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A STUDY ON PERFORMANCE OF NORMAL HEARING AND HEARING IMPAIRED CHILDREN IN BENGALI SUBJECT



Kishore Kumar Saha ¹, Indranil Chatterjee ² & Saikat Das ³

¹Department of Education, Teacher Supervisor

²Department of Audiology, Lecturer (Speech & Hearing)

³Department of Education, Lecturer (Special Education)

ABSTRACT:

A sample of 30 normal hearing children (Mean age: 10.75 & SD: 0.785) and hearing impaired children (Mean age: 15.59 & SD: 1.289) in class- VI in regular and special schools were selected randomly for the present study. One topic from subject Bengali of the syllabus of STD-VI of West Bengal Board of Secondary Education was selected for teaching. To evaluate the performance, a teacher made test based on the selected topic was prepared and administered to normal hearing children and hearing impaired children in respective schools.

A statistical "t" test was applied to compare the performance. The results of the present study

show that the normal hearing children perform better than hearing impaired children in Bengali subject comprised with different types of questions. Relatively, the hearing impaired children perform better in objective type of questions and simple questions than average and complex questions.

KEY WORDS: Performance, Normal Hearing Children, Hearing Impaired Children, Bengali Subject, Simple Questions, Average Questions, Complex Questions, Objective Type of Questions, Short Answer questions, Teacher Made Test (TMT).



INTRODUCTION:

In India, education of hearing impaired children has a deep rooted history of more than 124 years. While celebrating the progress, the literacy of hearing impaired children remains a major concern for educators, parents and others. According to the NSSO report of 2003, six percent children in the educable age group of 5-14 years have speech and hearing problem. The literacy rate among them is 23.3 percent up to primary, 6.3 percent up to middle school and 4.4 percent up to secondary and above.

Hearing impairment interferes with the child's speech perception ability, which in turn results in delayed language and speech development (Curtiss, 1998). As language acquisition is an auditory phenomenon, hearing loss in children prevents them from acquiring and utilizing the language in their life for various purposes including education (Northern & Downs, 1984). This in turn affects the communication abilities of children (Bench, 1992). Hence, most of the hearing impaired children enrolled schools with a weak language foundation. The net outcome is that the majority of them face difficulties in reading and writing which in turn result in poor academic achievement (Catts & Kamhi, 1986). Grammatical errors frequently appear in their writing. They tend to reiterate words and phrases within a discourse and use more articles and nouns and fewer adverbs and conjunctions (Simmons, 1962; Myklebust, 1964). In addition to the syntax of written language, they exhibit difficulty with cohesion of ideas in writing (Yoshinaga-Itano, Snyder, & Mayberry, 1996a; 1996b).

One of the main impacts of hearing loss is on the individual's ability to communicate with others. Spoken language development is often delayed in hearing impaired children. Hearing loss and ear diseases such as otitis media can have a significantly adverse effect on the academic performance of children (Srikanth et.al, 2009). In hearing impaired children vocabulary develops more slowly and they learn concrete words more easily than abstract words. The gap between the vocabulary of normal hearing children and those with hearing loss widens with age. Hearing impaired children do not catch up without intervention and have difficulty understanding words with multiple meanings (ASHA, 2011).

The area of reading has been a major topic of research with normal-hearing as well as hearing-impaired children because the ability to read well is a prerequisite for most other aspects of academic education. It too involves the mastery of component skills and the use of interrelated processes that are not completely understood in the normal hearing children (Gibson & Levin, 1975).

Writing is one of the most complex and difficult tasks for all students - hearing impaired children and normal hearing children. At a basic level, writers must produce letters, words and sentences that are readable by an audience. In other words, they must know the conventions of spelling and punctuation and use appropriate vocabulary and syntactical structures. At a higher level, they must be able to select topics, plan and organize ideas and make decisions about the information to provide their audience (Powers & Wilgus, 1983). Studies examining the reading and writing abilities of deaf students indicate that, on the average, the written language produced by deaf high school students is only about 60% intelligible (Johnson & Kadunc, 1980) and the average deaf student leaves high school with a fourth grade reading level (Allen, 1986).

Research studies also shows that children's performance depends on many factors such as learning facilities, gender and age differences, etc. that can affect children performance (Hansen, 2000). The performance of the children is affected by communication skills; it is possible to see communication as a variable which may be positively related to performance of the children in open learning (AL- Mutairi, 2011). The guidance from the teacher also affects the children's performance. The guidance from the parents and the teachers indirectly affect the performance of the children (Hussain, 2006). The children's academic performance depends on a number of socio-economic factors like students' attendance in the class, family income, mother's and father's education, teacher-student ratio, presence of trained teacher in school, sex of the children and distance of schools (Raychauduri, Debnath, Sen & Majundra, 2010). The home environment also affects the academic performance of children's. Educated parents can provide such an environment that suits best for academic success of their children. The school authorities can provide counselling and guidance to parents for creating positive home environment for improvement in children's quality of work (Marzano, 2003).

Joseph (2003) examined factors influencing language performance of hearing impaired children. The objective of the study was (i) to develop a tool to assess the written language performance covering the grammatical aspect in Malayalam for hearing impaired children of upper primary (Std V, VI and VII) level. (ii) to compare the performance of children's using a hearing aid regularly and those who use it occasionally. (iii) to compare the performance of children's in private unaided, private aided and government schools for the hearing impaired. (iv) to compare the performance of hearing impaired children's in schools with class sizes up to ten and above. (v) to compare the performance of children's in a residential and non-residential set-up. In the initial stage of the study, the investigator collected spontaneous written language samples in Malayalam, from two hundred hearing impaired children studying in V, VI and VII classes, from eight schools of the hearing impaired, in the State of Kerala. The investigator collected 6000 sentences and assessed them thoroughly to identify the main grammatical errors, categorised and compiled them under ten major headings based on the most frequently repeated errors. Keeping in mind the major syntactic errors, an assessment tool was made, dividing them into ten subtests. Each subtest had ten questions and each question had four multiple choices. The children had to mark the letter of the correct answer from them. The results showed that regular use of a hearing aid, private schools (both aided and unaided), size of the class (up to ten students) and a non-residential set-up had a positive impact on the performance in language of the children.

Munge (2005) conducted a study on the types of classroom questions asked by special teachers of hearing impaired children with reference to children and subject related variables. The result of the study indicated that direct questions are the most frequently asked type of question used by the special teachers while teaching language lesson to the hearing impaired children in classrooms. Generally, direct questions are asked to assess the lower levels of learning particularly at knowledge level. The study lead to the conclusion that majority of the special teachers give a lot of emphasis on assessing the achievement of children's at lower levels of learning leaving aside the assessment of higher levels of learning achieved by these students.

Moore's (2001) investigate the effect of hearing loss on language and speech development of children who are deaf and hard-of-hearing. The results indicated that hearing loss significantly influences the language and speech development of children who are deaf and hard-of-hearing that negatively affects their academic achievement, social and emotional interaction and cognitive milestones.

Need:

All children with disability have a right to education. In the Biwako Millennium Framework (1993-2002), inclusive, barrier free and right based society is emphasised. The 86th Amendment of the Constitution of India ensures right to education to every child. In the past decade, education of children with disabilities has seen a paradigm shift from segregated education in separate schools to inclusive education in regular schools along with normal children. Currently, approximately 75% of hearing impaired children receive their education in local public schools (Karchmer & Mitchell, 2003). The literature revealed that they have problem in reading and writing also. So for successful implementation of inclusive education with refer to consideration of policy matters, legislation reforms, financial resources, human resources, infrastructural resources it is also mandatory to examine the performance of hearing impaired children particularly in the areas of literacy as compare to normal hearing children. So, to examine whether the performance of hearing impaired children on various type of questions will be better or less than normal hearing children specially in area of

language, a research based evidence is necessary. Thus, the study "The Performance of Normal Hearing and Hearing Impaired Children in Bengali Subject" has undertaken.

Objective:

- (i) To compare the performance of normal hearing children and hearing impaired children in simple questions (Objective and Short Answers type).
- (ii) To compare the performance of normal hearing children and hearing impaired children in average questions (Objective and Short Answers type).
- (iii) To compare the performance of normal hearing children and hearing impaired children in complex questions (Objective and Short Answers type).

Explanation Of Key Terms:

1. Performance: performance means the performance of normal hearing children and hearing impaired children on assessment using Teacher Made Test (TMT) in Bengali Subject. Performance will be measured in terms of the marks obtained based on Teacher Made Test (TMT) in Simple questions, Average questions and Complex questions (Objective and Short Answers type).
2. Normal Hearing Children: Normal hearing Children is those who had no problem in hearing, used oral-aural mode as mode of communication, had no specific learning difficulties or intellectual impairment.
3. Hearing Impaired Children : Hearing impaired children those who had hearing loss more than 60dB HL in the better ear had no other additional impairment, used oral - aural/total communication as mode of communication and had no specific learning difficulties or intellectual impairment.
4. Bengali Subject: Bengali subject means the subject Bengali from which one topic has been selected from the syllabus of Class - VI of West Bengal Board of Secondary Education.
5. Simple Questions: Simple questions mean those questions whose answer was directly related to text or answers were found directly from the text.
6. Average Questions: Average questions mean those questions, in which the children need to assimilate, abstract and interpret the question with the text.
7. Complex Questions: Complex questions mean those questions, in which the children need to apply their own thinking with help of previous knowledge.
8. Objective Type of Questions: In this present study Objective type of questions mean those questions which demands a fixed correct response in form of put tick mark, fill in the blanks and matching with correct alternatives.
9. Short Answer Questions: Short answer questions are open-ended questions that require children to create an answer by own. The answer of a short answer question is usually short, in form of one word to a few lines.
10. Teacher made test (TMT): Teacher made test is a tool to measure performance of the normal hearing children and hearing impaired children.

Hypotheses:

- (i) There exists a significant difference in performance of the normal hearing children and hearing impaired children in simple questions.
- (ii) There exists a significant difference in performance of the normal hearing children and hearing impaired children in average questions.
- (iii) There exists a significant difference in performance of the normal hearing children and hearing

impaired children in complex questions.

Method:

Research Design: A post test research design was followed

Sample: A sample of 30 normal hearing children (Mean age: 10.75 & SD: 0.785) and hearing impaired children (Mean age: 15.59 & SD: 1.289) studying in class- VI in regular and special schools from Kolkata and Howrah area were selected randomly for the present study. The Selected hearing impaired children met the criteria of

- (I) Hearing loss more than 60 dB HL in the better ear
- (ii) Study in sixth standard in special school
- (iii) Oral - aural/total communication as mode of communication
- (iv) no specific learning difficulties or intellectual impairment and
- (v) Bengali as medium of class room instruction.

The Selected hearing impaired children met the criteria of,

- (I) oral - aural as mode of communication
- (ii) Study in sixth standard in regular school
- (iii) No specific learning difficulties or intellectual impairment (iv) Bengali as medium of class room instruction.

TOOLS: To compare the performances of normal hearing children and hearing impaired children, a teacher made test was prepared and developed by the researcher. The test was developed based on the topic "Natun Da" retrieved from the novel "Srikanta" by Sarat Chandra Chattopadhyay. The test was prepared for assessing the performance of normal hearing children and hearing impaired children in simple, average and complex questions.

The blueprint based on the objective

Objectives	Simple Question			Average Question			Complex Question			Total
	OTQ	SAQ	Total	OTQ	SAQ	Total	OTQ	SAQ	Total	
"Natun Da"	2	2	4	4	4	8	4	4	8	20
	(1mx2)	(2mx1)		(1mx 4)	(2mx2)		(1mx4)	(2mx2)		

Based on blue print, the different types of questions were edited with simple understandable language. No options were provided to the children while answering different type of questions. Validity of the teacher made test (TMT) was drawn with the help of 7 judges (Special Teacher) having more than 2 years experience in their field of education of hearing impaired children.

Preparation of scoring key and marking scheme:

Marking scheme for objective questions (Simple, average & complex type) were prepared by giving emphasis on, if the children give correct answer, they get 1 mark, for incorrect answer they get 0 marks and for correct concept but spelling mistake, they get 0.5 marks. Marking scheme for short answer questions (Simple, average & complex type) were prepared by giving emphasis on, if the children give correct answer, they get 2 marks, for incorrect answer they get 0 marks and for correct concept but spelling mistake, they get 1 mark.

Procedure for Data Collection:

Steps	Activity
I.	Bengali medium special schools and regular schools were contacted telephonically and personally for permission of data collection.
II.	The letter and schedule for data collection were prepared and sent to the respective schools.
III.	On confirmation, the researcher personally visited the schools to meet the class teachers and discussed the content for teaching.
IV.	As per the schedule, the researcher taught the selected content to both to normal hearing children and hearing impaired children first, then administered the test.

The answer scripts of the normal hearing children and hearing impaired children were evaluated as per prepared scoring key and marking scheme.

Results:

The data obtained was processed for analysis. The analysis of data was carried out to test the formulated hypothesis based on the above mentioned objectives through 't' - test.

Based on the objective, the hypothesis formulated was 'there exists a significant difference in performance of the normal hearing children and hearing impaired children in simple questions'.

"t" test analysis: Performance in simple questions

Variables	N	Mean	SD	't' Value	'p' Value
Performance of normal hearing children in simple questions	30	3.15	0.800	2.397	0.009
Performance of hearing impaired children in simple questions		2.60	0.968		

The mean of the obtained scores of normal hearing children based on simple questions from the selected Bengali topic is 3.15 and hearing impaired children is 2.60. The 't' value of the obtained scores is 2.397. The corresponding 'p' value is 0.009. Since the value is less than 0.05, the hypothesis formulated was 'there will be a significant difference in performance of the normal hearing children and hearing impaired children in simple questions' is retained. The performance of normal hearing children in simple questions were greater than the performance of hearing impaired children.

Based on the objective, the hypothesis formulated was 'there will be a significant difference in performance of the normal hearing children and hearing impaired children in average questions'.

"t" test analysis: Performance in average questions

Variables	N	Mean	SD	't' Value	'p' Value
Performance of normal hearing children in average questions	30	6.40	1.404	6.808	0.000
Performance of hearing impaired children in average questions		3.91	1.420		

The mean of the obtained scores of normal hearing children based on average questions from the selected Bengali topic is 6.40 and hearing impaired children is 3.91. The 't' value of the obtained scores is 6.808. The corresponding 'p' value is 0.000. Since the value is less than 0.05, the hypothesis formulated was 'there will be a significant difference in performance of the normal hearing children and hearing impaired children in average questions' is retained. The performance of normal hearing children in average questions were greater than the performance of hearing impaired children.

Based on the objective, the hypothesis formulated was 'there will be a significant difference in performance of the normal hearing children and hearing impaired children in complex questions'.

"t" test analysis: Performance in complex questions

Variables	N	Mean	SD	't' Value	'p' Value
Performance of normal hearing children in complex questions	30	4.63	1.978	3.645	0.000
Performance of hearing impaired children in complex questions		3.15	1.026		

The mean of the obtained scores of normal hearing children based on complex questions from the selected Bengali topic is 4.63 and hearing impaired children is 3.15. The 't' value of the obtained scores is 3.645. The corresponding 'p' value is 0.000. Since the value is less than 0.05, the hypothesis formulated 'there will be a significant difference in performance of the normal hearing children and hearing impaired children in complex questions' is retained. The performance of normal hearing children in complex questions were greater than the performance of hearing impaired children.

Conclusion:

The main aim of the present study was to compare the performance of normal hearing children and hearing impaired children in Bengali subject. One topic from subject Bengali from the syllabus of class - VI of West Bengal Board of Secondary Education was selected. The answer sheets of children were evaluated as per scoring key and marking scheme. A statistical "t" - test was applied. The performance of hearing impaired children is found best only in objective type of questions (simple, average & complex types) as compare to different types of questions. The performance of normal hearing children in all types of questions is found better than hearing impaired children.

Recommendations:

(i) Similar study can be carried out by comparing the achievements of hearing impaired children at higher level of learning with their hearing peers and student with other disabilities. (ii) Similar study can be carried out by comparing the performance of normal hearing children and hearing impaired children in inclusive setup. (iii) Similar study can be carried out on various subjects like English, Mathematics, Geography, History etc. (iv) Similar study can be carried out on to compare the

performance of hearing impaired children and cochlear implant children.

Limitation:

(i) The present study was carried out with a small sample size i.e. with 30 normal hearing children and 30 hearing impaired children. (ii) The samples were selected from only class - VI. The children were selected from the regular and special school situated in Kolkata and Howrah. (iii) The present study measured performance of normal hearing children and hearing impaired children only in Bengali subject. (iv) The teacher made test as a tool was developed based on one topic only.

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