

# Effect of peer tutoring on social adjustment among English learners with hearing impairments in special primary schools

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## Abstract

**Background/Objective:** Different studies have shown the prevalence of high level of social adjustment among English learners with hearing impairment. The objective of the present study was to investigate the effect of peer tutoring as a social adjustment intervention among English learners with hearing impairment in special primary schools in Enugu State, Nigeria.

**Method:** The area of the study was Enugu State. The study adopted a pre-test–post-test quasi experimental research design. The population of the study comprised 30 pupils with language hearing impairment. There was no sampling because the population size was small and manageable. The instrument for data collection was a social adjustment scale with reliability coefficient of 0.88. After the experiment, the experimental group were taught using peer tutoring teaching strategy while the control group were taught with conventional teaching method. Analysis of covariance was used to test the formulated hypotheses at 0.05 level of significance.

**Results:** Results showed that peer tutoring teaching strategy significantly increased social adjustment of pupils with language hearing impairment. Gender did not significantly influence social adjustment of pupils with language hearing impairment. The interaction effect of teaching strategies and gender on social adjustment of pupils with language hearing impairment was not significant.

**Conclusion:** Peer tutoring can be used to alleviate social adjustment problem of pupils with language hearing impairment. The implications of the results for curriculum innovation were highlighted.

**Abbreviations:** CTM = conventional teaching method, SAS = social adjustment scale.

**Keywords:** language hearing impairment, peer, peer tutoring, pupils, social adjustment, tutoring

## 1. Introduction

The current trend of social adjustment problem of pupils with language hearing impairment in developing countries especially in Enugu State, Nigeria is becoming a source of concern and worry to their teachers and the society at large. Pupils with language hearing impairment are faced with a lot of challenges such as how to belong, how to do well in school, and to be accepted, how to interact and communicate freely with other

hearing peers. These challenges will continue to adversely affect their social adjustment and academic achievement if left unaddressed.

Hardcastle<sup>[1]</sup> categorized hearing impairment into 5 classes which include mild, moderately, severe, and profound hearing loss. Those with mild hearing loss hear sounds between 21 and 40 dB. Individuals suffering from moderate hearing loss can hear human speech that is between 56 and 70 dB. Severe hearing loss

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The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

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is within 71 to 90 dB. Individuals who fall within this category find it difficult to hear loud speech. Profound hearing loss falls from 90 dB+. Individuals that fall within this category are referred to as deaf.

English learners with hearing impairment, according to Ogundola<sup>[2]</sup> feel inferior, helpless, have poor self-concept, temper tantrums, are submissive, have poor gross motor coordination, hyperactivity, emotional instability, and slightly lower IQ than normal hearing persons. They have poor language and communication skills and social adjustment problem (Eskay et al<sup>[3]</sup> and Ogundola<sup>[2]</sup>)

Raju and Rahamtulla<sup>[4]</sup> noted that social adjustment involves how the person reacts to their social problems and how they adapt or solve problems and other issues of their personal interest. However, Onuigbo and Eze<sup>[5]</sup> noted that if a pupil is not able to cope with the challenges and stressors in the school system they usually perform poorly academically. Confirming the foregoing assertions, Weiskopf et al<sup>[6]</sup> noted that pupils with language hearing impairment experience short attention span, poor comprehension, distraction, poor performance, hyperactivity, isolation from others, all of which exact negative influence on their personal-social well-being. These social adjustment challenges do not seem to be helped by the methods and strategies used in teaching pupils with language learning impairment.

It has been noted by Omeje and Ugwu<sup>[7]</sup> that teaching and learning are predominantly done through oral communication which involves 2 language skills: listening and speaking. This is the conventional teaching method (CTM) or the lecture method which is used in teaching pupils in normal classrooms that may have language hearing impaired students. This method tends to favor English learners without auditory problems and disadvantage pupils with language hearing impairment. This method may aggravate social adjustment challenges of problems with language hearing impairment.

It is based on the foregoing that this study investigated the effect of peer tutoring strategy on social adjustment of pupils with language hearing impairment. Peer tutoring is an evidence-based strategy used by teachers to help people achieve while also fostering collaboration in a non-threatening environment,<sup>[8]</sup> though research on its efficacy on social adjustment of pupils is scarce. According to the National Occupational Standards for Teaching and Learning (NOSTL),<sup>[9]</sup> those with language hearing impairment may have immature social skills and personality disorders or present challenging behaviors which may be influenced by peers who exhibit acceptable type of behavior by way of peer tutoring. It is based on these lacunae that this study investigated the effect of peer tutoring on social adjustment or pupils with language hearing impairment in Enugu State, Nigeria.

## 2. Hypotheses

The following hypotheses guided the study and were tested at 0.05 level of significance.

**H0<sub>1</sub>:** There is no significant difference in the mean social adjustment scores of pupils with language hearing impairment exposed to peer tutoring and those exposed to CTM.

**H0<sub>2</sub>:** There is no significant difference in the mean social adjustment ratings of male and female children with language hearing impairment.

## 3. Research method

### 3.1. Ethical approval

The study was conducted on the approval of the Faculty of Education Research Ethics Committee, University of Nigeria, Nsukka. All the participants also completed an informed consent form. The study also adhered to the ethical principles of WMA Declaration of Helsinki.<sup>[10]</sup>

### 3.2. Study design

This study adopted quasi-experimental research design. Specifically, pre-test, post-test non-equivalent control group design was used. The study was carried out in Ogbete Enugu and Oji River in Enugu State, Nigeria where the 2 special schools for the deaf that were used are located. One school served as treatment group while the other school served as control group.

### 3.3. Participants

Thirty English learners with hearing impairment in primary 5 from the 2 schools were used for the study. Thirteen of the English learners are men while 17 are women (Fig. 1).

### 3.4. Instrument for data collection

An instrument on social adjustment scale (SAS) was used to collect relevant data for the study. SAS was adapted from Children Adjustment scale developed by Santrock and Warshak.<sup>[11]</sup> The instrument comprised section A and B. Section A contains demographic information of the respondents while section B elicited information on social adjustment of English learners with language hearing impairment. The items of the instrument were rated on a 4-point rating scale of Very often (VO)=4, Often (O)=3, Sometimes (S)=2, and Never (N)=1. Three experts validated the instrument and reliability coefficient was determined to be 0.88 using Cronbach  $\alpha$ .

## 4. Development of instructional program

The researcher prepared 2 lesson plans. One was on peer tutoring teaching strategy while the other was on CTM or the Lecture method. For the peer tutoring strategy, its lesson plan was prepared based on information sourced from literature review. It was also done under the guidance of other experts in English language and special education. The researcher adhered strictly to the specific steps identified in the literature, such as presentation and discussion of the topics by the peer tutors, gathering of data by the tutors, exchange of ideas and sharing of experiences, reconstruction of knowledge and ideas from some initial concepts, direct rehearsals, competitive evaluation and posting of scores for the motivation of English learners.

## 5. Experimental procedure

A pre-test was conducted in which the questionnaire on SAS was administered to subjects in both experimental and control groups. During the treatment, 16 English learners from the intact class of the school for the experimental group were divided into 4 groups, with each group consisting of 4 English learners, one of whom was trained as a tutor. The group peer tutors introduced the teaching strategy stimulus to their group members and led

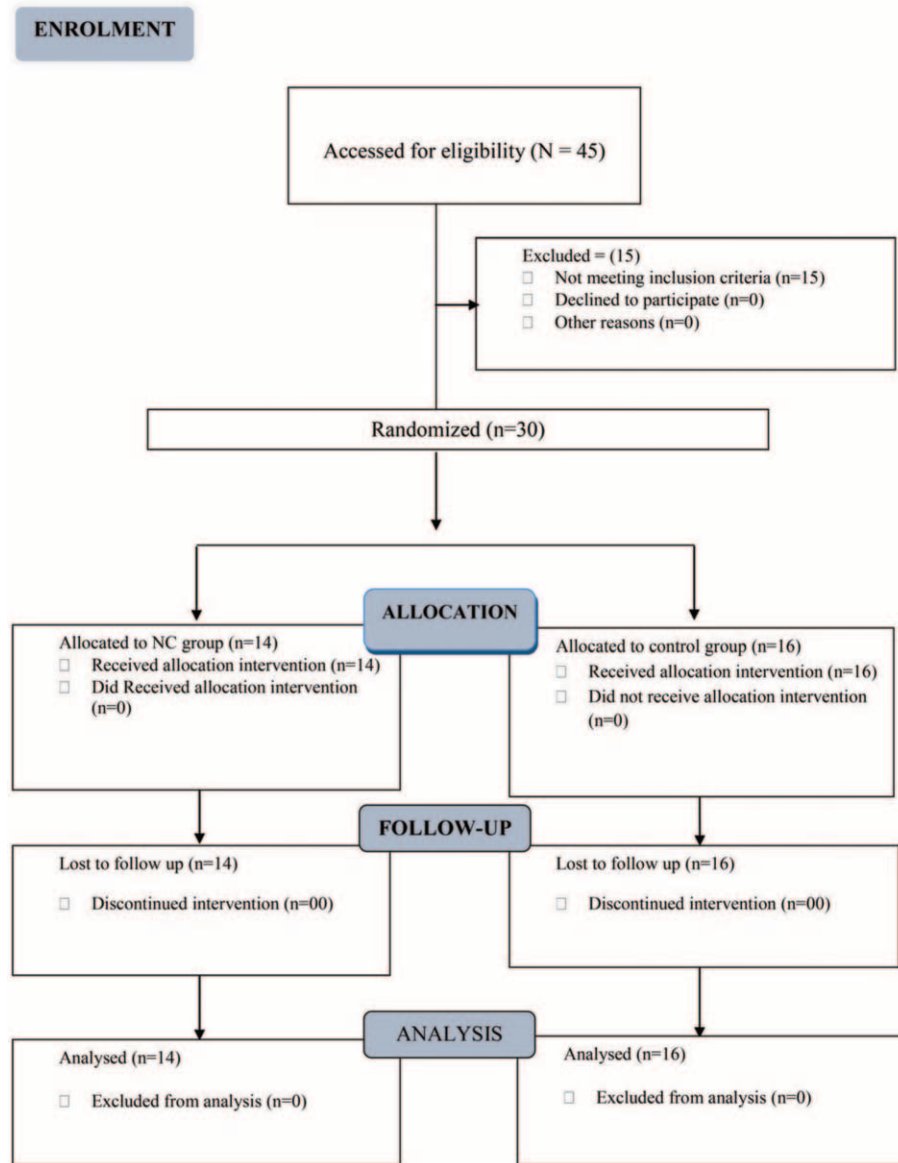


Figure 1. Flow chart.

their group through the sessions. They demonstrated to the tutees some simple approaches to break down difficult words in order to gain understanding so that they can increase reading comprehension achievement in the classroom as shown in the lesson plans. They also helped the tutees to gain enough knowledge on how to recognize patterns which made it easier for them to read difficult words. At the end of the experiment a post-test was conducted in both the experimental and control groups. Responses at this stage were scored which served as post-test score. Throughout the experiment measures were taken by the researcher to control extraneous variables that may likely have affected the conduct of the experiment and to ensure that any change in behavior was as a result of using peer tutoring teaching strategy.

In analyzing the data, analysis of covariance was used in testing all the hypotheses at 0.05 level of significance. Analysis of covariance analysis was used to compensate for any pre-existing

differences that existed between the experimental and control groups using pre-test and post-test scores.

## 6. Results

Result of the analysis in Table 1 shows that teaching strategy is a significant factor in pupils' social adjustment;  $F(1, 25) = 25.435, P = .000$ . Thus, the null hypothesis of no significant difference is rejected. This is because the exact probability value (.000) is less than the level of significance set at 0.05. Therefore, the researchers conclude that there is a significant difference in the mean scores on social adjustment of pupils with language hearing impairment exposed to peer tutoring and those exposed to the CTM.

Furthermore, Table 1 showed that gender is not a significant factor on pupils' social adjustment;  $F(1, 25) = 0.105, P = .749$ . Therefore, the null hypothesis was accepted because the

**Table 1**

**Summary of analysis of covariance (ANCOVA) of pupils with language hearing impairment exposed to peer tutoring and those exposed to the conventional teaching method.**

Source	Type III sum of squares	Df	Mean square	F	Sig.
Corrected model	2312.943 <sup>a</sup>	4	578.236	12.226	0.000
Intercept	1216.080	1	1216.080	25.712	0.000
PretestInt	704.021	1	704.021	14.885	0.001
Method	1202.990	1	1202.990	25.435	0.000
Gender	4.963	1	4.963	0.105	0.749
Method × Gender	0.279	1	0.279	0.006	0.939
Error	1182.423	25	47.297		
Total	82241.000	30			
Corrected total	3495.367	29			

exact probability level of .749 is greater than level of significance set at 0.05. The researcher therefore, concludes that gender is not a significant factor in the mean scores on social adjustment of male and female pupils with language hearing impairment.

## 7. Discussion and conclusion

The result of the study indicated that pupils with language hearing impairment exposed to peer tutoring adjusted socially more than pupils not exposed to peer tutoring. The result is in line with some earlier research findings that peer tutoring has been discovered to be very effective on pupils who are having language hearing impairment in the school system.<sup>[12,13,14]</sup> Höysniemi et al<sup>[15]</sup> concurred that peer tutoring is effective in enhancing attitude and behavior change of pupils with language hearing impairment. This statement agrees with Foerst et al<sup>[16]</sup> who opined that peers learn more from each other than pupils taught through single teaching model.

The result of the findings on also revealed that there is no significant difference in the mean social adjustment of mean scores of men and women. This indicates that the effect of peer tutoring on social adjustment of pupils with language hearing impairment is not as a result of being male or female pupils with language hearing impairment. This agrees with Adeoye,<sup>[17]</sup> who revealed that gender has no significant difference in the socialization process of pupils in primary school.

## Author contributions

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## References

- [1] Hardcastle M. Beating peer pressure your guide to teen advise. Calif Advice Book 2002;Published online.
- [2] Ogundola PI. Effects of peer tutoring strategy on academic achievement of senior secondary school students in technical drawing in Nigeria. *J Educ Soc Behav Sci* 2017;1–10. Published online.
- [3] Eskay M, Onu VC, Ugwuanyi LT, Eze MU. Effect of training teachers on the use of local sign language (LSL) on the academic performance of children with hearing impairment in social studies. *Except Child* 2012;14:169–77.
- [4] Raju MVR, Rahamtulla TK. Adjustment problems among school students. *J Indian Acad Appl Psychol* 2007;33:73–9.
- [5] Onuigbo LN, Eze UN. Home environmental factors as correlates of social adjustment of pupils with hearing impairment. *Except Child* 2012;12:284–98.
- [6] Weiskopf D, Weinberger B, Grubeck-Loebenstein B. The aging of the immune system. *Transpl Int* 2009;22:1041–50.
- [7] Omeje JC, Ugwu F. Relationship Between Sexual Adjustment Of Undergraduat Science And Techn.
- [8] Ikejiaku P, Ayegbemi S. Students' emotional imbalances in secondary schools in Enugu State Education zone. Unpublished B.ED Project. Department of Educational Foundations, Faculty of Education University of Benin; 2006.
- [9] Ojha AK, Mishra R. Altruism as a function of age and deprivation: An interactional study. *J Indian Acad Appl Psychol* 2014;40:310.
- [10] Obiyo NO, Udaya JC. Meeting the learning needs of children with hearing impairment in inclusive classroom in Nigeria. *Except Child* 2013;15:152–8.

- [11] Santrock JW, Warshak RA. Father custody and social development in boys and girls. *J Soc Issues* 1979;35:112–25.
- [12] Mba PO. *Fundamentals of Special Education and Vocational Rehabilitation*. 1995;Codat Publications,
- [13] National Occupational Standard for Supporting Teaching and Learning in Schools. National Occupational Standard for Supporting Teaching and Learning in Schools (2007);2014. Available at: [Www.NOSSTL.Org/Policy](http://www.NOSSTL.Org/Policy).
- [14] Ohagwu BN. *Effect of Peer Counseling on Academic Achievement of Secondary Schools in Enugu state*. Unpublished M.Ed Thesis. Department of Educational Foundations University of Nigerian, Nsukka; 2016.
- [15] Höysniemi J, Hämäläinen P, Turkki L. Using peer tutoring in evaluating the usability of a physically interactive computer game with children. *Interact Comput* 2003;15:203–25.
- [16] Foerst A, Beutner D, Lang-Roth R, Huttenbrink K-B, von Wedel H, Walger M. Prevalence of auditory neuropathy/synaptopathy in a population of children with profound hearing loss. *Int J Pediatr Otorhinolaryngol* 2006;70:1415–22.
- [17] Adeoye AO. *Impact of home types, religion and gender on adolescent social adjustment among Ogun State Secondary Schools Students in Nigeria*. *Niger J Guid Couns* 2009;14.