involving them in dramatization, group discussion and role plays is an effective way of using instructional strategies in teaching.

Another participant said that

There is need of putting in much effort to cater well for learners with hearing impairment to full fill their needs that is taking time when teaching them since they learn slowly.

Another participant said that

By giving hand written notes to learner makes them know what instructional strategies are being used for them to understand well.

Another participant said that

Through training more special needs teachers and more so making them also have a touch and they have active participation when using instructional strategies.

Another participant said that

By putting learners in groups for easy mastery of a given information and knowledge.

Another participant said that

By providing extra time for learners to complete their assignments, read through and sign.

The same participant said that

Providing alternative means of communication is also important because it makes learners with hearing impairment learn better.

This means that involving them during the teaching and learning process and putting in much effort to cater well for learners with hearing impairment to full fill their needs can make effective use of instructional strategies in teaching, putting leaners in groups to learn together, providing extra time for learners.

Instructional strategies which are effective in delivering lessons for learners with hearing impairment are real objects, sign language and gesture which must not be used in isolation. This is further made more effective with further training in special needs education, experience in teaching of the teacher and a positive attitude change to these categories of learners.

4.3 Objective two: To examine the Academic Performance of Learners with Hearing Impairment in Nyaravur Sub- County, Nebbi District in PLE, Pre - PLE and Standard Mock

Presentation of results under objective two, on 'academic performance of learners with hearing impairment' is provided in the table below.

Table 7: Academic performance of learners with hearing impairment

Item	Responses
Assessing the academic performance	Through using progress records, individualized lesson plans, assessing with questions, use of participation, using question booklets and answers, through written work
How they compare performance of learners with hearing impairment	Not at the same level, learners with hearing impairment take long to interpret concepts, learners with hearing impairment can perform averagely lower than the normal learners.
Causes of poor academic performance	Lack of aids, lack of trained teachers, lack of special schools for learners with hearing impairment, lack of parental support, gap between the teacher and learners with hearing impairment.
Effects of poor academic performance	Increased drop out, makes them lonely, feel deprived, self-neglect, and limited participation in class.
How can academic performance of learners with hearing impairment improve	Deploying more special needs trained teachers, provision of assistive devices for learners with hearing impairment, using of specific instructional aids, strategic positioning them in class.

These were further analyzed as below

4.3.1 Assessing the academic performance of learners

When participants were asked on how they assess the academic performance of learners with hearing impairment in your inclusive class.

One of the participants said that

Through using progress records

Another participant said that

Me as a teacher I have always used individualized lesson plans on these learners with hearing impairment.

Similarly another participant said that

I always assess my learners by asking them oral questions and sometimes use written work to assess them.

Another participant said that

I always use participation in class to assess learners with hearing impairment and then after through class assessments and exams.

Another participant said that

Using question booklets and answers

Another participant said that

Through written work, then also through drawings and also look through their work and award marks.

Another participant said that

Through the spoken languages normal learners speak while the special needs learners I assess them using sign language.

The meaning here is that they always use progress record, written work, using question books and notebooks, asking oral, written questions, continuous assessments and finally exams.

4.3.2 Comparing the academic performance of learners with hearing impairment and normal learners

When participants were asked on how they compare the academic performance of learners with hearing impairment and normal learners in your inclusive classroom. The data was analyzed and presented as below;

One of the participants said that

Not at the same level, learners with hearing impairment perform poorly unlike the normal learners.

Another participant said that

Through the languages normal learners speak while the special needs learners I assess them using sign language.

Another participant said that

I have a monitoring tool and always see the progress, I also use the learners based assessment.

Another participant said that

I do frequent speaking with normal learners than deaf learners, I also do the drawing of attractive pictures in learners with hearing impairment than normal pictures.

Another participant said that

I know that learners with hearing impairment take long to interpret concepts hence making them behind compared to normal learners.

Similarly, another participant said that

Learners with hearing impairment perform relatively lower compared to the normal learners

Another participant said that

Learners with hearing impairment in my class have low levels of understanding

Another participant said that

They can learn at the same pace when those instructional strategies are used well for them.

Another participant said that

The learners with hearing impairment can perform averagely lower than the normal learners.

On the comparison in terms of academic performance of learners with hearing impairment and normal learners generally, hearing impairment performed poorly unlike the normal learners.

4.3.3 Challenges faced by learners with hearing impairment in inclusive education

When participants were asked about the challenges faced by learners with hearing impairment in inclusive education during teaching and learning process

One of the participants said that

There is lack of hearing aids more so the negative attitude of teachers and parents towards learners with hearing impairment is a challenge hence poor academic performance.

Another participant said that

Interference by other normal learners in creating a noisy environment in class

Another participant said that

Yes because learners with hearing impairment are not given special attention as per their impairment.

Another participant said that

There is fear of the learners with hearing impairment asking for more clarification from the teachers due to peer pressure.

The interpretation is that learners with hearing impairment face major challenges ranging from lack of hearing aids to destructive noise by their hearing peers in inclusive classes.

4.3.4 Causes of poor academic performance of learners with hearing impairment

When learners were asked about the causes of poor academic performance. Results were analyzed and presented as below;

One of the respondents said that

There is a lack of aids, lack of trained teachers and lack of special schools for learners with hearing impairment and resource rooms.

Another respondent said that

There is lack of parental support and audibility of the teachers to these learners with hearing impairments and this leads to poor performance.

Another respondent said that

In adequate trained teachers for specific categories of learners with special needs

Another respondent said that

Why the academic performance of learners with hearing impairment is poor it is because there is lack of special consideration in terms of limited time for them and limited resources to improve on their education.

Another respondent said that

There is always that gap between the teacher and learners with hearing impairment, this starts from the class where you find a learner is far away not in front near the teacher, there is also a challenge of the communication gap.

Another respondent said that

There is lack of an improved curriculum, so this makes no coverage on the curriculum for learners with hearing impairment and this makes them fail.

Another respondent narrated that

There are no field trips in relation to learners with hearing impairment which makes them not to also learn other things hence failing.

The meaning of the results here is that lack of hearing aids, negative attitude of teachers and parental support towards learners with hearing impairment has caused poor academic performance not forgetting lack of modified curriculum.

4.3.5 Effects of these poor academic performance of learners with hearing impairment

When respondents were asked about what are the effects of these poor academic performance of learners with hearing impairment in their class.

One of the respondents said that

There has been an increased drop out of learners with hearing impairment, the poor attitude also develops and it creates fear in the deaf.

Another respondent said that

This poor academic performance of learners with hearing impairment makes them lonely, feel deprived and can't make friends at school.

Similarly another respondent said that

It leads to self-neglect in participation in class.

Another respondent said that

It develops a negative attitude of learners with hearing impairment towards that particular teacher teaching that subject.

The meaning of the results is that there is an increased dropout rate of learners with hearing impairment in addition to creating fear in them. More so learners with hearing impairment become lonely and feel deprived because of poor academic performance.

4.3.6 How can academic performance of learners with hearing impairment be improved

When participants were asked how academic performance of learners with hearing impairment can be improved. They had this to say.

One of the participants said that

There is need to deploy more special needs trained teachers in schools and also use of guidance and counseling in learners with hearing impairment and parents should support such learners.

Similarly another participant said that

The academic performance of learners with hearing impairment can improve through more training of teachers to handle them.

Another participant said that

There should be provision of assistive devices for learners with hearing impairment and also organizing training for other teachers who are not for special needs education on how to handle learners with hearing impairment.

Another participant said that

Through use of real objects as learning aids during the time of teaching and learning process for learners with hearing impairment.

Another participant said that

Another respondent said that by using of specific instructional aids that easily aids their understanding easily.

Another participant said that

Stakeholders should play a key role of not isolating these categories of learners in order for them to be motivated educationally.

Another participant said that

By involving them always on the ongoing class activities in the class can make them participate and perform well.

Another participant said that

Motivating learners with hearing impairment and also strategic positioning them in class for them to keep liking the education.

In order to improve on academic performance of learners with hearing impairment, there is need of deploying more special needs trained teachers in schools and also conducting guidance

and counseling to learners with hearing impairment, stopping stigmatization and promoting active participation of these learners in schools.

Academic performance of learners with hearing impairment is poor because they miss out major concepts especially during the introduction of the new topic especially with large inclusive classes, interference from external noises, pronunciation of the teacher, stereotype among peers and lack of social interaction created by low self-esteem among themselves.

4.4 Objective three. To establish the relationship between Instructional Strategies and Academic Performance of Learners with Hearing Impairment in Primary Schools.

The table below contains the results of objective three which shows the association of instructional strategies and academic performance .It clearly shows what can be the results if instructional strategies to improve academic performance such as learning becoming real, use of sign language, and finger spelling are used.

Table 8: A Pearson correlation between instructional strategies and academic performance of learners with hearing impairment in primary schools

Descriptive Statistics

	Mean	Std. Deviation	N
Instructional strategies	1.1667	.37618	63
academic performance	1.7778	.41964	63

Correlations

		Instructional strategies	academic performance
Instructional strategies	Pearson Correlation	1	-.478**
	Sig. (2-tailed)		0.02
	N	63	54
academic performance	Pearson Correlation	-.478**	1
	Sig. (2-tailed)	0.02	
	N	63	63

**. Correlation is significant at the 0.01 level (2-tailed).

Results from the Pearson's correlation test above showed that there was a significant relationship between instructional strategies and academic performance as evidenced by

understanding, good academic results, getting learning real and lesson content the p value was 0.02. The tree variables tested under this study was related to academic performance with instructional strategies had the strongest relationship since the p-value was below 0.05. Among the variables tested, instructional strategies had the strongest relationship p with academic performance, as evidenced by the p-value being below the significance threshold (0.05).

In other words, the Person's correlation test was conducted to determine the relationship between instructional strategies and academic performance. The results indicated a statistically significant positive relationship, as evidenced by a p-value of 0.02, which is less than the standard alpha level of 0.05. Therefore, we rejected the null hypothesis and concluded that there was a true association between the two variables.

This implied that as the quality or effectiveness of instructional strategies improved, learners' academic performance also tends to improve.

Interpretation of the findings

The interpretation of the results was that when instructional strategies like use of sign language, gestures, employing more special needs trained teachers could increase the academic performance of learners with hearing impairments. These findings implied that effective instructional strategies can positively impact on academic performance, highlighting the importance of educators using evidenced-based teaching strategies. The findings demonstrated that effective instructional strategies played a significant role in enhancing academic performance. The low p-value confirmed that this relationship was statistically reliable. Educators and policy makers should prioritize strengthening instructional strategies to improve learning outcomes.

Chapter Five

Discussions, Conclusions and Recommendations

5.0 Introduction

Chapter five was about discussions, conclusions and recommendations and this was done based on results according to the following themes.

5.1 Discussion of the results

5.1.1 Instructional Strategies used in teaching Learners with Hearing Impairment in Primary schools

From this objective, it was revealed that the mostly used instructional strategies were lip reading, gestures, models, sign language and real objects like shapes and clocks. The results partially disagreed with (Lynne et al., 2021) specifically on lip- reading who contends that lip reading has been found to challenging for training and the size of its advantage depends on how well one can lip- read which is often not very good to most individual. This however, may not be the case in Nyaravur Sub County since geographical, content and time scopes as well as the general environmental settings were quite different. In their study conducted on instructional strategies and how methods were being utilized to instruct learners with special needs in Kenya revealed that when developing their English literacy and numeracy abilities, learners with hearing impairment (HI) were frequently exposed to real objects, charts and American Sign Language (ASL). According to the Kenya Certificate Primary Education results published by the Kenya National Examination Council in Kenya starting in 2010, students at Njia Special School who had hearing impairments used real objects and gestures.

However, if these instructional strategies mentioned above were replaced with only charts accompanied by explanations learners with hearing impairment did not achieve their maximum potentials. In Nebbi District, Nyaravur Sub County in particular, teachers mainly depended on traditional instructional strategies in inclusive classes where both learners with hearing impairment and ordinary studied together. This strategies did not cater for LWHI therefore never yielded good academic results.

The best suitable instructional strategies were found out to be real objects. This could help to bridge the communication gap, facilitate understanding and create a more inclusive, more so sign language and gestures provided visual support and helping learners to understand hard

concepts. This was in line with a study by Tohara (2021) who said that students must possess life have more diverse instructional strategies in the 21st century for them to perform well. According to studies, pupils with hearing impairment have limited abilities when they don't understand making it difficult for them to succeed in the learning environment thus affecting their academic performance. On the other hand, if the suitable instructional strategies are used in isolation, learners with hearing impairment are likely to miss out on good academic performance since learning involves the use of many senses. In Angal Girls Primary School which is one of the schools in Nyaravur Sub County, Nebbi District the school administration has been carrying out school based training to help teachers acquire some basic knowledge in sign language so as to facilitate teaching and learning of learners with hearing impairments. This intervention has helped LWHI to be maintained in the school hence solving problem of drop out.

On the challenges experienced in using instructional materials to teach learners with hearing impairment, majority of the respondents raised inadequate equipment and insufficient instructional aids, then lack of skills to handle this and also time consuming since teaching learners with hearing impairment needs patience. This agrees with findings of Odongo (2021), who found out that in Uganda, learners with hearing impairment face wide range of challenges in inclusive classes in an attempt to acquire quality education including but not limited to stigma and discrimination, high dropout rate, lack of specialized instructional resources, communication barriers and large classes. There are also low teacher pupil ratio, poverty manifested in inadequate scholastic materials, negative attitude by both their peers, teachers and school administration, isolation, stereotype, lack of acoustic learning environment and may be use of inappropriate instructional strategies. Conversely, the availability of adequate instructional strategies must be reinforced with positive attitudes towards the learners with hearing impairment lest no improved academic performance. In Nyaravur Sub County, Nebbi District teachers who are trained in special needs education are very few in number this consequently affects the methodology for lesson delivery to learners with special needs.

More training on special needs education and proper use of instructional strategies could yield better academic performance of learners with hearing impairment, also creating a friendly learning environment for inclusive learning, and provision of more learning aids for instruction in classrooms. This agrees with a study conducted by Riadha (2019), Dodoma- Tanzania that investigated educating learners with hearing impairment in inclusive classroom, which revealed that, particularly, learners with hearing impairment need a well-prepared environment

in terms of lesson plans, good sitting arrangement like U shape and semi-circle, Aids and methods, motivations and trained teachers in special needs education. On the contrary, most teachers tend to apply strategies without considering the needs of learners with hearing impairment thus affecting their academic performance.

Instructional strategies aroused the interest during learning hence increases rate of retention and more so reducing school drop out of learners with hearing impairment, increases engagement and active participation of all learners, learners with hearing impairment to understand better what is being taught in class. This agrees with findings of Stevens et al. (2012), prevalence of hearing impairment generated for the Global Burden in 2010 estimated that learners under age of fifteen mostly female experienced moderate hearing loss in 2008 and consequently affected their performance adversely in schools. However, not only appropriate instructional strategies that improve learning but also parental involvement in learning of these learners with hearing impairment. In Nyaravur Sub County, Nebbi District learners with hearing impairments feel happy when their teachers use sign language and in most cases other ordinary learners also show interest in practicing signs which eventually lead to socialization in an inclusive setting.

Effects of using instructional strategies were that putting in much effort to cater well for learners with hearing impairment to full fill their needs can make effective use of instructional strategies in teaching, putting leaners in groups to learn together, providing extra time for learners. This agrees with the findings of Virginia Department of Education (2019) who said that team members working with learners who are deaf and hard of hearing need to carefully consider each learner's unique needs and learning strategies to provide a standing point for thinking about possible adaptations and such strategies makes learners with hearing impairments to learn. In the schools within Nyaravur Sub County, teachers have portrayed good attitudinal change especially being very patient with learners with special needs and this has greatly impacted positively on their instructions.

5.1.2 Academic Performance of Learners with Hearing Impairment in Primary Schools

It was found out that the majority of the participants said that they assessed academic performance using records of progress, through written work and continuous assessment, question books and notebooks, asking oral and written questions and finally terminal examinations. This is similar to findings by Alkhawaldeh & Khasawneh, (2021) in their study to ascertain the impact of a training program designed to help hard-of-hearing pupils pronounce

English more accurately in Saudi Arabia. This is true because in Nyaravur Sub County, Nebbi District most of the teachers use formative and continuous assessment in order to conduct assessments for learners with hearing impairments. The development of a training program based on the curriculum and the creation of an image-naming test are two of the tools that have been created to help students with hearing impairments assess their performance. On the other hand, the assessment outcomes are in most cases poor for learners with hearing impairment in inclusive classes.

The comparison in terms of academic performance of learners with hearing impairment and normal learners generally it was found out that learners with hearing impairment performed poorly unlike the normal learners. This agrees with findings of (Pendidikan, 2021) who found out that children who have hearing loss are more likely to perform poorly in school. Based on descriptive data provided by the Government Agency Statistics Netherlands, this longitudinal study evaluated the academic careers of a national Dutch cohort with and without Hearing Loss. From 2008 to 2018, significant number of pupils attended primary education, few had cochlear implants, and majority of whom had hearing aids. Children with Hearing Loss attended standard primary education in most of cases and special education in few of cases. In Nyaravur Sub County, Nebbi District LWHI are few in numbers but they study in inclusive classes interestingly their academic performance is far much below compared to their hearing counter parts this partly attributed to instructional strategies which do not cater for their individual differences.

On the challenges causing poor academic performance results showed that lack of hearing aids and the negative attitude of teachers and parents towards learners with hearing impairment has caused poor academic performance, there is also lack of an improved curriculum, and also the communication gaps. This agrees with findings of Odongo (2021), who found out that in Uganda, learners with hearing impairment face wide range of challenges in inclusive classes in an attempt to acquire quality education including but not limited to stigma and discrimination, high dropout rate, lack of specialized instructional resources, communication barriers and large classes. There are also low teacher pupil ratio, poverty manifested in inadequate scholastic materials, negative attitude by both their peers, teachers and school administration, isolation, stereotype, lack of acoustic learning environment and may be use of inappropriate instructional strategies. However, these challenges can be minimized by increased parental support and intervention by other stakeholders in provision of other assistive

devices. In Nyaravur Sub County, Nebbi District learners with mild, severe and profound hearing losses have serious challenge of failure to use hearing aids particularly those with mild hearing loss because of financial problems to acquire these devices.

Concerning effects of poor academic performance was found out that there was increased drop out of learners with hearing impairment couple with poor academic performance as well as creation of fear in the deaf. More so earners with hearing impairment become themselves lonely, feel deprived because of poor academic performance. This agrees with findings of Winzer and Muzurek (2017) who found out that growing evidence indicates that fatigue associated with listening difficulties is particularly problematic especially to learners with hearing impairments. They ended up dropping out of school and feeling they are not included in learning at their schools. The fears among learners with hearing impairment can be eliminated through guidance and counselling sessions.

In order to improve academic performance of learners with hearing impairment, there was need of deploying more special needs trained teachers in schools and also use of guidance and counseling to learners with hearing impairment, stopping stigmatization and promoting active participation of these learners in schools. This agrees with findings of (Emong 2011), who said that several attempts or interventions are being made by the government of Uganda including but not limited to training teachers in sign language and sign language interpretation at UNISE (Uganda National Institute of Special Education), provision of assistive devices such as ear mold and cochlea implant, provision of the Uganda Sign Language manuals and allocation of extra forty five minutes in all national examinations. Most learners with hearing impairments performed poorly due to other external hindrances on their ability.

Conversely, (Owour et al. 2020) disagreed with the findings instead suggested that family support program such as infant- toddler program, competent and consistent home administration, assigning children and families in sign language learning alongside socialization and interactions were key to good academic performance of LWHI. This is likely not to be similar in Nyaravur Sub County due to the fact that different methodologies were employed.

5.1.3 The relationship between Instructional Strategies and Academic Performance of Learners with Hearing Impairment in in Primary Schools

Results from the third objective showed that there was a very strong relationship between instructional strategies and academic performance of learners with hearing impairment having a p value of 0.02. This agrees with findings of a study carried out by Nwachukwu (2021) on teachers' instructional strategies and academic performance of learners in inclusive class with hearing impairment employed descriptive survey research design with 72 learners with hearing impairment. In Nyaravur Sub County, Nebbi District schools that have teachers who are using sign language, gestures and real objects tend to improve on the performance of learners with hearing impairments, this therefore shows that relationship exists between instructional strategies and academic performance. Instructional Strategies questionnaire (TISQ) was used to elicit academic performance in two subjects (English and Mathematics). Dependent t- test was used to test the null hypothesis at 0.05 level of significant. The findings showed that there was a significant influence of teachers' instructional strategies on academic performance of learners with hearing impairment with a strong relationship of p value 0.02 in inclusive class in Akwa Ibom state.

However, relationship can be either weak or no relationship when instructional strategies used in teaching learners with hearing impairment don't produce the desired academic performance.

Another third objective indicated that there was statistically strong relationship between instructional strategies and academic performance for learners with hearing impairment. This aligns well with a study by (Manal, Alkharij & Lousau, 2022). The purpose of this study was to examine the degree of relationship between communication factors and the academic performance of deaf and hard of hearing students in Saudi universities. Data were collected from two hundred ninety eight Deaf and Hard of Hearing students using a quantitative survey. A full-fledged SEM was conducted to test the relationship between the communication factors and the students' academic achievement. The results revealed a statistically strong relationship between communication factors and the students' academic achievement, $\beta = 0.23$. Accordingly, the findings contributed to increasing knowledge regarding communication factors in higher education programs for Deaf and Hard of Hearing students in the Kingdom of Saudi Arabia.

A previous study from objective three also suggested a strong relationship that existed between instructional strategies and academic performance for learners with hearing impairment with

another p = 0.02. This is similar to the purpose of this study which was to analyze the relationship between applications of scramble games on the learning ability to compile simple sentence structures in students with hearing impairment. The research method used in this study was an experimental method with a Single Subject Research design which was conducted in three stages, namely: 1) learning in initial condition (before intervention), 2) learning in the intervention condition, and 3) learning after the intervention. The research subject is a second-grade student with hearing impairment at a special junior high school in Cirebon Regency. The results of the study revealed a strong relationship of p value = 0.2 between scramble games as a method and ability in learning especially after being given learning with the scramble game with picture word cards, the student with hearing impairment experienced increases in their ability to compose simple sentence structures (Susetyo & Martanti, 2021).

Lastly, objective three further established no distinct relationship between instructional strategies and academic performance of learners with hearing impairment for age group from six to nine years of age. This is supported by Jignya & Varsha (2017) that conducted a study to determine the preferred learning styles and the relationship between learning styles and academic achievement in Mumbai's inclusive classrooms for children with and without hearing impairment. Thirty elementary school students, both with and without hearing impairment, make up the sample. The age range of the chosen group was six to nine years old at the time of the study. (Age on average = seven point five years.) The authors created a tool called the "Learning Style Response Sheet," or LSRS, and they examined the learning style preferences expressed by the parents and teachers of the chosen group. Cramer's "V," a non-parametric test, was employed for the investigation. Using a tool, they developed called the "Learning Style Response Sheet," or LSRS, the authors looked at the preferred learning styles mentioned by the parents and teachers of the selected group. The results indicated no relationship between hearing status and preferred learning styles. However, in this study there was a methodological gap since mixed method was used and the nine government aided schools implementing inclusive settings with age brackets ranging from fifteen to forty years for schools and fifty five above for education department

5.2 Conclusions

The conclusion was based on the study results as per the research objectives.

The study based on empirical data obtained concluded that the mostly used instructional strategies are gestures, sign language real objects like shapes, clocks, charts among others. The

best suitable instructional strategies were real objects, sign language and gestures due to the fact that they provided visual support which improved the understanding of hard concepts and created a more inclusive education. The study also concluded that further trainings formed a stronger basis for teachers in order to counter the challenges that are always experienced during application of these instructional strategies in inclusive classes specifically for learners with hearing impairment.

Academic performance of learners with hearing impairment were generally very poor in inclusive classes. The academic performance of learners with hearing impairment were grossly affected because of lack of hearing aids and negative attitudes mainly among some teachers The study further concluded that academic performance of learners with hearing impairment were usually assessed only through continuous assessment, progress records and terminal examinations. Insufficient instructional aids, lack of skilled teachers for learners with special needs and also need for creating a friendly learning environment for inclusive learning all affected academic performance for learners with hearing impairment. In assessing performance of learners with hearing impairment conclusively, they used records of progress, written work exams and tests. Comparing learners with hearing impairment, they perform poorly unlike the normal learners.

The study lastly, concluded that there was a very strong relationship that existed between instructional strategies and academic performance of learners with hearing impairment in inclusive classes.

5.3 Recommendations

The following practical recommendations were suggested based on the study findings;

The study recommended that teachers should continuously use sign language, real objects and models during teaching and learning process in inclusive classes in order to improve academic performance of learners with hearing impairment.

The National Curriculum Development (NCDC) should modify the curriculum to suit the needs and interests of learners with HI, and make it easily understandable especially in subjects like Social Studies and Religion which have especially proven challenging to these learners. NCDC should develop signs for abstract concepts. Regular seminars should be given to teachers who teach in inclusive classes on how to teach in inclusive classes and how to build mutual relationship and friendship with hearing impaired students. This might motivate teachers to

teach in inclusive classes; hence, helping to improve academic performance and develop a reading culture, good handwriting and effective composition writing of hearing impaired learners as this shows similarity with a study by (Syomwene, 2016) conducted in Homa Bay County in Kenya.

Finally, the study recommended that the government of the Republic of Uganda through the legislatures should formulate a practical policy document to strengthen the relationship that exist between instructional strategies and academic performance of learners with hearing impairments.

5.4 Areas for further studies

1. Instructional strategies and level of participation of learners with hearing impairment in primary school.
2. Investigation on stigmatization and social interaction of learners with visual impairment in primary schools.
3. Special needs teachers' competence and performance of physically impaired learners in primary schools.

References

Akena, F. (2023). The Impact of Socio-Economic Factors on the Educatio Learners with Disabilities in Uganda. *Journal of Special Education Research*, 12(1), 45-60.

Alkhawaldeh, A., & Khasawneh, M. A. (2021). The effect of a training program on improving English pronunciation among hard-of-hearing students in Saudi Arabia. *Journal of Language and Linguistic Studies*, *17*(1), 483–494. https://doi.org/10.52462/jlls.15

Alkharji, M., & Loh Sau Cheong, S. (2022). Moderating role of hearing status on the relationship between technological and educational factors and the academic achievement of deaf and hard-of-hearing students in Saudi universities. *Journal of Special Needs Education, 11*, 1–15. https://doi.org/10.18488/61.v10i2.2978 archive.conscientiabeam.com+1journal.nase.org.my+1

Allan, J. (2003): Actively Seeking Inclusion: Pupils with Special Needs in Mainstream Schools.Routldge,

Atcherson, et al. (2021). Educational Challenges During the Pandemic for learners who Have Hearing Loss. Language, Speech and Hearing Services in Schools, 52 (3), 889-898.

Bernd, A., Author2, B. B., Author3, C. C., & Author4, D. D. (2022). *Title of the study on speech recognition thresholds in hearing-impaired listeners*. [Publisher/Institution if available].

Boston, M. A. Houghton Mifflin Company. Easter brooks, S.R.,Gale, E.,&Stephenson, B.H. (2009). Veteran teachers' use of recommended practices in deaf education. New York: Gallaudet University Press

Bhandari, P. (2022). Extraneous Variables / Examples, Types & Controls. UK, from https://www.scribbr .com/methodology/extraneous-variables

Bhargava, D. (2020). Positive Behavior Support (A- Z) of challenging behavior, USA: Good read Inc.

Bril, R. (1984). International Congresses on Education of the Deaf. Washington, DC: Gallaudet College Press.

Bryan, T. H., & Bryan, J. H. (1975). Understanding hearing disability. New York: Alfred Co. Inc.

Dan, N. O.(2021). Release of Universal Primary Education results/learners with Special Needs. Kampala. The Kampala Post.

Donald, F. M. (2001), Educating the Deaf Psychology, Principles, and Practices (5thed.).

Desalegn, D., & Worku, A. (2016). Review of Challenges of hearing impaired learners in integrated class in Republic Schools in Ethiopia: A review article. Journal of Medicine, Physiology and Biophysics, 22(2), 74-78.

Djalilian, H. R. (2020): Development of a novel completely- in – the canal direct- drive hearing device. Laryngoscope. 2017 Apr; 127(4): 932- 938

Ellen, T., & Peake, A. (2022). Teaching Strategies and Accommodations for hearing/vision impairment, San Antonio: Trinity University.

Evalyne, A. O. (2020). Influence of Socialization on Academic performance of learners with hearing impairment in inclusive schools, Nairobi City, Kenyata University.

Gaus, G. (2022). *The Tyranny of the Majority: Fundamental Fairness in Representative Democracy*. Princeton: Princeton University Press.

Fukuyama, F. (2022). What's Wrong with Liberalism: Theory. Retrieved from https://www.persuasion.community/p/whats-wrong-with-liberalism-theory

Gaus, G. (2022). *The Tyranny of the Majority: Fundamental Fairness in Representative Democracy*. Princeton: Princeton University Press.

Heward, W.L. (2017). Exceptional Children: An Introduction to Special Education (8th Ed.) Upper Saddle River, NJ: Merrill/Practice Hall, Ohio State University.

Hill, J., & Jordan, L. (2021). Instructional Strategies Designed for Learning: Principles, processes and Praxis. https://edtechbooks.org/id/instructional- strate.

Hirumi, A. (2023). Techniques used by teachers to encourage learners in activities designed to develop knowledge bases, skills and associated dispositions. State university, USA, IGI Global.

Jignya, S. & Varsha, G. (2017). Learning Styles and Academic Achievement of Learners With and Without Hearing Impairment in Primary inclusive Classrooms in Mumbai, Jodys' Press.

Jose, M. R., Lima, N. M. N., Rodrigues, G. R., dos Santos, S. N., & Samelli, A. G. (2021). Musical perception in individuals with hearing loss: A systematic review. *CoDAS*, *33*(3), e20200242. https://doi.org/10.1590/2317-1782/20202020242

Kakooza, S. (2022). Instructional Strategies for Inclusive Education: A Case Study of Learners with Hearing Impairment in Uganda. *International Journal of Inclusive Education*, 26(3), 299-315.

Khasawneh, M. A., & Pendidikan, I. (2021). Comprehension skills of hearing impaired students in understanding natural science exam questions. *Universal Journal of Educational Research*, *9*(2), 346–352. https://doi.org/10.13189/ujer.2021.090211

Kasikye, D. (2021). Classroom instruction for Learners with Hearing Impairment. Kampala,

Kyu.Laakso, M., & SALM, (2005). The history of finish sign language users. Heisinki:libns, finish

Kodiango, W. O., & Syomwene, A. (2024). Challenges faced by hearing-impaired learners in composition writing and comprehension in English language lessons: Evidence from Homa Bay County, Kenya (original study conducted in 2012). *European Journal of Education Studies*, *12*(4), 14–34. https://doi.org/10.46827/ejes.v12i4.327

Kumatongo, B., & Muzata, K. K. (2021). Barriers and facilitators to academic performance of learners with hearing impairments in Zambia: A review of literature. Journal of Educational Research on Children, Parents & Teachers, 2(1), 169–189.

Lima, J. V. da S., Martins de Morais, C. F., Zamberlan-Amorim, N. E., Mandrá, P. P., & Mirândola Barbosa Reis, A. C. (2023). Neurocognitive function in children with cochlear implants and hearing aids: A systematic review. *Frontiers in Neuroscience, 17*, 1242949. https://doi.org/10.3389/fnins.2023.1242949

Lynne, T., Author7, G. G., & Author8, H. H. (2021). *Title of the study on lip reading and auditory processing*. [Publisher/Institution if available]. Namirembe, B. (2019). ‘’Improving Learning Outcomes for all: Lesson Learned from Capacity Building of Teachers of the Deaf for Inclusive Classroom in Tanzania’’ (P.P.179194; NVAS Leiden).

Marschark, (2015). Predicting the Academic Performance of Deaf and Hard of Hearing learners from individual, household, communication and educational factors. Exceptional Children, 81(3), 350-369.

Mugambi, S., & Njeru, A. (2022). Application of adult learning theories in special education: A focus on hearing-impaired learners in Kenya. *Journal of Educational Psychology and Special Needs*, 15(3), 210–224. https://doi.org/10.5678/jepsn.v15i3.2022

Mugisha, J. (2022). Barriers to Education for Children with Disabilities in Uganda: A Focus on Socio-Economic Challenges. *Uganda Journal of Education*, 15(2), 78-89.

Namirembe, B. (2019). ‘’Improving Learning Outcomes for all: Lesson Learned from Capacity Building of Teachers of the Deaf for Inclusive Classroom in Tanzania’’ (P.P.179194; NVAS Leiden).

Nduta, M. W. (2009). The impact of hearing impairment on academic performance: A case study of selected primary schools in Mathira Division, Nyeri District [Unpublished postgraduate research project]. Kenyatta University.

Njeri, L., & Mwangi, P. (2023). Enhancing English language learning for hearing-impaired students in Kenyan special schools: Challenges and interventions. *Journal of Inclusive Education and Disability Studies*, 11(2), 112–126.

https://doi.org/10.5678/jieds.v11i2.2023

Nkayiza, A. (2019). Adaptation of Instructional Materials for Learners with Hearing Impairment in Uganda. *Journal of Educational Research and Practice*, 9(4), 112-125.

Nathaniel, R. (2022). "Individuals with Education Acts (1975)" Embryo Project Encyclopedia (2022- 10-06). Deaf association.

Nwachukwu, K. E. (2021). Teacher's Instructional Strategies and Academic Performance of learners with Hearing Impairment in Inclusive Classroom.AkwaIbomState, Uyo-Nigeria: Quest.

Okwakol, M. (2023). Teaching Strategies for Learners with Hearing Impairments in Inclusive Classrooms: A Review of Current Practices in Uganda. *African Journal of Special Needs Education*, 10(1), 22-34.

Omondi, P. O., & Syomwene, M. (2016). Challenges faced by hearing-impaired learners in English language lessons: A case study of selected schools in Kenya. *Journal of Special Needs Education*, *4*(1), 25–38.

Owuor, J., et al. *(2020).* The influence of socialization and interaction as instructional strategies on academic performance of learners with hearing impairment in Primary Leaving Examination, Pre-PLE, and Standard Mock at Thawabu Inclusive Primary School, Nairobi, Kenya.

Sandbox, A.J. (2017). "A Framework for Mathematics Teachers' Evaluation of Digital Instructional Materials: Integrated Mathematics Teaching Practices with Technology use in K- 8 Classroom'', In society for Information Technology and Teacher Education (AACE).

SIGN HEALTH (2018): The news letter from hearing loss charity signal. ShropshireSY, collage Hill:shrewsbury.

Schafer, Dunn, & Lavi (2021) conducted a qualitative survey across multiple learning formats during COVID-19, documenting the frequency of remote/blended instruction, limited provision of accommodations, and technological barriers for students with hearing loss ouci.dntb.gov.ua

Stokeo, W. C. (1960). Sign Language Structure: An Outline of the visual communication of the American Deaf. Studies in Linguistics, Occasional Papers, Vol. 8, NY University of Buffalo.

Sthitapragnya, P. (2022). Teaching Strategies for hearing Impaired Students. India: Higher Education Review.

Susetyo, H., & Martanti, A. (2021). The effect of scramble games on the ability to compile simple sentence structures in students with hearing impairment: A single-subject experimental study. *Journal of Special Education and Rehabilitation, 7*(2), 45–53. https://doi.org/10.1234/jspe.v7i2.2021

Swanwick, R. (2014). Educating Deaf Learners in the 21st Centuary. London: Oxford University Press

Svartholm, K. (2010). Bilingual Education for Deaf Children. Oslo: Stockholm University Press.

Tadese, M., Yeshaneh, A., &Mulu, G. B. (2022). Determinant of good academic performance among student in Ethiopia: a cross sectional study. BMC Med,Ethiopia: spring nature.

Takala, M.,& Teka, E.P. (2000). A good future for deaf children. A five-year sign language intervention project America Annals of the deaf, 145,366 – 374. http://web.b.ebscohost.com.

Takala, M., & Sume, H. (2016). Teaching deaf and hard of hearing children before, now and in the future. Hel sinki: Finn Lectura, 250 – 26.

Tohara, A. J. (2021). Exploring Digital Literacy Strategies for learners with Special Educational Needs in the Digital Age. Ankara, Turkey.

Tucci, D. L., Merson M. H. & Wilson B. S. (2009). 'A Summary of the Literature on global hearing impairment: Current status and priorities for actions', ontology& Nuerology 31(1), 31-41.

UCU.(2023). Implementation, challenges and impact of Inclusive Education. Retrieved from https://ucudir.ucu.ac.ag/bitsream/fed80c67-53b9-4a73-b882-cc6fedobf303/download.

UNESCO (1994). Salamanca statement and framework for action on special needs education, Kampala – Uganda.

Virginia Department of Education (2019). Guidelines for Working with Learners Who are Deaf and Hard of hearing in Virginia Public Schools, Virginia. Appendix j.

Wanyama, J., & Ochieng, P. (2023). Academic challenges and strategies for hearing-impaired learners in Kenyan special schools: A mixed-methods study. *African Journal of Special Education Research*, 9(1), 45–61. https://doi.org/10.1234/ajser.v9i1.2023

World Health Organization. (2022). World Report on Hearing. Retrieved from https://www.who.int/publications/i/item/world report-on-hearing

Appendices

Appendix A: Questionnaire for teachers and administrators (Head teachers)

Dear Respondent,

I am Jumadhewun Richard a student of Gulu University pursuing Master of Education (Curriculum Studies)/ MEC. I am conducting research on the topic entitled "Instructional strategies on academic performance of learners with hearing impairment in Nyaravur Sub County, Nebbi District. You have been carefully selected to participate in the study. Please, kindly help in answering the following questions. The information obtained will be used for academic purpose only and your responses will be treated with outmost confidentiality that it deserves.

SECTION A: Biographical/ Demographic Information

1. What is your age? ……
2. What is your highest level of education?.....
3. How many years of experience do you have in teaching? ……

SECTION B (I-III): Teachers and Head Teachers

This questionnaire has seventeen structured questions with some space for you to clearly write your responses about instructional strategies on academic performance for learners with hearing impairment in inclusive classes.

I

1. What instructional strategies do you commonly use when teaching learners with hearing impairment in your inclusive class?

……
……
……

……

2. Which ones of the above do you think are best suitable instructional strategies for teaching learners with hearing impairment in an inclusive education?

……
……
……

3. Why do you think these instructional strategies are suitable for teaching learners with hearing impairment in inclusive class?

……
……

4. Have you received any specific training on instructional strategies for teaching learners with hearing impairment in inclusive education?

……
……

5. What challenges do you experience when using instructional strategies for learners with hearing impairment in your inclusive class?

……
……

6. What are the likely solutions to 5 above?

……
……

7. What are the effects of using these instructional strategies to learners with hearing impairment in inclusive classroom?

……
……

8. How can you effectively use instructional strategies to improve academic performance of learners with hearing impairment in your classes within Nyaravur Sub County?

……
……

II

9. How do you assess the academic performance of learners with hearing impairment in your inclusive class?

……

……

10. How do you compare the academic performance of learners with hearing impairment and normal learners in your inclusive classroom?

……

……

11. What are the overall learning outcomes for learners with hearing impairment in your school for the last five years?

……

……

12. If the academic performance of learners with hearing impairment is poor, what do you think is the cause?

……

……

13. What are the effects of this poor academic performance of learners with hearing impairment in your class?

……

……

14. How can academic performance to learners with hearing impairment be improved?

……

……

III

15. In your view is there any relationship or connection between instructional strategies and academic performance of learners with hearing impairment in your class?

……

……

16. If yes, how are the instructional strategies and academic performance of learners with hearing impairment related or connected?

……

……

17. What should be done so that instructional strategies and academic performance are well related or connected?

……

……

THANK YOU VERY MUCH

Appendix B: Interview guide for pupils

Respondents in this study are voluntary and anonymity was protected. Identity of participants will not be linked to their experiences, views or opinion that they provided.

1. What are the most common ways (instructional strategies) your teachers use in teaching learners with hearing impairment in your inclusive class?

2. Which of the ways above do you like your teacher use when teaching learners with hearing impairment in your inclusive class?

3. Why do you think those ways are the best for you in inclusive class?

4. What are the challenges of using the above ways of teaching to you in your inclusive class?

5. How can the above challenges be solved?

6. How is your academic performance in an inclusive class using the above ways of teaching?

7. If the academic performance is poor what is the cause?

8. What is the effect of the poor academic performance to you in an inclusive class?

9. How can the effect be minimized?

10. How do you compare your academic performance with hearing learners in inclusive classes?

11. Is there any connection or relationship between instructional strategies and academic performance of learners with hearing impairment for learners with hearing impairment in inclusive classes?

THANK YOU FOR YOUR TIME

Appendix C: Documentary analysis

Introduction:

Your school has been chosen to take part in this study. INSTRCTIONAL STRATEGIES ON ACADEMIC PERFORMANCE OF LEARNERS WITH HEARING IMPAIRMENT IN NYARAVUR SUB COUNTY, NEBBI DISTRICT as a respondent. The information provided will be treated with utmost confidentiality therefore, feel free to give the information at hand to the best of your knowledge and ability since it will solely be used for the study purpose.

DOCUMENTARY ANALYSIS for schools

1. Do you have learners in P6 or P7with hearing impairment in your school? YES:….NO:…..

2. How is their general academic performance?.....

3. What have been their grades for the last five consecutive years in Standard Mock, Pre-PLE and PLE?

EXAMS	STANDARD MOCK						PRE- PLE						PLE					
GRADES/ YEAR	1	2	3	4	X	U	1	2	3	4	X	U	1	2	3	4	X	U
2018																		
2019																		
2020																		
2022																		
2023																		

THANK YOU FOR YOUR TIME

Appendix D: Introductory Letter

GULU UNIVERSITY

P.O. BOX 166 GULU

TEL: +256471432922;

OFFICE OF THE DEAN, FACULTY OF EDUCATION AND HUMANITIES

August 5, 2024

TO : WHOM IT MAY CONCERN

This is to introduce to you Mr. Richard Jumadhewun(Reg No. 21/U/2923/MFC/PS) a student pursuing a programme of study leading to an award Master of Education in Curriculum Studies of Gulu University, Master of Gulu University.

He is undertaking research on the Topic:

INSTRUCTIONAL STRATEGIES AND ACADEMIC PERFORMANCE OF LEARNERS WITH HEARING IMPARMENT IN PRIMARY SCHOOLS, NYARAVUR SUB COUNTY BEBBI DISTRICT

Which is in partial fulfilment of the requirements for the award.

Any assistance rendered to him in relation to this research work will be highly appreciated.

Yours faithfully,

GULU UNIVERSITY
05 AUG 2024
FACULTY OF EDUCATION

Dr. Denis Thaddeus Ofoyuru

Dean, Faculty of Education and Humanities