The Poor Performance of Students with Hearing Impairments in Tanzania: A Case Study of Iringa Girls' Secondary School

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Author's contribution

The sole author designed, analysed, interpreted and prepared the manuscript.

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ABSTRACT

This study aimed to identify factors contributing to the poor performance of students with hearing impairments in Tanzania's secondary schools."Specifically, the study examined the challenges the teachers, school administrators and students face in supporting academic achievement. The study involved 23 participants including DQAOs, DEOs, the head of school, teachers and students with hearing impairments. Data were collected using document review, observation, and interviews with District Quality Assurance Officers and the head of school. Additionally, the study gathered primary data from teachers and students with hearing impairments, who participated focus group discussions. The study identified significant barriers to include a shortage of specialised teachers, inadequate teaching and learning facilities and limited support from school leadership. Furthermore, the study suggests that supporting

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inclusive education and improving academic performance for students with hearing impairments required initiatives such as more training for school administrators, more funding, and extensive support networks.

Keywords: Hearing impairments; academic performance; inclusive education; special education.

1. INTRODUCTION

Students with hearing impairments face unique challenges in educational settings, particularly in achieving academic success. The Certificate of Secondary Education Examination (CSEE) results in Tanzania serves as a crucial benchmark for evaluating students' performance, yet students with hearing impairments have consistently exhibited poor performances in these examinations. This study, therefore, investigated the factors contributing to this subpar performance on consistent basis, using Iringa Girls' Secondary School as a case study (Moshi, 2017; Yin, 2014).

Over the past decade, there has been growing recognition of barriers students with hearing impairments contend with in their pursuit of academic success. In this regard, Marschark and Hauser (2018) highlights the importance of addressing the challenges undermining their academic performance, including tailoring educational approaches to accommodate the diverse needs of students with hearing impairments. Additionally, Most and Ingber (2019) have underscored the role of inclusive education in fostering academic achievement among students with disabilities, including those with hearing impairments.

Despite the efforts directed towards promoting inclusive education, differences persist in educational outcomes for students with hearing impairments (Guest et al., 2006). In the context of Tanzania, recent studies by Smith, Patel, Kimathi and Mwakibete (2021) have identified the shortage of specialised teachers and inadequate teaching resources as systemic challenges hindering the academic progress of students with hearing impairments. Moreover, the impact of such challenges is aggravated by the limited support from school leadership, as noted by Jones and Brown (2022) in their examination of inclusive education practices in Tanzania's schools.

Against this backdrop, this study examined the specific challenges teachers, school administrators and students with hearing impairment face at Iringa Girls' Secondary School, which is located in Iringa region, Tanzania. Using a mixed-methods approach, the study collected data using interviews held with District Quality Assurance Officers (DQAOs) and the head of school, and focus group discussions in which teachers and students with hearing impairments participated. These data collection methods were coupled with document review (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979). The research objective was to generate insights into strategies for enhancing academic performance among this unique group of students' population (Krueger & Casey, 2015). Ultimately, this study contributes to the ongoing debate on inclusive education and highlights the imperative of addressing the complicated barriers to further promote universal educational equity and excellence for all the students including those with hearing impairments.

2. LITERATURE REVIEW

The academic performance of students with hearing impairments has attracted significant attention in recent years, including in the context of Tanzania. Despite efforts geared towards promoting inclusive education, students with hearing impairments continue to struggle and countenance numerous challenges that affect their educational outcomes. In this regard, the literature review examines the factors influencing the poor performance of students with hearing impairments generally and Tanzania particularly. The specific focus of the study was the 2017 – 2024 period (Tanzania Ministry of Education, Science and Technology, 2015).

Recent research has highlighted various systemic barriers contributing to the academic struggles of students with hearing impairments. Smith et al. (2021), for example, emphasised the shortage of specialised teachers as a critical obstacle, noting that lack of trained professionals hindered the provision of effective support and instruction personalised to the needs of the students with hearing impairments. This shortage compounds the challenges educators contend with in delivering inclusive education. Furthermore, inadequate teaching and learning facilities have emerged as impediment to the

academic success of students with hearing impairments in Tanzania's secondary schools (Jones & Brown, 2022). Indeed, insufficient resources including assistive devices and accessible instructional materials tends to limit students' access to educational content and, hence, hinder their ability to engage in learning activities fully.

The role of school leadership in fostering inclusive environments for students with hearing impairments is also crucial. Johnson and Mhando (2019) have highlighted the importance of supportive leadership in promoting inclusive practices and addressing the specific needs of students with disabilities. However, challenges related to the limited awareness and understanding of inclusive education principles among school administrators persist, hindering efforts aimed to create conducive learning environments.

In addition to systemic factors, socioeconomic disparities further compound the challenges faced by students with hearing impairments. Mushi and Mbilinyi (2020) found that barriers to educational access and support services hit hard students from economically-disadvantaged backgrounds. Limited financial resources often restrict access to assistive technologies and specialised interventions and exacerbate the educational inequalities students with hearing impairments experienced. These challenges notwithstanding, notable efforts have aimed to promote inclusive education and support the academic success of students with hearing impairments in Tanzania. Government initiatives such as the National Inclusive Education Strategy, for example, aim to enhance the provision of inclusive education services and improve outcomes for students with disabilities (URT, 2017). However, the successful implementation of such policies requires sustained commitment and collaboration among stakeholders including government agencies, educators and community organisations.

Students with hearing impairments face numerous challenges in inclusive classrooms, particularly in public secondary schools. These challenges include inadequate teaching resources, a shortage of specialized teachers, and limited teacher training on inclusive education approaches (Robert & Mkulu, 2023). Additionally, the lack of supportive infrastructure and communication barriers further hinders their academic progress and social integration in schools (Robert & Mkulu, 2023). The study

emphasizes the need for tailored interventions, such as equipping schools with assistive devices and providing professional development for educators to improve inclusivity (Robert & Mkulu, 2023). Addressing these issues is crucial to fostering an equitable learning environment for students with hearing impairments (Robert & Mkulu, 2023).

Generally, the poor performance of students with hearing impairments in Tanzania's secondary schools is influenced by a complex interaction of factors such as the shortage of specialised teachers, inadequate resources, limited support from school leadership, socioeconomic disparities, lack of regular training among teachers for and attitudinal barriers that continue to hinder progress in this area. Addressing these challenges requires comprehensive strategies that prioritise the provision of quality education, equitable access to resources and the promotion of inclusive practices at all levels of the education system.

3. METHODS

The study used a mixed-methods approach to investigate the academic performance of students with hearing impairments at Iringa Girls' Secondary School in Tanzania. This approach, which combines qualitative and quantitative methods, provides a comprehensive understanding of the factors influencing their performance, as supported by Creswell and Plano Clark (2018). Using a case study, interviews, focus group discussions, and document reviews facilitated data collection. This method allowed for in-depth exploration of the factors contributing to poor performance, capturing the experiences and perspectives of stakeholders. The case study design was particularly well-suited for examining complex phenomena in real-world contexts, providing insights into challenges faced and potential improvement strategies. The research involved a thorough document review of inclusive education policies, academic performance trends, and support mechanisms for students with hearing impairments in Tanzania, identifying gaps in existing knowledge and informing data collection strategies.

To examine the difficulties encountered in assisting students with hearing impairments in achieving their academic goals, the study held structured or semi-structured interviews with important stakeholders, such as DQAOs, the head of school, teachers, and parents. Focus

Group Discussions (FGDs), on the other hand, were held with both teachers and students with hearing impairments, which facilitated the exchange of ideas and viewpoints regarding the variables affecting the academic achievement of the children with special needs. A thorough guide with prompts and probes to promote candid conversation was created for use in focus group discussions. The goal of the mixed methods approach was to offer a thorough knowledge of the academic achievement of Iringa Girls' Secondary School students who have hearing impairments, therefore providing important insights into inclusive education.

The study involved 23 participants including DQAOs, DEOs, the head of school, teachers and students with hearing impairments. Purposive sampling techniques were used to select participants with expertise in supporting students with hearing impairments. This method ensured representation from relevant stakeholders in education and aimed to gather comprehensive perspectives on challenges and strategies related to supporting these students. This approach aligns with best practices in qualitative research, allowing for targeted data collection from individuals with relevant expertise.

Additionally, the study took ethical principles including participant rights, confidentiality, and informed consent into account. The objectives, methods, and possible dangers of the research were explained to the participants. Sensitive matters were handled carefully, and data was anonymised and stored safely. The ethical precepts of beneficence, non-maleficence, fairness, and respect for autonomy served as the research's compass. The results were enhanced by the triangulation of data from several sources made possible by the mixed-methods technique. The study provided insightful information on the variables affecting hearing-impaired pupils' academic achievement at Iringa Girls' Secondary School.

4. DATA ANALYSIS

The study used both thematic and content analyses for data generated from document reviews, interviews, and focus group discussions. Thematic analysis systematically identified patterns and themes related to the academic performance of students with hearing impairments at Iringa Girls' Secondary School, in accordance with Braun and Clarke (2019). On the other hand, Content analysis systematically analysed textual data from documents,

interviews, and focus group discussions, as outlined by Elo and Kyngäs (2008). The process was characterised by reflexivity, transparency, and methodological thoroughness to ensure the credibility of the findings. These rigorous techniques provided a comprehensive understanding of the complex factors contributing to poor academic performance among students with hearing impairments.

The study used a socio-ecological model to analyse the factors affecting the academic performance of students with hearing impairments at Iringa Girls' Secondary School in Tanzania. It considered individual factors such as hearing impairment severity, academic abilities, and access to assistive devices (Bronfenbrenner, 1994). The study also considered interpersonal dynamics, such as communication barriers and support from teachers and peers (Mertens, 2005). Moreover, the study examined institutional factors like specialised teachers, learning materials, and inclusive policies (UNESCO, 2017; UNESCO, 2020). Finally, the study also considered in the analysis societal attitudes, cultural norms, and government policies, as proposed by Travers and Tincani (2010). The analysis, based on data from document reviews, interviews, and focus group discussions, further provides recommendations for promoting inclusive education and improving academic outcomes.

5. RESULTS

Analysis of the data revealed several key findings regarding the challenges students with hearing impairments faced in achieving academic success. These challenges include the shortage of specialist teachers, inadequate teaching and learning facilities and limited support from school leadership. Despite concerted efforts aimed to promote inclusive education being made by the authorities in Tanzania, significant barriers persist, hence contributing to the poor performance of students with hearing impairments. The results of the Certificate of Secondary Education Examination (CSEE) for students with hearing impairments at the school under investigation appear in the academic trend generated using performance data for the 2017–2023 period:

The data from Table 1 indicates a consistent pattern of low performances among students with hearing impairments over the years. The majority of the students fall into the lower divisions (Div. III, Div. IV and Zero or absolute fail), indicating

that they are not meeting the minimum passing standards for the examinations. In fact, the number of registered students for these examinations varies from year to year, which may be due to factors such as enrolment fluctuations or student retention rates. Regardless of fluctuations in the number of examination of candidates, their overall performance trend remains consistently low.

Worryingly, there is a notable rise in the number of students scoring 'zero' or absolute fail over the years, especially in 2021 when 11 students received a zero score. This abysmal performance suggests a significant number of students may not have completed the examination or may have performed extremely poorly. Even though there are occasional examples of slight improvement such as 2019 that saw a decrease in zero scores, the overall improvement in academic performance remains largely limited. The academic trend performance data reveals persistent challenges students with hearing impairments face in achieving academic success. The low performance underscores the need for interventions to improve academic outcomes. In other words, existing support mechanisms appear rather inadequate, thus in need of targeted strategies to address the specific needs of these students. Contributory factors to their low performance include teaching methods, (in) accessibility of learning materials, teacher expertise, and the supportive environment within the school. The data underscores the importance of targeted interventions and support mechanisms to effectively address these challenges. The Fig. 1 below shows performance of students with hearing impairments in CSEE from 2017 to 2023.

Table 2 consolidates data obtained from interviews with the Head of School, District Education Officers (DEOs) and District School Quality Assurance Officers (DSQAOs) to examined factors contributing to the poor performance of students with hearing impairments at Iringa Girls' Secondary School. The results highlight several key areas:

In terms of teaching staff and specialisation, Iringa Girls' Secondary School had 11 specialised teachers (10 males, 1 female) assigned to classes with hearing-impaired students. Even though there are specialised teachers available, their numbers may still be insufficient considering the needs of hearing-impaired students. Additionally, there is one female teacher with hearing impairment at Iringa Girls', which could provide unique insights and understanding in teaching students with similar challenges. The respondents emphasised the importance of regular visits, meetings, and monitoring for supervision and support in schools. They also highlighted the involvement of DEOs and DSQAOs in discussing issues with school management and teachers to ensure quality education. The school has supportive infrastructure for students with hearing impairments, but there is a shortage of specialised staff and teaching resources. Teachers receive support through internal training, technological devices, and seminars. Significantly, the head of school from Iringa Girls' attended training on special or inclusive education, indicating a need for more comprehensive training for school leaders. However, community and leadership engagement is also crucial for supporting students with hearing impairments and enhancing academic performance.

The availability of facilities and resources is another critical area. Though the respondents reported that the government provided facilities, they were too inadequate to meet the needs of all the students with special needs. Inevitably, this shortage affected the quality of education and learning outcomes. Consequently, the performance of students with hearing impairments has remained generally poor, highlighting the challenges in providing adequate support and resources.

Table 1. Performance of students with hearing impairment in CSEE, 2017–2023

Year	Registered students	Div. I	Div. II	Div. III	Div. IV	Zero
2017	10	00	00	01	05	04
2018	08	00	00	01	04	03
2019	08	00	00	01	03	04
2020	08	00	00	00	02	06
2021	20	00	00	01	08	11
2022	10	00	00	00	06	04
2023	12	00	01	03	06	02

Source: Field data (2024)

Table 2. Responses from head of school, DEO and DSQAs on factors contributing to poor performance of students with hearing impairments

Interview Guide	Questions	Head of School's Responses	DEO's Responses	DSQAOs' Responses
Teachers with Hearing Impairment	How many teachers are teaching classes with students with hearing impairment?	Iringa Girls': 13 teachers, Lugalo: 2 teachers	Iringa Girls': 13 teachers, Lugalo: 2 teachers	Iringa Girls': 13 teachers, Lugalo: 2 teachers
Specialised Teachers	How many teachers are specialized in teaching students with hearing impairments?	Iringa Girls': 11 (10 males, 1 female), Lugalo: 2 (1 male, 1 female)	Iringa Girls': 11 (10 males, 1 female), Lugalo: 2 (1 male, 1 female)	Iringa Girls': 11 (10 males, 1 female), Lugalo: 2 (1 male, 1 female)
Teachers with Hearing Impairment	Do you have any teacher with hearing impairment?	Iringa Girls': 1 female	Iringa Girls': 1 female	Iringa Girls': 1 female
Supervision Role	What is your role in supervising teaching and learning of students with hearing impairment?	Regular visits, meetings, monitoring, special education officer visits	Regular visits, meetings, monitoring, special education officer visits	Monitoring rules, supervising assessment standards, advising management and teachers
School Environment Support	How does the school environment support learning outcome to students with hearing impairment?	Both schools have good supportive infrastructure	Both schools have good supportive infrastructure	Supportive environment for learning outcomes
Supporting Teachers	How do you support your teachers in enhancing students learning outcome?	Encouraging internal training, providing technological devices, sending teachers to seminars	Encouraging internal training, providing technological devices, sending teachers to seminars	Writing reports after visits, encouraging stakeholders for assistance
Community Engagement	How do you engage wider community to support students with hearing impairment to enhance academic performance in your school?	Encouraging cooperation between school management and parents/guardians	Encouraging cooperation between school management and parents/guardians	Encouraging cooperation between school management and parents/guardians
Leadership Training	Have you ever attended any training on leadership and management of special or/and inclusive education?	Only one head from Iringa Girls' attended	Only one head from Iringa Girls' attended	No head has attended training

Interview Guide	Questions	Head of School's Responses	DEO's Responses	DSQAOs' Responses
Facilities Availability	What is the availability of facilities for supporting teachers and students with hearing impairments?	Government provides facilities but they are not enough	Government provides facilities but they are not enough	Few supportive facilities available
Performance Observation	What is your observation about the performance of students with hearing impairment?	Not good, management is making efforts to improve	Not good, management is making efforts to improve	Not good, shortage of facilities and specialised teachers
Challenges in Supervision	Are there any challenges do you face in supervising your schools?	Shortage of sign language teachers, lack of regular training, shortage of facilities	Shortage of sign language teachers, lack of regular training, shortage of facilities	Lack of knowledge in special education, shortage of facilities, no specific budget, no regular training for SQOAs
Improvement Strategies	What are the strategies set out by schools for improving academic performance for the students with hearing impairments?	Regular meetings, encouraging school management plans, regular visits	Regular meetings, encouraging school management plans, regular visits	Encouraging cooperation with parents/guardians, informing authorities about shortages
Suggestions for Support	Any suggestion to support students with hearing impairments in schools?	Increase teaching and learning facilities, increase specialised teachers, review examination marking procedures, regular training for teachers	Increase teaching and learning facilities, increase specialised teachers, review examination marking procedures, regular training for teachers	Training for teachers on sign language, increase specialised teachers, encourage internal training, specialised teachers for examination marking

Source: Field Data (2024

Table 3. Observation checklist results

Main Variable	Sub-variable	Required	Available	Unavailable
Hearing Assistive Technology	Hearing aids	70	6	64
	FM systems for amplifying sound in classrooms	14	0	14
Accessible Classrooms	Soundproofing to reduce background noise	14	0	14
	Visual aids, such as projectors or interactive whiteboards	14	1	13
	Written instructions			
Communication Tools	Sign language interpreters	28	0	28
	Communication boards or devices	4	2	2
Specialized Learning Materials	Textbooks with large font or digital versions	20	0	20
	Braille materials for students with dual sensory impairments	22	0	22
Supportive Furniture	Adjustable desks to accommodate various needs	6	0	6
	Adjustable chairs to accommodate various needs	6	0	6
	Comfortable seating arrangements for better visibility during communication			
Assistive Listening Devices	Personal amplification systems	70	0	70
	Loop systems for hearing aid compatibility	14	0	14
	Designated quiet areas for focused study or relaxation	2	1	1
Trained Support Staff	Educational interpreters or note-takers	28	0	28
	Special education teachers with expertise in hearing impairments	50	8	42
	Alternative assessment methods			
	Teaching methods			
	Communication skills			
	Teachers understanding of specialized needs	50	8	42
Counselling and Support Services	Counselling services to address emotional and psychological needs			
	Peer support programmes to foster a sense of togetherness			

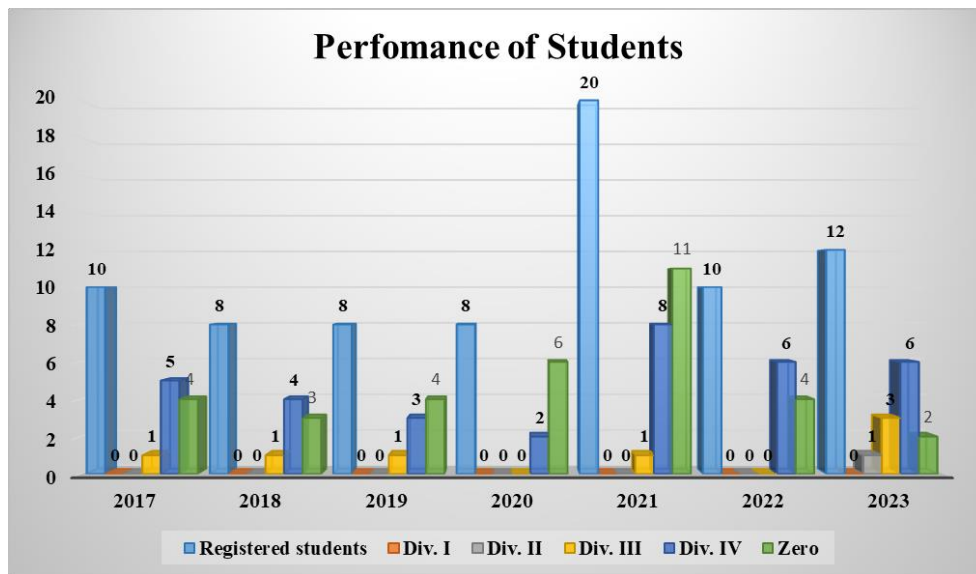*Source: Field Data (2024)*

Fig. 1. Performance of students

Table 4. Document review analysis

S/N	Document	Very Good	Good	Average	Fairly
1	Preparation of Scheme of Work	OK			
2	Preparation of lesson plans		OK		
3	Preparation of lesson notes		OK		
4	Students' written notes		OK		
5	Students' given learning activities	OK			
6	Tests/Examination papers	OK			
7	Relevant Curriculum		OK		
8	CSEE Results			OK	
9	Enrolment Records	OK			
10	SQA reports		OK		

Source: Field Data (2024)

The study found challenges in supervision to include a shortage of sign language teachers, lack of regular training and inadequate teaching and learning facilities. Additionally, there was a lack of specific budgets and regular training for DSQAOs on supervising special education. Towards this end, the respondents made suggestions to address these issues including regular meetings, encouraging school management plans and frequent visits to create a more supportive and structured environment for students with hearing impairments. Moreover, they suggested increasing teaching and learning facilities, recruiting more specialised teachers, reviewing examination marking procedures and providing regular training for teachers in a bid to address the root-causes of poor academic performance and creating a more inclusive educational environment.

Generally, the study findings reveal significant barriers to the academic performance of students with hearing impairments such as a shortage of specialised teachers and inadequate facilities, with effective supervision and community engagement emerging as critical factors in improving performance. The data also suggests a need for targeted strategies, including better training for school leaders, increased resources and comprehensive support systems to promote inclusive education and enhance academic outcomes for students with hearing impairments.

As Table 3 illustrates, there were significant gaps in the availability of assistive technology and supportive learning environments for students with hearing impairments at Iringa Girls' Secondary School. Hearing aids were insufficient, with only 6 out of 70 available. FM systems were absent, and classrooms lacked basic soundproofing and visual aids. Communication tools were also lacking, with no sign language interpreters, communication

boards, or devices. Specialised learning materials were not readily available, and Braille materials were not available for dual sensory impairment students. Supportive furniture was missing, and comfortable seating arrangements were not provided. Assistive listening devices were also absent. Designated quiet areas for focused study or relaxation were inadequately provided. Trained support staff, including educational interpreters and special education teachers, were in short supply. Alternative assessment methods, teaching methods, communication skills, and teachers' understanding of specialised needs were also lacking. Counselling and support services were not adequately provided, and peer support programmes were missing. Further analysis is based on document review:

The document review analysis indicated that certain aspects of academic documentation were well-prepared whereas others needed improvement. The preparation of schemes of work was rated as "OK," indicating adequacy in this area. Lesson plans and lesson notes, however, were rated as "good," suggesting that they were prepared adequately but could benefit from further improvements. Students' written notes and given learning activities were also rated as "good," indicating that the documentation of these areas was generally satisfactory. Tests and examination papers were rated as "OK," implying that making they met the required standards. The relevant curriculum documentation was rated as "good," indicating it was mostly adequate but could benefit from enhancements. The CSEE (Certificate of Secondary Education Examination) results were rated as "fairly," highlighting a need for significant improvement. Finally, enrolment records and SQA (School Quality Assurance) reports were rated as "OK," suggesting they met basic standards but could also be improved. Table 5 presents a comparative analysis of the teachers' responses on assisting and supporting students with hearing impairments:

The first focus group discussion with five teachers specialised in hearing impairments revealed several key insights. Most of the teachers had considerable experience, ranging from 4 to 10 years. The school management supported teachers by preparing printed documents for schemes of work, lesson plans and subject logbooks and advised them to prepare teaching aids. During actual teaching, the school provided teaching and learning materials necessary for students with hearing impairments such as learning assistance devices. For the assessment of students, the school printed tests/examinations and provided feedback from the head of school after class visits.

The school environment was perceived as supportive due to friendly learning infrastructures. However, the performance of students with hearing impairments was described as moderate due to the nature of the students, a shortage of learning devices, and a lack of teachers knowledgeable in sign language. Teachers supported their students by assisting special students in learning, providing exercises, and encouraging peer learning. To engage other students, teachers encouraged cooperation and sharing of learning materials. Three out of five teachers had attended professional development training on special or inclusive education. However, there was no support from the SQA office, except for internal quality assurance and academic office cooperation.

The second focus group discussion with five teachers with varying experience (2 - 8 years) levels revealed that the school management supported teachers by providing facilities for teaching aids, printed schemes of work, and lesson plans. However, the school environment was perceived as unfriendly due to a shortage of teachers and teaching and learning devices. Students with hearing impairments were described as slow learners and lacking sign language interpreters. Teachers supported students by engaging in remedial classes, providing extra exercises, and offering guidance and counselling. To engage students, teachers promoted unity, encouraged participation in sign language clubs, and involved them in sports and games. None of the teachers had attended professional development training on special or inclusive education, and there was no support from the SQA office due to a lack of knowledge about teaching students with hearing impairments. Challenges included large class sizes, a shortage of teaching and learning facilities, poor parental/guardian cooperation, and poor student cooperation. Strategies for improving academic performance included encouraging attendance in remedial classes, using guidance and counselling for demotivated students, and engaging students in sign language clubs.

Table 5. Comparison of teachers' responses on teaching students with hearing impairments

Questions	Teachers' Focus Group Discussion (First Group)	Teachers' Focus Group Discussion (Second Group)
i. For how long you have been teaching in this school?	First teacher: 4 years, Second teacher: 6 years, Third and Fourth teachers: 8 years, Fifth teacher: 10 years	First teacher: 2 years, Second teacher: 3 years, Third teacher: 4 years, Fourth teacher: 8 years, Fifth teacher: 5 years
ii. How many students with hearing impairment do you teach?	Not specified	Form one: Not specified, Form two: Not specified, Form three: Not specified, Form four: Not specified
iii. How does the school management support you in the whole process of teaching and learning? (Preparation, actual teaching and conducting students' assessment)	Preparation stage: a) The school management prepares printed documents for schemes of work, lesson plans, and subject logbooks. b) Advising teachers to prepare teaching aids. Actual teaching: a) Provision of teaching and learning materials necessary for students with hearing impairment such as learning assistance devices. Conducting students' assessment: a) Printing tests/exams for assessment. b) Receiving comments from the head of school after visiting a class during the teaching and learning process.	Preparation stage: a) School management provides facilities for the preparation of teaching aids. b) School management provides printed scheme of work and lesson plan. Actual teaching: a) Provision of assistant teaching learning devices. b) Providing large print materials for learners with deaf-blindness. Conducting assessment: a) Monitoring students' attendance in the classroom. b) Supervising discipline among students.
iv. How does the school environment affect the whole process of teaching and learning of students with hearing impairments?	The school environment assists the whole process of teaching and learning because of friendly learning infrastructures among students.	The school environment is not friendly for teaching and learning of students with hearing impairments because of the shortage of teachers and teaching and learning devices.
v. What is your observation about the performance of students with hearing impairment?	The performance is moderate due to: a) The nature of students that we are receiving. b) Shortage of learning devices for the students. c) Shortage of teachers with the knowledge of sign language.	It is not good because: a) They are slow learners. b) Lack of sign language interpreters.
vi. How do you support your students in enhancing learning outcomes?	Support from teachers: a) Each teacher has special students to assist them in learning and advice. b) Provision of exercises. c) Encouraging peer learning among students.	Teachers support in enhancing learning outcomes: a) Engaging in remedial classes. b) Provision of extra exercises. c) Providing guidance and counselling.
vii. How do you engage other students to support students with hearing impairments to enhance	a) Encouraging cooperation in learning together. b) Sharing the learning materials together.	a) Insisting unity rather than segregation. b) Engaging in the sign language club. c) Engaging each other in sports and games activities.

Questions	Teachers' Focus Group Discussion (First Group)	Teachers' Focus Group Discussion (Second Group)
academic performance in your school?		
viii. Have you ever attended any professional development training on special or/and inclusive education?	Only three teachers have attended; the other two teachers have not attended any professional development training.	Among the group of five teachers, no one has attended professional development training on special or/and inclusive education.
ix. How does the SQA office support you in improving the academic performance of students with hearing impairments?	No support from the SQA office except receiving good cooperation and comments for academic performance improvement from the internal school quality assurance office and academic office.	No support from the SQA office due to a lack of knowledge of teaching students with hearing impairments.
x. What is the availability of facilities for supporting teachers and students with hearing impairments?	Facilities are not enough to support all students with hearing impairments.	Facilities are available but in small numbers compared to the number of students with hearing impairments.
xi. What are the challenges you face in teaching and learning for students with hearing impairments?	Challenges: a) Shortage of teaching and learning facilities. b) Teaching two categories of students (with and without hearing impairment) in the same class.	Challenges: a) Large number of students in a classroom. b) Shortage of teaching and learning facilities. c) Poor cooperation from parents/guardians. d) Poor cooperation among students themselves.
xii. Do you have any strategies set for improving the academic performance of the students with hearing impairments? If yes, what are they? If no, why?	Yes; strategies: a) Provision of exercises among students daily. b) Encouraging students' group discussions. c) Encouraging participation in subject clubs in school.	Yes; strategies: a) Encouraging attendance in remedial classes. b) Using guidance and counselling among the students who are losing morale in studying. c) Engaging students in the sign language club.

Source: Field Data (2024)

Table 6. Comparison of students' responses on learning environment for students with hearing impairments

Question	Group 1 Response	Group 2 Response
1. How do you feel studying at this school?	All six students feel happy because they are valued for receiving education despite their hearing impairment.	Four students feel happy being treated equally; two students feel bad due to heavy punishment from teachers.
2. How do teachers support you to learn better?	Engaged in group discussions.	Engaged in remedial classes.
	Two students paired with one teacher for learning assistance.	Provided guidance and counselling.
3. Do the teachers know sign language well?	No, most teachers do not know sign language; some students act as interpreters.	Yes, five teachers know sign language well.
4. Do they teach by using sign language?	Few teachers use sign language for teaching.	Yes, five teachers teach using sign language.
5. Do they use teaching aids while teaching?	Few teachers use teaching aids.	Yes, teaching aids such as projectors and computers are used.
6. Do they give you tasks to do after class?	Yes, tasks are provided after class.	Yes, tasks are given after class.
7. Do they make follow-up on the tasks given? Challenges faced?	Yes, follow-ups are conducted.	Yes, follow-ups are done.
	Challenges:	Challenges:
	a) Poor sign language interpretation during teaching.	a) Lack of sign language interpreters.
	b) Heavy punishment without considering hearing impairment.	b) Poor communication between class monitors and students with hearing impairments.
	c) Communication breakdown with school management.	c) Poor cooperation among students with and without hearing impairments.
8. What is the attitude of teachers towards students with hearing impairments?	Some teachers use unfriendly language.	Negative attitudes, including abusive language use.
9. What is the availability of facilities for supporting teachers and students with hearing impairments?	Facilities are insufficient.	Facilities are inadequate relative to the number of students with hearing impairments.
10. Are there any facilities supporting you in studies?	Yes, facilities like hearing learning devices and projectors are available.	Yes, facilities such as audiometers support studies.
11. Are there any facilities supporting teachers in teaching you?	Yes, some teachers use projectors and computers for teaching.	Yes, facilities like projectors and computers support teaching.
12. What support do you get from school leadership to improve your academic performance?	Encouragement of guidance, counselling, and care.	No specific support noted from school leadership.

Question	Group 1 Response	Group 2 Response
13. What strategies does the school have to support your academic performance?	Monthly tests, group discussions, and subject clubs.	Remedial classes, monthly tests, and academic group discussions.
14. What is your observation on the performance of students with hearing impairments?	Performance is affected by:	Performance issues attributed to:
	a) Shortage of sign language teachers.	a) Shortage of teaching and learning facilities.
	b) Shortage of hearing learning devices.	b) Poor marking systems.
15. What support do you need to perform better academically?	Needed support includes:	Desired support includes:
	a) Improved examination procedures.	a) Sufficient learning assistive devices.
	b) More teaching and learning facilities.	b) Revised marking systems.
	c) More specialized teachers in sign language.	c) Employment of science teachers specializing in hearing impairments.
	d) Extended time during exams.	d) Improved cooperation among all students.
	e) Serious consideration of issues affecting students with hearing impairments by school management.	

Source: Field Data (2024)

The focus group discussions with students with hearing impairments revealed varying levels of inclusivity and sensitivity among educators. Group 1 students expressed satisfaction and happiness about their school environment, valuing their hearing challenges and benefiting from government-backed initiatives. However, Group 2 students felt negatively due to perceived harsh treatment by teachers. Both groups highlighted the importance of teacher support, with Group 1 focusing on group discussions and personalized learning assistance, while Group 2 focused on remedial classes and guidance and counselling. These differences highlight the need for tailored educational strategies to accommodate diverse learning needs and foster an inclusive learning environment for all students. The findings underscore the importance of tailored educational strategies for all students.

The study found a significant disparity in sign language proficiency among teachers, with Group 1 expressing a lack of adequate skills, relying on student interpreters, which can hinder effective communication and comprehension for students with hearing impairments. Group 2 reported a more positive situation, with most teachers proficient in sign language, enhancing classroom interaction. This acute shortage highlights the need for comprehensive teacher training and inclusive teaching practices. Moreover, it emerged from the two sets of FGDs that insufficient resources, such as hearing assistive devices and projectors, also hinder effective teaching and learning for students with hearing impairments. Addressing these resource deficiencies is crucial for creating an equitable learning environment that supports the diverse needs of students with disabilities. Leadership support was acknowledged through guidance and counseling initiatives, but Group 2 expressed dissatisfaction with the lack of specific support tailored to improving academic outcomes for students with hearing impairments. Impliedly, there is a need for more proactive leadership involvement and targeted interventions to address systemic challenges and enhance educational provisions for students with disabilities.

6. DISCUSSION

The findings of this study highlight the critical need to address universal barriers hindering inclusive education and to provide healthy support systems for students with hearing impairments. The scarcity of specialised or specialist teachers emerged as a prominent barrier, echoing previous research emphasising the significance of trained professionals in meeting the diverse needs of students with disabilities (UNESCO, 2017). Moreover, the limited access to assistive technology identified in our study aligns with global calls for enhancing technological resources to facilitate learning for students with disabilities (WHO & World Bank, 2011).

Furthermore, promoting positive attitudes towards inclusive education emerged as another crucial strategy in line with the broader societal shift towards embracing diversity and equity in educational settings (UNESCO, 2017). Also, collaboration among stakeholders at various levels emerged as a key theme, emphasising the interconnectedness of efforts needed to create an inclusive educational environment. On the whole, these findings resonate with previous literature advocating for multi-level collaboration in a bid to address the complex challenges students with disabilities countenance (Travers & Tincani, 2010).

7. CONCLUSION

The results, taken as a whole, highlight the intricate interactions between several elements that affect how individuals with hearing impairments learn and succeed academically. They emphasise how important it is to provide thorough teacher preparation, sufficient resource availability, and proactive leadership assistance to provide inclusive learning settings that enable students with disabilities to succeed academically and socially. Teachers, school administrators, legislators, and the larger community must work together to address these issues to guarantee that all kids, regardless of ability, have fair access to high-quality education. The absence of discernible progress suggests that students with hearing impairments continue to encounter obstacles in their pursuit of academic excellence. The persistently poor performance emphasises the urgent need for initiatives targeting raising the academic performance of students with hearing problems. Impliedly, meeting the unique requirements of these children required tailored measures as the current support systems was too insufficient to bring about the desired results. The information raises concerns about several potential causes of the poor performance, including instructional strategies, the accessibility of learning resources,

the proficiency of teachers in meeting the requirements of children with hearing impairments, and the general supportive atmosphere of the school. Overall, the academic trend performance data underlines how difficult it is for students with hearing impairments to succeed academically in addition to underscoring the value of focused interventions and support systems to successfully address these difficulties

ETHICAL APPROVAL AND COSENT

The study on challenges facing students with hearing impairments emphasizes the importance of adhering to ethical considerations during the research process. Informed consent was obtained from all participants ensuring they understood the purpose, procedures and potential risks of the study. Confidentiality and anonymity of participants were maintained to protect their privacy and prevent any form of discrimination or humiliation. The researcher also ensured that the interviews and focus group discussions were conducted respectfully, accommodating the communication needs of participants with hearing impairments. Additionally, the study avoided any form of harm by creating a safe and inclusive environment for participants to share their experiences openly.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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