Academic Challenges of Students with Hearing Impairment (SHIs) in Ghana

Efua Esaaba Mantey Agyire-Tettey[1*], Marigold Cobbina[1],
Emma Seyram Hemanoo[1]

1. University of Ghana, Ghana

ABSTRACT

Purpose: *Several researches have showed that the average academic performances of students with hearing impairment (SHIs) are below that of hearing students. This research sought to elucidate challenges that prevent SHIs from high academic achievements, using the case of students in Tetteh Ocloo State School for the Deaf in the Greater Accra Region of Ghana.*

Method: *A qualitative research design was used for data collection through in-depth interviews, analysis and the interpretation of the responses of thirty participants (12 Students with hearing impairments, 11 parents and 7 special educators).*

Results: *Findings showed that challenges which hinder SHIs academic performance emanate from different systems and actors including SHIs themselves, their parents and other institutional barriers that exist in deaf education. The findings also indicated that parents influenced the academic performance of their children with hearing impairment (CHI) through their responsibilities, expectations and the learning assistance they gave to their wards at home. Results also established that institutional barriers such as effective instructional procedures adopted in deaf education, availability of facilities, teaching, reading learning materials, and curricular contents posed challenges to the academic performance of students with hearing impairment.*

Conclusion: *The identified challenges which prevent SHIs from higher academic performance are from different systems of SHIs' environment and the interplay between them. The study recommends that interventions must be directed at the different systems within their environment.*

Keywords: *Disability; academic performance; education.*

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* **Corresponding Author:** Efua Esaaba Mantey Agyire-Tettey, email:efuam@yahoo.com

INTRODUCTION

All over the world, people living with disabilities are recognized as a group of vulnerable people. Disability is described as impairment in the human body structure or function, activity limitations, and participation restrictions (WHO & World Bank, 2011). A significant 15% of the world's population lives with various forms of disability, out of which 360 million persons have hearing impairment of all kinds with a ratio of 91% adults and 9% children (WHO & World Bank, 2011). Persons with hearing impairment are mostly categorised as deaf of hard of hearing (D/HH) based on the severity of their hearing loss which might be permanent or fluctuating and may range from mild hearing loss to profound deafness (Shemesh, 2010). Hearing loss is however, the loss in the ability to hear only 25 or less decibels of sound (Duthey 2013; Alberta Education, 2004; Shemesh, 2010). According to the 2010 Housing and population census in Ghana, persons with hearing loss are about 211,712 out of a total population of 678,877 persons living with disabilities in Ghana (Nyarko, 2013). Forty-two population-based studies worldwide estimate that hearing loss among children is greater in Sub-Saharan Africa as compared to other parts of the world (WHO 2012). There are special programmes and welfare services such as healthcare and education offered to enhance the social functioning of children with hearing impairment (CHI) in societies all over the world (DADHC, 2001). These services are enshrined in various international conventions and national laws such as: the United Nations Convention on the rights of PWDs, the Ghanaian PWD Act 2006 (Act 715) and the Ghanaian Children's Act 1998 (Act 560).

The provision of education as a social welfare service serves as an effort to ensure that the hearing impaired do not feel limited in terms of privileges and opportunities to become productive, employable and have successful and independent future. Kyere (2009) states that education is a tool to empower the hearing impaired to lead an independent life. Empowerment through education begins at the basic level where skills and essential knowledge are acquired through taught programs in aid of preparing students for a higher level of education (Oduro, 2000). Progress from one level of education to another is dependent on the student's academic performance. As a result, there is a greater need to emphasize the academic performance of all students, including SHIs.

In line with Kyere (2009), Aidoo (2011) found that, there are more than two thousand students enrolled in various deaf schools in Ghana. Institutionally, there are ten basic and two Senior High Schools dedicated to the education of Students

with Hearing impairment (SHIs) in Ghana. Students with hearing impairment (SHIs) which is used interchangeably with deaf or hard of hearing (D/HH) in this study are described as students within an educational setting who have been diagnosed with hearing loss. In Ghana, the academic performance of SHIs at the basic level of education is tested through teacher/continuous assessment and external examinations such as Basic Education Certificate Examination (BECE) (Hayford, 2007). The results from these assessments are used to promote SHIs to the next level of their education. Results from such assessment tests have been analyzed in several researches to come up with conclusions about the general academic performance of SHIs. Aidoo (2011) found out that in the 2006/2007 academic year, only a small number of SHIs in Ghanaian deaf schools were able to pass BECE well enough to gain admission into senior high school. Five consecutive BECE results of Tetteh Ocloo State School for the Deaf (TOSSD) show unsatisfactory results even though they presented only 135 candidates from 2009- 2015. From five (5) TOSSD Ghana Education Service(GES) Analysis Forms, only 5.93% and 6.67% students from the school graduated with Aggregates 13-16 and 17- 19 respectively. Majority of the students, thus 9.63% and 77.78% attained Aggregates 20- 24 and 25+ respectively (TOSSD GES Analysis Form, 2009; 2011; 2012; 2013; 2014; 2015). This poor performance of the students provides evidence of challenges preventing them from obtaining good results in their BECE. These challenges, which serve as access barriers to good academic performance, may come from the students themselves, their parents, society, and the school in which their education occur (Marschark et al 2001; Szymanski et al, 2013). Consequently, because of the small number of SHIs climbing the educational ladder, there is a general misconception among some teachers, parents and lay persons that hearing loss is interrelated to lack of intelligence which prevents them from higher academic achievement (Vernon, 2005).

Vernon (2005) asserted that in total, there are about 50 comparative researches on the knowledge of SHIs. Results from these researches show that the academic performance of SHIs is below satisfactory levels (Qi & Mitchell, 2012). It is also evident that the SHIs in Ghana and across Africa have low academic performance, (Dogoe-Torsu, 2011; Ikonta and Maduekwe, 2005).

Studies in Western English speaking countries have shown poor academic performance of SHIs in subjects such as English and Mathematics assessment tests (Trybus and Karchemer 1977 Powers, 2003; Qi & Mitchell, 2012). Also, most SHIs in African countries such as Kenya, Tanzania, Zambia, Uganda, Malawi,

Namibia and Democratic Republic of Congo and Ghana leave "school around the 10th grade (EQUIP3 / Youth Trust, 2006: 2). Studies conducted in Nigeria further highlights the fact that there is poor academic performance among the deaf or hard of hearing (D/HH) especially in English language as compared to their hearing mates (Ikonta and Maduekwe, 2005). Poor performance in English Language is likely to affect their performance in other core subject such as Science, Social Studies and also Mathematics since these subjects are taught, written and read in English.

The poor academic performance of SHIs can be attributed to the challenges which they face in their education. A number of studies have proven that without the consideration of language as test base or the existence of multiple handicaps, there is no distinct dissimilarity between the intelligence of SHIs and that of their hearing mates; yet, SHIs perform poorer than their hearing mates in assessment tests (Drever& Collins, 1926; Vernon, 2005). Such distinct challenges of SHIs are caused by both direct and indirect factors. The low academic achievement of D/HH students is, therefore, associated with a complex group of factors which relate to the students themselves, their families, and various educational institutions (Melander, 2008; Aidoo, 2011; Obosu et al, 2013; Marschark et al, 2015).

Since there is limited literature and research on the challenges of the academic performance of SHIs in Ghana especially at the basic level of education, this research sought to contribute to the body of knowledge by investigating the various challenges affecting the academic performance of SHIs in order to help various stakeholders come up with effective strategies to improve their performance in assessment tests.

The study thus aimed at identifying the major challenges hindering the academic achievement of D/HH students in the Tetteh Ocloo State School for the deaf (TOSSD). Specifically, the study focused on the personal characteristics of SHIs which affect their own academic performance, parental influence on the academic performance of their D/HH child and institutional barriers to the academic performance of SHIs. Students with hearing impairment (SHIs) which is used interchangeably with deaf or hard of hearing (D/HH) in this study are described as students within an educational setting who have been diagnosed with hearing loss.

Theoretical Framework

This research adopted the ecological systems theory propounded by Urie Bronfenbrenner (1917-2005). The ecological/bio-ecological theory was used to

guide the study as well as the basis for the interpretation of data as it categorised the factors and explained how the challenges from these factors affect the academic achievement of SHIs.

According to the theory, children develop within multiple social systems that influence every aspect of their lives including education. Elements within the various systems potentially influence the self-efficacy and educational outcomes of children with disabilities. Bronfenbrenner argues that various immediate and distant forces affect an individual's development. He classified these systems into five; namely, the *microsystems*, *mesosystems*, *exosystems*, *macrosystems*, and *chronosystems* in which the first four interact with or are linked together in a system of nested, interdependent and dynamic structures ranging from the proximal, consisting of immediate face-to-face settings, to the most distal, comprising broader social contexts such as classes and culture (Bronfenbrenner 1993). He believes that development involves a reciprocal and dynamic relationship between all these five systems, in which each developing person is significantly affected by interactions between numbers of overlapping systems.

The microsystem consists of interpersonal relationships and pattern of activities as experienced by an individual in a given society of specific physical and material features (Bronfenbrenner, 1995). This layer has direct contact with the individual as it contains structures, relationships and interactions within the person's immediate environment (such as family, school and neighbourhood) and therefore has the most influence on the individual (Berk 2000; Paquette & Ryan (2001).

The mesosystem directly affects the child and is within the child's immediate environment characterised by direct relationships and interactions. For instance, the teacher in the classroom plays a very important role in the school system since he/she is one of the key persons who can help SHIs. Allodi (2000) noted this when he studied the interaction between psychosocial aspects and teachers' attitudes. The study showed that the teacher's attitude has an effect on the climate in the classroom with respect to pupils learning. Again, it came out that children achieve more in an academic environment where they feel happy since the classroom environment is controlled directly by the teacher. More so, the teacher is seen as a role model upholding the values and standards of education hence children modeling his/her behaviour. In addition, the teacher takes the central role in the management and support of the education of children with disabilities.

Further, according to Donald et al (2001), what happens at home and amongst the peers can influence the learner's reactions in school. These interactions have a notable influence on adopted teaching practices. Berk (2001) also stated that in the case of children with disabilities, their self-efficacy and educational outcomes are in the first instance influenced by the family in the home setting as beliefs and practices of these primary people in the child's life have a direct bearing on the child's development.

Beyond the micro and mesosystem, is the exosystem. Bronfenbrenner explains it to be consisting of the settings or events that do not directly involve the child but still influence the people the child has proximal relationships with in the microsystems. That is, the indirect effect impacts the child through the other people in the child's life. For example, if there is financial crisis in a country, it affects the child's parents who may not be able to meet the needs of the family. There will be stress on the family due to financial insecurity. Within this study, these settings or events can be identified as school policies, interactions between the school, community and other stakeholders such as the parents, counselors and other professionals.. Even though there is no direct involvement of the child and teacher in these interactions or decision making processes, it has impact on them because as noted by Bronfenbrenner (1995), it could affect children's academic performance due to its direct contact with the component of their microsystem.

The macrosystem refers to the layer which comprises of political, social, economic and cultural patterns which has great influence throughout the interactions of all other layers. It may be thought of as a societal blueprint for a particular culture, or a broader social context. For example, the constitution of Ghana serves as a blueprint and makes provision for operations of all educational institutions in Ghana. The constitution guarantees equal access to and a non-discriminatory attitude towards education for all learners. Thus from the ecological perspective, the constitution of Ghana influences the operations of all the other systems within the ecosystem (microsystem, exosystem, meosystem and the macrosystem). This suggests that a broader policy change in the educational system affects other layers in the ecosystem and the application of policies developed has an influence on the practice and management of inclusive education. The macrosystem is out of reach of the children but has an influence on them (Paquette & Ryan, 2001). It looks at policy makers, educational policies, beliefs and perceptions of persons with disabilities by community members. These inclinations set the context for the kind of education they receive which could affect the academic performance

of SHIs. For instance, according to Melander (2008), "The negative stereotypes and attitudes the majority of hearing people in Ghana have towards deaf people produce inequalities in education that contribute to lower school performance levels" (p.2).

The last system is the chronosystem, which describes the time frame of development. Swart and Pettipher (2005) describe it as a developmental time frame that crosses through and affects interaction between systems and in turn, their influences on individual development. It is through the interaction among any of the above levels that barriers or support may be present at any time. They further suggested that a change in any part of the system affects other systems and individuals and at a later time could be seen as a cause for change. Elements within this system can be either external, such as the timing of a parent's death; or internal, such as the physiological changes that occur with the ageing of a child…" (Paquette & Ryan, 2001). This means that the age of onset and detection of hearing loss and even the time made available for studies (which constitute the chronosystem of SHIs) can influence their academic performance.

It is worth noting that all these different layers or systems are highly dynamic and interactive. To understand the activities of a school, one needs to get insight into and knowledge of the interactions that occur amongst the different systems. This is important especially when one is trying to understand an educational system. This means that when a change occurs in one part of the system, it affects the entire system and thereby impacts educational practice. For example, when there is a change in the school management system, it affects all those that interact within it. Bronfenbrenner believes that development is reciprocal and has dynamic relationships between the five systems. Likewise, individual development is affected by interaction between a number of overlapping systems thus describing the complexity of the influences, interactions and interrelations between a learner and all the systems in which the learner functions.

AIMS AND OBJECTIVES

The study aimed at identifying the major challenges hindering the academic achievement of D/HH students in the Tetteh Ocloo State School for the deaf (TOSSD). Specifically, the study focused on

- the personal characteristics of SHIs which affect their own academic performance

- parental influence on the academic performance of their D/HH child and

- institutional barriers to the academic performance of SHIs.

METHOD

A qualitative research design was adopted because it helped to provide a rich description of the phenomenon under study. Also, the study focused on interpreting phenomenon in their natural setting to bring meaning in their own uniqueness (Boateng, 2014). Moreover, qualitative design is more appropriate for this research than quantitative design because attitudes and perceptions cannot be quantified (Mazooue, 2011). This study aims to explore the challenges that prevent high academic performance among SHIs.

The study was carried out at Tetteh Ocloo State School for the Deaf (TOSSD) in Adjei Kojo; a suburb of Greater Accra Region. TOSSD was selected for the study because every student in the school has some form of hearing loss and thus, were either Deaf or Hard of Hearing (D/HH). This made it an ideal location to select participants for the study. Again, it is the only basic school for SHIs in Greater Accra region which is mandated to partake in the Basic Education Certificate Examination (BECE). The study population was Junior High SHI, teachers and parents of SHIs from the Tetteh Ocloo State School for the Deaf.

The study adopted purposive sampling approach in selecting the participants. Using purposive sampling, JHS students who had low, average and high academic performance were all purposively selected from each JHS class. Purposive sampling was also used in selecting (four) 4 core subject teachers in the JHS (Mathematics, Integrated Science, English language and Social Studies). These teachers were chosen because the scores of the subjects they are teaching are among the subjects used to determine the grading of BECE results. Apart from the core teachers, the headmistress, Basic Design Technology and ICT teachers were also included.

A total of thirty participants were selected for the study. The participants included 12 SHIs, 7 special educators and 11 parents. One of the special educators selected was a guardian to one of the student participants. As a result, there were 11 parents instead of the intended 12 parents.

Prior to the gathering of information, verbal consent was sought from each participant and this was followed by written consent. Informed consent was

obtained from the parents on behalf of their children and the children also accepted to be part of the study. A face to face in-depth interview approach was utilized for the data collection. A sign language interpreter was used throughout the interview sessions with SHIs due to the researchers' limited skills in sign language. All interviews with parents and teachers were held in English and Twi. Twi is the dominant Ghanaian local language and it was used when necessary because not all hearing participants were fluent in English. The questions that directed the interviews were open-ended questions which allowed participants and the researcher to discuss their experiences freely and in detail. Interviews with hearing participants lasted approximately 30 minutes. However, sessions held with participants with hearing loss lasted between 35 and 50 minutes due to the interpretations. An audio recorder was used throughout the interview sessions with permission from participants.

Data collected was analysed thematically. It began with the transcription of collected data. All the transcribed data were read through thoroughly to identify the flow of information and themes that emerged. Since this study had different categories of research participants, all transcripts were carefully read and the information extracted from each was categorised under broad themes based on the objectives of the research. The analysis was guided by both the analytical tool and the theoretical framework underpinning the study. It involved interpreting and making meaning of the data collected. The six steps proposed in Creswell (2009) were adopted in the data analysis. Firstly, data collected in notes and through recordings were transcribed into word documents. Pseudonyms were given to all respondents instead of their real names during transcription. This was followed by data familiarization by thorough reading of the data collected over and over. Codes were then generated and given to similar responses from which themes were developed afterwards.

RESULTS AND DISCUSSION

This part is made up of four sections. The first section describes the demographic characteristics of each group of participants (parents, SHIs and teachers). In the second section, the themes that were discovered from the responses have been presented with supporting quotes from participants. The third section includes the discussions of the findings relating it to the literature reviewed and the theory used to explain the study while the fourth section concludes the paper.

Demographic Characteristics of Participants

The study included students with hearing impairments, teachers and parents. The ages of students ranges from 15- 25 years. Out of the 12 SHIs participants, only 5 students lived with both parents, 6 lived with one parent and one lived alone under the guardianship of a teacher. The majority of SHIs interviewed were deaf with only 2 being hard of hearing.

The ages of the parents range from 35- 61 years. Of the 11 parents interviewed, 6 were single parents. Also, all parents except one had no hearing loss. Their educational level ranged from primary to tertiary. Two had no form of education, 5 had primary education; one had completed senior High school while 2 had tertiary education. Three parents were unemployed and 5 had a low and insecure source of income. The ages of special educators who were interviewed range from 28- 58 years with the majority being between 41- 58 years. Four teachers had first degree in special education; two had master's degree and only one had diploma certificate in education. Their years of teaching experience in deaf education ranges from 1- 17 years. 42.86% had 1-3 years of experience while the rest have 8-17 years of working experience.

Themes identified

Nine themes were generated from the responses and analyzed (Table 1) based on the broad research objectives of the study:

- the personal characteristics of SHIs which affect their own academic performance

- parental influence on the academic performance of their D/HH child and

- institutional barriers to the academic performance of SHIs.

The themes generated from the first objective include "health issues", "reading skills and habits" and "expectations of SHIs in education". The second research objective: Parental Influence on the Academic Performance of Their SHI, sought to find out the extent of parental influence on the academic performance of their D/HH child(ren). Three themes were generated: parental responsibilities, parents' expectations and learning assistance made available at home. Objective three of the paper explored the institutional challenges and the themes that emerged. Three were carefully selected: effectiveness of instructional procedures adopted in deaf education; issues relating to the availability of facilities and teaching

materials; and the contents of curricula and reading materials. The table below indicates the themes and codings.

This research was conducted to identify the major challenges that hinder the academic achievement of SHIs in Tetteh Ocloo State School for the deaf (TOSSD). Similar to Szymanski et al's (2013) findings, this study identified several challenges which are influenced by multiple factors that prevented SHIs from excellent academic performance. From the findings, students who are hearing impaired were seen as having certain personal characteristics (health issues reading skills and habits and their own expectations in education) which contribute to some of the challenges they encounter in their education.

The health of the students was seen as one of the major factors contributing to their poor performance. Some of the students had other disabilities which made their educational problems more complex since their educational needs were not met. These health issues affected the way they learnt, their attention during class lessons, attendance in school and their ability to fully participate in or write assessment tests. As a result, they receive very low grades.

Consistent with the findings of Furth (1966), Baker (1972), and Gaustad and Kelly (2004), SHIs in TOSSD face serious challenges when it came to reading educational materials and understanding exam questions because of their poor reading skills, limited vocabulary and their inability to comprehend complex sentences and grammar. As a result of this, most SHIs were not interested in reading textbooks and other reading materials. They consider reading boring and exhaustive since they are often confused about the meaning of words and sentences in these materials. Engin-Demir (2009) and Adane (2013) found out in their study that the time students spend learning on their own has been attributed to high academic achievements; therefore, SHIs in TOSSD not being able to do this contributed to their low academic achievement. Moreover, their inability to read examination questions in order to understand the demands of each question affected the kind of scores they receive in their assessment tests.

Similar to the findings of Johnson (1989), students in TOSSD also expressed poor expectations to climb higher on the educational ladder. Most SHIs did not want to continue school after JHS or SHS mostly because they were more interested in learning a trade than continuing their education to a higher level.

Regarding parental influence, the findings of the research showed that parents have some level of influence on the academic performance of their wards in

Table 1. Themes identified

PERSONAL CHARACTERISTICS OF SHIs AFFECTING THEIR ACADEMIC PERFORMANCE		
THEMES	**RESPONDENTS**	**RESPONSES**
Health	Special Educator 4	With hearing students, because they hear, they understand things fast but the hearing impaired because they cannot hear, it is difficult to explain things to them… Because they cannot hear and therefore cannot pronounce the words VERBALLY, they find it difficult to spell the words... they do not understand big words and therefore they make lots of mistakes
Health	Parent 6	He is not like his siblings; his siblings are smart but he is not. I do not know if it's because he is handicapped that makes him like that
Health	Student 5	Apart from me being deaf, I have health problems. I most at times feel very sick and that makes me become weak and makes it difficult for me to learn at times…
Reading skills and habits	Special Educator	Some have multiple challenges. Some too have some intellectual challenges. Some too cannot walk well … it affects them. This boy like this (points to a boy) doesn't partake in class work since he cannot write. But because he is growing they have to promote him. This boy (points to another boy) walks better, but because of his writing, it is difficult to see and mark. It is because of his shaking condition
Reading Skills and Habits	Special Educator 5	Reading, spelling, and forming of sentences are their main challenges and they do not have vocabulary. Sometimes, how to form a sentence and how to read and answer a question is difficult for many of them. Few can do that and understand but for many of them, it's difficult to read and answer
Reading Skills and Habits	Student 3	… I don't understand the words. So that makes the learning boring. So I do not learn at all. When I read, I do not understand the words. So I decide not to read… The exams also was not set by my teachers so during the exams I asked my teacher to explain the questions but he refused and because I could not read it, I had a low mark

Expectations of SHIs in Education	Special Educator 3	Only a few have high expectations. Most of them do not care. After JHS they do not want to continue. They like to learn a trade than to climb the academic ladder. Only a few care and are interested in school.
Expectations of SHIs in Education	Student 7	I want to make aggregate 49 in BECE and I do not have any idea of what educational level I want to reach but I want to be a hairdresser when I finish JHS. So I do not think I will continue from here
Expectations of SHIs in Education	Student 10	I cannot tell which grades I want to make in the BECE because I do not know if I want to work after JHS. I will make more money working than going to school so I do not want to go to SHS.

PARENTAL INFLUENCE ON THE ACADEMIC PERFORMANCE OF THEIR SHI

THEMES	RESPONDENTS	RESPONSES
Problems of parental responsibilities	Special Educator 5	…the problem is textbooks they will use in school. Parents do not buy the necessary textbooks…with a child who doesn't have exercise books in the class, when you ask they will tell you their parents refused to buy the books for them. So this person will never do any whether the child understood what was taught assignments, and this affects the children in a way when the teacher wants to assess
Problems of parental responsibilities	Parent 5	One of her sisters is in SHS but their father doesn't help me so I do everything all by myself, I try to help her in her education. Sometimes when I am unable to provide for her education, I try to sit her down and explain everything to her. Hmm, you see when I have money problems, it sometimes doesn't let me perform some of the responsibilities I am supposed to very well
Learning Assistance at Home	Parent 5	…because I couldn't continue school, I cannot teach her or assist her learning. Her sister could have helped however she is unable to assist her well because she cannot also sign very well. But what she does is that she writes the answers of the homework so that she copies without any explanation

Learning Assistance at Home	Student 11	I am unable to do my homework at home because I am not taught by anyone. Sometimes, the work is too difficult so I copy from my friends at school… no one in my family can sign so they talk and because my mother did not go to school, she cannot read to help me with my homework
Learning Assistance at Home	Special Educator 6	Everything they learn is from the classroom without any additional help from home. Whatever the teachers teach, it ends when they leave the school to the house… To get somebody to assist them at home is very difficult. Most of the people at home are not conversant with the sign language so it becomes a problem to help even if they can
Parental Expectations of their SHIs.	Parent 4	…comparing the salary I receive and the expenses I make on her, it is just by God's grace. Her father is not around so everything is on me. Therefore, I will not get the money all the time for her to continue her education… I have a machine at home and she likes sewing, and she also like hair dressing. So after school she will choose one of them.
Parental Expectations of their SHIs.	Parent 3	Personally I do not think my child can go to the secondary school because of the condition in which she finds herself. Also, she is not doing too well in school. Mostly, she comes almost last in class
Parental Expectations of their SHIs.	Special Educator 2	some of the parents with other children without disabilities, see their education as more important than the hearing impaired child because they do not think or have hope in their children with hearing impairment. Due to that, most parents shift their attention to their children without disability and divert most of their resources in educating them to the highest level.
INSTITUTIONAL BARRIERS IN DEAF EDUCATION.		
THEMES	**RESPONDENTS**	**RESPONSES**
Effectiveness of Instructional Procedures	Special Educator 3	…because the person can't hear what you tell him/her, and you know in sign language we do not have signs for individual words, about 10 words will have one sign, so it is difficult to explain some concepts to them. And because

		we also went to school and learnt the language, we are not perfect so we find it very difficult to explain to the person to get it very well in order to understand and answer whenever you ask a question.
Effectiveness of Instructional Procedures	Special Educator 5	… if you have a fewer number, you will be able to take care of them. For example, if you have 8 students you will use some time to guide them and to explain the topic and use another time to go around and see what they are doing. But if they are 30, by the time I finish and I start teaching them the time is already up. So if the class is small it will help them.
Effectiveness of Instructional Procedures	Student 8	The teachers normally use difficult words that do not make me understand and that worries me… for instance, we were taught in class but we all did not understand it so the whole class had it wrong. The teacher used speech, she concentrated on the speech more than the signing since she is not really good at signing and we are deaf so we didn't get what she was saying as we did not get the explanation
Availability of Facilities and Teaching Materials	Student 9	…if we have a well-furnished library and if I stay in school and the teacher stays in school, I will be able to go to a teacher for better explanation and to understand the concept more. In all, I want to say we need a teacher's bungalow and a boarding facility. Because if we go home, we are unable to learn because we are too tired to and there is hardly anyone to help
Availability of Facilities and Teaching Materials	Parent 1	…They need a boarding house because my children are always complaining about how tired they are and therefore can't learn when I tell them to. My house and the school is a long distance. They have to wake up early in the morning mostly feeling sleepy and have to prepare for school only to come home very tired
Availability of Facilities and Teaching Materials	Special Educator 7	Where teachers need the Teaching and Learning Material and it is not available, they then teach in abstract, and the children find it difficult to understand lessons that way…The funds from the government are not regular

		and are inadequate too. As I am talking to you, we are in the 7th week and the funding is not in, it's only the donations made by philanthropists that we depend on for the materials.
Contents of Curricula and Reading Materials.	Special Educator 1	...for a topic, you have to break it into smaller units for them. So now, the maximum topics canbe 2 or 3 topic in a term instead of 5 or 6. Let's say if he takes one topic, I can break it into three topics throughout the term… the syllabus itself and the topics are many, the syllabus has three objectives per term, but for them, I can only set one objective for them so they are unable to complete it before BECE
Contents of Curricula and Reading Materials	Student 1	Lessons are confusing and sometimes we get confused with some of the topics. I do not understand the wording. Literature, for example, is for the hearing not the deaf. Because of this, I do not understand the questions or know the answers to them … Also I am unable to read often because it is boring. The words in the books are difficult when you want to learn on your own.
Contents of Curricula and Reading Materials	Special Educator 3	…because the person can't hear what you tell him, and you know in sign language we do not have signs for individual words, about 10 words will have one sign, so it is difficult to explain some concepts to them. In our training, instructors use more of normal way of teaching than the sign language, so we graduate with less skills in the sign language and mostly no special teaching method for the deaf.
Contents of Curricula and Reading Materials	Student 2	The reading material is inadequate, we have to share text books and at times it is difficult to concentrate if you we share because we end up chatting with another. By the time the teacher finishes teaching, we have learnt nothing
Contents of Curricula and Reading Materials	Parent 2	I realized that the curricula do not meet the needs of my child because it is like using the curricula for the children who can hear and my child tells me often he does not understand when he uses the text book

TOSSD. This supports research works of Cohen (1997) Luckner and Muir (2001) Reed (2008) Adane (2013) who also found a significant relationship between parents and the academic performance of their wards. The involvement of most parents in the education of their wards in TOSSD was relatively low; this was as a result of their inability to perform their responsibilities adequately. That is, the limited learning assistance they made available to their wards and the low expectations they had regarding the education of their children in TOSSD.

The inability of some parents to perform certain parental responsibilities towards their wards' education seems to be one of the challenges that hinder the academic performance of SHIs in TOSSD. Parents with low income jobs posited their inability to pay for exams fees, buy educational materials (books, and pens, mathematical set) and other required items needed. Some SHIs confirmed that their parents' inability to provide their educational needs did not help them perform well in various tests. However, these parents, especially the single mothers, stated that their inability to provide such needs is because of their low income and the financial burden they carry. From the ecological theory, using the concept of the exosystem, though actors from SHIs microsystem (parents) were experiencing financial burden, it still affected SHIs academics. The inability of such parents to provide the required materials for their wards prevented these students from improving their academic performance. The children are not able to partake in class exercises and homework as well as get access to the reading materials they need in school. Again, participant responses revealed that SHIs had limited learning assistance when they got home after school. Similar to the findings of Reed et al (2008), this research also indicated that one challenge causing the poor academic performance of SHIs was parents' inability to assist them in doing homework and studying. The main reason for this was because of the low educational level of most parents and the communication barriers between them and their wards in the school. As supported by the findings of Cohen (1997) and Thou (2014), some parents are not able to assist their wards because they have low level of education and do not have the knowledge about school work and could therefore be of no assistance to their children. However, in situations where SHIs were helped with their homework, there were no explanations to it due to the parents' inability to sign. This communication barrier rendered parents who could have assisted their wards in their studies, incapable of doing so. Zwiebel (1987) and Calderon's (2003) findings support this research and noted that the signing skills of parents do have a part to play in their wards' academic performance. Apart from the SHIs with deaf parents, all students in TOSSD faced this challenge at

home and because the number of SHIs with deaf parents is small, it is expected that majority of SHIs would have no form of learning assistance and this hinders their academic performance (Marschark et al, 2015; Mitchelle and Karchmer, 2004).

Besides, parents of SHIs do not want their wards to continue education due to their low expectations for them to move further in education. Congruent with the ecological theory, the macrosystem of SHIs, which comprises the beliefs and expectation of parents, has negative implications on SHIs academic performance. According to Reed (2008), one variable that facilitates the academic success of SHIs is parental expectation of their CHIs. However, this important ingredient in facilitating academic achievement was missing in the responses given by participants. Even though some parents had hearing children in secondary schools and tertiary institutions, they wanted their hearing impaired children to learn a vocation, trade or sports right after JHS. Parents with such expectations are reluctant and have less determination to perform roles which will help increase the academic achievement of their wards. This neither motivated nor encouraged high expectations in SHI themselves. Consistent with the ecological theory, as explained by Berk (2000) and Paquette & Ryan (2001) because parents are one of the actors of SHIs' microsystem, the challenges which emanate from them have great impact or influence on their wards' academic performance in TOSSD. Therefore, a strong relationship exists between the expectations of parents and how well their wards perform and how far their CHIs can climb the academic ladder. Consequently, parental motivation is very critical in the academic progress of their wards.

Evidence also showed that the school (TOSSD) and other institutions involved in the education of the D/HH have contributed to the challenges facing SHIs in their academic performance. Some of the institutional barriers barring SHIs from higher academic performance were identified as: ineffective instructional procedures adopted in deaf education, challenging syllabi and reading materials and lastly, inadequate materials and facilities in the school. The findings of this study are in agreement with Woolsey et al's (2004) as it also identified that due to the ineffectiveness of institutional methods adopted by special educators, most students complained of not understanding lessons taught in class. Teachers in TOSSD confessed that the large numbers of students in the classroom did not permit them to pay attention to each individual student's SEN adequately. According to Powers (2003), the ideal number of D/HH students in a class is 10;

however, the numbers of SHIs in most of TOSSD classrooms ranges from 20 to 30. Limited lesson time is identified as a cause for the inability to attend to each individual student in such a large class. As a result, students especially those with severe additional disabilities are not given any special attention because of the number of students per teacher. Also, teachers are unable to attend to each student's educational needs after the class. Hence, majority of the students are unable to benefit from lessons taught. Again, consistent with the observation made by Melander (2008) in some deaf schools, most special educators in TOSSD were also not fluent in sign language because they learnt the sign language at the tertiary level of their education. Even though all the teachers in TOSSD are qualified special educators and knowledgeable in the subjects they teach, they are unable to express themselves well in sign language for students to understand.

Further, the contents of syllabi and reading materials used in the school did not help meet the special education needs of students thereby creating a challenge for students to excel in assessment tests. Curricula contents and textbooks used in deaf education are the same as those used in the regular schools and therefore does not consider the needs of SHIs (Aidoo, 2011; Kyere, 2009). SHIs do not learn at the same pace as their hearing colleagues according to most participants; TOSSD, therefore, has an additional level in the JHS department (JHS4) to enable teachers to complete the syllabi before presenting candidates for BECE. The curricula are bulky and most teachers are unable to cover every topic in them before BECE. Also, SHIs are unable to make sense out of the contents of textbooks used in their school; this finding is consistent with that of Aidoo (2011). The textbooks used by SHIs contain complex sentences and words which students in TOSSD find difficult to understand or read. The authors of such textbooks do not take into consideration the learning needs of SHIs. Some topics in subjects such as English language and Science are too complex for SHIs to relate with or conceptualize, therefore impairing their performance in these subjects.

Inadequate facilities such as boarding houses to accommodate students living far was one of the major barriers which hindered the academic performance of students in the school. TOSSD is the only deaf school in the whole of Greater Accra region. As a result, SHIs come from all over the region to attend the school. From the ecological theory, the mesosystem, which in this case is the distance between their homes and the school, affects their academic performance in that the boarding facilities which could have curtailed the problem of distance are not in existence. The lack of these facilities affects their learning and prevents them

from getting extra help from teachers as other SHIs from several residential deaf schools. The absence of facilities such as a scientific laboratory and a working vocational workshop for practical Science and Basic Design and technology (BDT) lessons contributed to the inability of students to perform well in science and BDT. From several literatures and responses, SHIs benefit more from visual and practical lessons in their education (Kyere, 2009). The unavailability of these facilities and Teaching and Learning Materials (TLM) made students in TOSSD learn in abstract. This, therefore, did not help them to fully understand and retain lessons taught in class in order to reproduce the right answers during assessment tests.

Relating to the findings of inadequate facilities and institutional barrier to the ecological theory, it can be said that the exosystem of the ecological theory influenced the academic performance of the SHIs. Even though certain institutions within deaf education had no direct contact with SHIs, because of their contact with the school, they indirectly created barriers to their academic performance. For example, irregular funding from government to purchase TLMs and their inability to build the needed facilities within the school does not foster effective teaching and learning; thereby posing a challenge to the academic performance of SHIs. Within the macrosystem, policies guiding instructional methods and curricula used in deaf education were discovered to be inadequate. Just as opined by Nortey (2009) and Obosu et al (2013), policies used in deaf education are inadequate to ensure that the D/HH student benefited from their education.

CONCLUSION AND RECOMMENDATIONS

Evidently, the long standing assertion about SHIs having low academic performance as reflected in their examination results remained important to this research. From the responses given by participants, it was discovered that challenges which affect SHIs' academic performance are neither from one source nor do they exist in isolation. They rather emanate from different systems and actors which includes SHIs themselves, their parents and institutional barriers that exist in deaf education. An aspect of SHIs which was identified as contributing negatively to their academic performance included their health issues such as their hearing loss and other forms of impairments; their reading and learning habits; and their expectations in excelling in education. Also, parental involvement in their children's education was low due to their low expectation of their children's education. In addition, some institutional barriers such as ineffective instructional

methods, inadequate reading and teaching materials, facilities and rigid syllabi contents did not enable SHIs to excel in their academics.

Any intervention towards tackling the various challenges has to be directed at the different systems within SHIs' environment. For instance, the use of more effective instructional methods which may include special educators putting greater emphasis on visual and practical lessons that involve more demonstrations and pictorial materials. Government must provide teaching and learning materials and the necessary facilities such as workshops and laboratories to make practical and visual learning possible in deaf schools. In addition, early interventions to enhance SHIs' academic capabilities must be adopted at an early school age in order to enhance their effectiveness. Early enrollment of SHIs into deaf schools or an educational setting created to meet the special education needs of SHIs will help improve their reading, vocabulary, reasoning ability and skills which will positively affect their academic achievements as they progress.

Finally, to create effective educational policies for deaf education, GES and the Ministry of education must collaborate with experienced special educators to create a comprehensive educational policy specially made to cater for the learning needs of SHIs. The policies must seek to provide the appropriate approach to teaching SHIs in various school settings which will see to a uniform communication mode. This should also create an effective approach that will help meet the special education needs of SHIs through reviewing and changing the syllabi and providing a standardized testing procedures and reading materials to meet the special needs of SHIs.

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