

Effect Of Peer Tutoring and Teacher Centred Strategies on the Academic Performance of Hearing Impaired Students Comorbid with Learning Disabilities in Oyo State, Nigeria

Felicia Yewande O. ALADE

Oyo State Ministry of Education, Oyo State
yewandealade@gmail.com+2348028051506

&

Friday Ovie AZANOR

Department of Education Foundations and Counselling Psychology
Lagos State University, Ojo, Lagos State
friday.azanor@lasu.edu.ng +2348067559655

Abstract

The presence of learning disability as a major comorbid disability associated with hearing impairment compounds the learning difficulties experienced by these students. Most teachers of learners with these conditions who do not realise their learning challenges find it difficult to use appropriate teaching strategy to meet the learning needs. This study, therefore, was designed to determine the effect of peer tutoring on the academic performance of hearing impaired students comorbid with learning disabilities in Oyo State, Nigeria. The moderating effects of gender and degree of hearing loss were also examined. Three hypotheses were formulated and tested at 0.05 level of significance. A pretest-posttest control group quasi experimental design with a 3x2x2 factorial matrix was adopted. Three schools for students with hearing impairment were purposively selected based on the availability of students with hearing impairment. Forty students with hearing impairment were screened for learning disabilities with Myklebust rating scale. These students with mild and moderate hearing loss were further screened and selected with the use of AD629-Hybrid Diagnostic Audiometer. The schools were randomly assigned to treatment groups and control groups. The treatment lasted eight weeks. T-test was used to analyze the data collected. The study revealed peer-tutoring strategy more than teacher centered strategy improved the academic performance of hearing impaired students with learning disabilities in Ibadan, Nigeria particularly among females with moderate hearing loss. The study also revealed that females in the two treatment groups had better academic performance than the control group. This therefore implies that students learn better and faster when they learn together because they see themselves as equal without seeing anyone among them as being superior. Therefore, these strategies should be adopted by teachers of with hearing impairment whose notice that students exhibit traits of learning disabilities with poor academic performance.

Keywords: Hearing impairment, learning disabilities, peer-tutoring, teacher centered, academic performance.

Introduction

Many persons with disability seem to have associated and hidden disability apart from the main disabling condition. This associated or comorbid disability compounds the challenges faced by these unique individuals and one of the areas that this challenges obviously manifest is in the academic endeavour. One of the disabilities that commonly co-occur with hearing impairment is learning disability. Approximately 40% of students with deafness seems to have an additional developmental disorder which may require intervention by other professionals. This situation is referred to as “deafness with added disability” Núñez-Batalla, Jáudenes-Casabón, Sequí-Canet, Vivanco-Allende, and Zubicaray-Ugarteche, (2023). The reason why the population of hearing-impaired students is more likely to have associated added disabilities is that the risk factors for hearing impairment overlap with those of many other disabilities. Due to the comorbid nature of their conditions, hearing impaired with learning disability experience more difficulties academically when compared with those with single disability (hearing impairment alone). This academic difficulty prevents them from further study as most of them eventually drop out of school.

Researches have established the fact that hearing loss has a very negative impact on a person’s academic performance no matter its degree. According to Tomblin, Oleson, Ambrose, Walker, McCreery and Moeller, (2021) the academic performance of students with different degrees of hearing loss has been a long standing concern as there are conflicting results and conclusion on this issue. Tomblin et al (2021) found that students with mild and moderate hearing loss have good outcomes with regards to language and academic performance while those with severe hearing loss were less skilled in language and reading. Bruce (2019) found that students with hearing loss are at risk of repeating at least one grade level and that the severity in terms of degree of hearing loss lead to learning and poor academic performance. Center for Disease Control and Prevention (2020) found that students with moderate to severe hearing loss who do not get immediate learning intervention are more likely to fall behind their hearing peers academically. Most (2004) found that students with moderate or minimal hearing loss show lower academic performance than those with severe hearing loss. Falaye and Komolafe (2007) found that students with severe hearing impairment have low academic performance when compared with compared to their counterparts with moderated hearing impairment.

Apart from their comorbid disability, the academic challenge of these learners could be fallout of quality of instructional strategy used by their teachers. Galley (2002) averred that boys including those with disabilities are far less suited than girls to succeed in the academic

environment. Skosen, Jensen, Jensen, and Schnohr (2021), found that girls with hearing impairment are more susceptible to low retrieving ability when compared to their male counterparts. Some teachers according to Alvacra, Buyan and Martincz, (2009) still believe the teacher centered approach is more appropriate construct in the classroom. Although, the teacher centered approach is about expert knowledge base, course planning and execution and has its advantages, but the 21st century classrooms for individuals with disabilities need dynamic approaches that will ensure more effective learning and higher student participation. One of the methods that can ensure high academic achievement is the peer tutoring approach. Peer tutoring is a student-student relationship/interaction.

Ademokoya (1995), Meadow (1989) and Mores (1980), for example stated that, students with hearing impairment also experience learning disabilities. Onwuchekwa (1985) in the same vein asserted that Nigerian students with hearing impairment exhibit low performance in many school subjects. All children have a right to meaningful and equal educational opportunities if they are to survive in the present age. Once learning disabilities interact with the presence of a hearing impairment it becomes imperative for special educators to fashion out effective teaching approaches or method that can turn these students to successful learners. It has been observed by these researchers that the common teaching method used special educators to teach student with hearing impairment is the teacher centered method. The teacher centered method used by these teachers as observed by these researchers during several teaching practice supervision in schools for persons with disabilities focuses on the teachers as the sole presenter of information to the students who are passively receiving the knowledge being presented. This method does not give room for much flexibility. As observed by the researcher, the only difference of this method with the conventional or traditional teaching approach of chalk, talk and board wherein most of the time lecture method is used, it is textbook centered, teacher dominant and exam-oriented is that these teachers incorporated pictures, charts and game which partially involve the students because learners with hearing impairment are visual learners who learn with their eyes. In all, these teachers of students with hearing impairment still function in the familiar role of classroom lecturer.

Tutoring is a process in which expert and trained people help and support other people who are less skilled and have low level of knowledge (or expertise), in an interactive, meaningful and organized way Ullah, Tabassum and Kaleem (2018). Peer tutoring is a learning strategy where students take on the responsibility for teaching and evaluating their peers. Peer tutors can include learners at the same level or a peer more advanced in their training and is an effective

teaching strategy (Burgess, McGregor, 2018). Falaye and Komolafe (2007) claimed that peer tutoring ensures high academic performance in individual with disabilities. Ali, Anwar and Abbas (2015) found that peer tutoring enables both tutor and tutees to gain self-confidence and that peer tutoring has a positive impact on learning. Ullah, Tabassum and Kaleem (2018), in their study found that peer tutoring enhanced the academic achievement of students in the experimental group significantly as compared to the control group; hence, it was an effective method of instruction for teaching biology at secondary level. It was therefore suggested that peer tutoring may be incorporated along with other teaching methodologies for the subject of biology, and it may be given due consideration in all teacher education practices in the country. A study conducted by Ufot and Goddymkpa. (2023), found that students taught with peer tutoring technique performed better than their colleagues taught with lecture methods.

Peer tutoring have been found to be very effective in the school system (Egbockuku and Obunu 2006). Research finding in literature also indicated that peer tutoring is effective in enhancing attitude and behavior of adolescent students (Violato and Holden, 1988; Friedman, 1991, Egbochukwu, 1997). It is desirable to allow students with special needs to participate in peer tutoring which is a student relationship that is guided by a qualified teacher so that quality learning can take place. Teacher centered approach focuses on the teacher, here the teacher is in charge. The students only listen while the teacher teaches. The teacher directs the teaching learning processes. The classroom is quiet; the classroom instructor anchors the lesson from the beginning to the end. Students passively receive instruction. In this method, the student's voice is not acknowledged as essential to the learning experience. The teacher decides what is to be learnt, tested, and how the class is to be run. The teacher is often the center of the show with minimal input from the students. Peer tutoring is a strategy that is very effective for instilling a sense of success in students who struggle especially students in special education. Peer tutoring is a powerful instructional approach that ensures that all students are actively engaged. This study will contribute to the body of knowledge already in existence on teacher centered and peer tutoring method for hearing impaired students with learning disabilities. This study is also significant because it would expose these teachers to the fact that there is need to use other methods apart from the teacher centered method to teach students in whom hearing impairment and learning disabilities co-occur.

Statement of the Problem

Hearing impairment is a disability hampering the overall development, particularly educational aspect. Research have established the fact that learning disability is the common secondary and hidden disability associated with hearing impairment. Coexistence of hearing impairment with learning disability adversely affects their academic performance. The apparent poor academic performance of hearing impaired learners with comorbid learning disabilities creates challenges for classroom teachers and the school system. Teachers see learners with these conditions as difficult to teach and manage; they therefore ignore them in the classroom setting. Most teachers of students with hearing impairment are not aware that learning disabilities is a common co-occurring disability with hearing impairment. They therefore, do not see the connection between the comorbid nature of learning disability in students with hearing and their poor academic performance. They see them as misfits who should be kept in rehabilitation centers. Hearing impair learners with associated learning disability seems to lack the support needed to excel academically because the conventional methods of teaching are inadequate. This suggests that effective teaching strategy such as peer tutoring is required. In view of this the study, therefore, determine the effect of peer tutoring instructional strategy on academic performance of hearing impaired learners with comorbid learning disabilities in Oyo State.

Hypotheses

1. There will be no significant main effect of treatment on the academic performance of hearing impaired students with learning disabilities in Oyo State.
2. There will be no significant main effect of gender on the academic performance of hearing impaired students with learning disabilities in Oyo State.
3. There will be no significant effect of treatment on the academic performance of students with moderate hearing impairment with learning disabilities and those with severe hearing impairment with learning disabilities in Oyo State.

Literature Review

Peer tutoring is a different learning experience than traditional teaching modules, with unique advantages. Tutors have recently learned material and can better align teaching to the tutees' level of understanding. Additionally, they are able to create a more relaxed learning environment than the traditional classroom with less anxiety for the learner (Bell, Fagan, Krisa1, Sinko, and Morey, 2023). According to researchers such as Austin (2018) and Eisenkopf (2020), peer tutoring has positive impacts on student learning, motivation and socialization and that peer tutoring was found effective in the development of creativity and problem-solving skills of both tutors and tutees. Due to its interactive nature, peer tutoring

helps the tutor in understanding the mental level of the tutees and concept about the topic. Research base suggest that socialization experiences that occur during peer tutoring can benefit both the tutor and the tutee by motivating students to learn and also increase their social standards among peers in the classroom Fuchs and Fuchs (2002). Peer tutoring is a teaching technique where by persons of the same age, class and rank teach one another in order to help the group members to learn. In the process, both the tutor and the tutees are learners. This is also a good method for students with special needs because each member of the group has equal chance or opportunity of giving and receiving instruction on the fact that they are the same in age, class and rank make learning to be easier in that class they can always explain things to one another Eniolorunda, and Oyundoyin. (2007).

The benefits of peer tutoring relating to student achievement in academic areas has been examined and discussed in numerous past instances as well. According to Topping (2005), research evidence is clear that both peer tutoring and cooperative learning can yield significant gains academic achievement". Topping further described peer tutoring as a way to help students learn content areas more deeply. Peer tutoring can also be beneficial in helping students to retain mere information (Greenwood, 2005). As students work one-on-one with each other, peer tutoring can increase academic engagement in the classroom aside from increasing individual attention and student engagement. (Greenwood, 1991; Olmscheid, 1999). Teacher centered method means that a teacher controls what is taught, when, and under what conditions within a classroom. The aim of this study is to determine the efficacy of peer tutoring and teacher centered method on academic performance of hearing impaired students with learning disabilities in Ibadan metropolis, Oyo State

Methodology

Research Design

This study was conducted in order to find out the efficacy of peer tutoring and teacher centered methods on the academic performance of hearing impaired students with learning disabilities. A 3 x 2 x 2 factorial matrix was used and this generated three groups. Two of these served as the experimental groups while the third served as the control. The table below explains the design.

Table 1: A 3x2x2 Factorial Matrix Design on Academic Performance of Hearing Impaired Students with Learning in Secondary Schools in Ibadan

Treatments	GENDER				Total
	Male		Female		
	DEGREE OF HEARING LOSS				
	Moderate	Severe	Moderate	Severe	
Peer-tutoring Strategy A ₁	n=3	n=3	n=6	n=3	n=15
Teacher Centered Strategy A ₂	n=3	n=2	n=7	n=3	n=15
Control Group A ₃	n=3	n=1	n=3	n=3	n=10
Total	n=9	n=6	n=16	n=9	N=40

Instruments

Two instruments were used for this study. They are:

1. The adapted Myklebust rating scale used to screen for learning disabilities.
2. AD 629-Hybrid Diagnostic Audiometer

Data on the students' academic performance was not released but the researchers were shown the student's general academic performance with emphasis on their Mathematics and English Language performance which were not encouraging.

Procedure

Permission to carry out this research was obtained from the principal of the three schools for students with hearing impairment in Oyo State. Preliminary visits were equally made to the three selected schools. The purpose of the visits was to enable the researchers to be acquainted with the schools and get some of the class teachers who served as the research assistants informed about the purpose of the study. They were adequately informed and trained about what the study entails and how it was to be carried out. The researchers established rapport with the students with hearing impairment used as participants. They were also informed about the significance of the study. It was explained to the students that the question items were not

tests therefore; they were expected to respond to the items as honest as possible. The participants were selected from the junior secondary school II. They were screened for learning disabilities using the adapted Myklebust rating scale. Using AD 629- Hybrid Diagnostic Audiometer to measure of the degree of hearing loss, participants whose hearing loss were within the range of 41-55 decibel were categorized as having moderate hearing loss while those whose degree of hearing loss falls within the range 71-90 decibels were categorized as those with severe hearing loss.

In the teacher centered approach, students were taught by their English and Mathematics teachers for eight weeks each and at the end of the lesson, a post test was administered. A total number of forty nine students in the JSS 2 arms of the three schools were screened for degree of hearing loss and learning disabilities. Forty (40) of these students were discovered as having both hearing impairment which comprise twenty five females and fifteen males. Each teaching session lasted 45 minutes twice in a week and lesson for the eight weeks took place after school hours with the consent of the school authority and the parents. Pretest was administered after the students had been put into the peer tutoring and the teacher centered groups.

Data Analysis and Discussion

t-test was used to analyze the data collected.

Method of Data Analysis

Descriptive statistics of frequency count and percentage were used to analyse the participant's demographic data

Hypothesis 1

Ho: There will be no significant difference in the academic performance of the two treatment groups and control.

Table 1

	N	Mean	Std. Dev.	Std. Error	t- Cal	t- Crit	Df	Sig (2tail)
Treatments	30	72.351	4.892	1.974	5.32	2.45	38	0.003
Control	10	46.253	5.324	2.117				

t-Calculated value =5.32

t-Critical value -2.45

Level of significance 0.05

From the table 1, it was observed that the t-calculated value was greater than t-critical value. It is significant at (t-calculated = 5.32, was greater than t-critical=2.45, df=38)

Ho was rejected and accepted HI, it was therefore concluded that there is significant difference in the academic performance of the two treatment groups and control.

Hypothesis II

Ho: There will be no significant gender difference in the academic performance of the two treatment groups and control.

Table 2

	N	Mean	Std. Dev.	Std. Error	t-Cal	t-Crit	Df	Sig (2tail)
Female	25	53.471	3.625	1.67	4.351	1.367	38	0.342
Male	15	48.653	4.821	3.45				

t-Calculated value =4.351

t-Critical value =1.367

Level at significance =0.05

From table II, it was observed that t-calculated value was greater than (critical value. It is significance (t calculated =4.351 was greater than t-critical-1.367).

Ho was rejected and accepted HI. Therefore, it was concluded that there is significant gender difference in the academic performance of the two treatment groups and the control.

Hypothesis III

Ho: There will be no significant difference in the academic performance of students with moderate hearing impairment with learning disabilities and those with severe hearing impairment with learning disabilities in the treatment groups and the control.

Table 3

	N	Mean	Std. Dev.	Std. Error	t-Cal	t-Crit	Df	Sig (2tail)
Moderate	29	57.324	4.581	1.931	3.392	1.613	28	0.020
Severe	11	41.243	7.264	3.427				

t-Calculated value 3.392

t-Critical value = 1.613

From the 3, it was observed that t-calculated valve was greater than t-critical valve. It is significant at (t-calculated 3.392, was greater than t-critical =1.613). Ho was rejected and accepted H1. Therefore it was observed that there is significant difference in the academic

performance of students with moderate hearing impairment with learning disabilities and those with severe hearing impairment in the treatment groups and the control.

Discussion of Findings

Findings from this study showed that of the two methods used to teach hearing impaired students with learning disabilities, peer tutoring is a better approach. This finding is supported by the finding of Ufot and Goddymkpa. (2023) who found that students taught with peer tutoring technique performed better than their colleagues taught with lecture methods. It is also in line with the assertion of Falaye and Komolafe (2007) who also claimed that peer tutoring ensures high academic performance in individual with disabilities. In the same manner, the study is in consonants with that findings of Austin (2018) and Eisenkopf (2020) who found that peer tutoring has positive impacts on student learning, motivation and socialization and that peer tutoring was found effective in the development of creativity and problem-solving skills of both tutors and tutees. The finding of the present study agrees with that of Ullah, Tabassum and Kaleem (2018), who found that peer tutoring enhances the academic achievement of students in the experimental group significantly as compared to the control group. The study also revealed that females in the two treatment groups had better academic performance than the control group. This is in line with the finding of Skosen, Jensen, Jensen, and Schnohr (2021) who found that girls with hearing impairment are more susceptible to low retrieving ability when compared to their male counterparts while Galley (2002) averred that boys including those with disabilities are far less suited than girls to succeed in the academic environment. Student with moderate hearing impairment had better performance when compared with their peers with severe learning disabilities. The findings of Falaye and Komolafe (2007) corroborated the findings of this study because their study also revealed that students with severe hearing impairment have low academic performance compared to their counterparts with moderated hearing impairment.

Conclusion

This study has been able to establish the effectiveness of peer tutoring and teacher centered strategies on academic performance of hearing impaired students comorbid with learning disabilities. The conventional method was found to be the least effective out of the two experimental groups and the control. The findings of this study have added to the existing data on the teaching and learning intervention of hearing impaired student comorbid with learning

disabilities in Nigeria. Therefore, it should be an integral part of decision making in attempts to enhance the academic performance of hearing impaired students comorbid with learning disabilities. Gender played a moderating role on the causal effect of treatment on academic performance of the participants. In this study it was revealed that gender had effect on academic performance of the participants.

Recommendations

Based on the findings in this study, the following recommendations were made:

1. Students with hearing impairment having academic challenges should be screened for comorbid disability such as learning disability.
2. Teachers and other stakeholders should pay close attention to the academic performance of students with severe hearing loss.
3. Peer tutoring instructional strategy should be utilized by instructors of students with hearing impairment to enhance the academic performance of these learners.
4. Curriculum planners and designers should ensure that the curriculum for the students with hearing impairment is made flexible so that peer tutoring strategy be introduced and implemented early.
5. Workshops should organize for teachers of students with hearing impairment on the awareness of learning disability as comorbid disability of learners with hearing impairment.

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