

Full Length Research

Efficacy of Mediated Learning Experience (MLE) Instructional Approach on the Vocabulary Skills of Pupils with Prelingual Hearing Impairment in Bauchi State

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This study examines the effect of mediated learning experience approach on the vocabulary skills of pupils with pre-lingual hearing impairment in Bauchi State. The pre-test post-test control group research design was adopted for the study. The sample for the study consist 12 primary five pupils with pre-lingual hearing loss in Special Education Center, Bauchi, Bauchi State. Purposive sampling technique was used to select the sample for the study. Four instruments were used for data collection and these include the following: Umolu Informal Reading Inventory (UIRI), Visual Skill Test (VST), Writing Skill Test (WST) and the Reading Skill Test (RST) A content validity index was for the instrument was obtained thus: for UIRI was 0.71, VST was 0.71, WST was 0.71 and RST was 0.71. Descriptive and inferential method of data analysis and Statistical Package for Social Sciences (SPSS) version was used to analyze the data. Finding of the study revealed a positive significance difference in the visual, writing and reading vocabulary skills of pupils with prelingual hearing impairment exposed to mediated learning experience approach. It is therefore recommended that mediated learning experience approach should be adopted by teachers of pupils with prelingual hearing impairment as an effective approach that can be used to enhance effective vocabulary skill acquisition of pupils with prelingual hearing impairment.

Keywords: Vocabulary Skills, Pre-lingual hearing Special Education, writing and reading

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INTRODUCTION

Pupils with prelingual hearing impairment have difficulties in learning new vocabulary due to the onset of their impairments. These difficulties in acquiring vocabulary skills by pupils at the primary level of education have been a major concern to teachers of pupils with prelingual hearing impairment a well as other relevant stakeholders. Hearing impairment is the generic term used to describe any level of hearing loss, ranging from mild to profound (Diefendorf, 2001) Hearing impairment prevents an individual from totally receiving sound through the ear. If the loss is mild, the person has difficulty hearing faint or distance speech. According to the National Research Council(2004), prelingual hearing loss is defined as hearing loss that occurs before the development of speech and language skills typically before two years of age and cab be congenital or have delayed onset.

It has been noted that, lack of understanding of instructional task as a result of in adequate visual, writing and reading

vocabularies have adversely affected pupils' reading performance. Stephen (2005) asserted that vocabulary can be acquired incidentally through indirect exposure to words and intentionally through explicit instruction in specific words and word learning strategies. Vocabulary can be acquired when a child has the knowledge of a word which does not only imply a definition, but also implies how that word fits into the world.

Pupils with pre-lingual hearing impairment have problem with visual vocabulary, writing vocabulary and reading vocabulary. Visual vocabulary relates to the word a child with pre-lingual hearing impairment can see through vision, writing vocabulary refers to the words pupils with pre-lingual hearing impairment can write while reading vocabulary refers to the words pupils with pre-lingual hearing impairment read correctly. Therefore, vocabulary is an essential skill for learning to read and write, and vocabulary becomes necessary when students are reading to learn across the Core Curriculum Content Standards (CCCS) (Barlor, 2014).

Mediated learning experience is a quality of human environmental interactions (sign language) as a pedagogical model for the shaping of cognition, cultural, social and media transmission of children with hearing impairment (Mentis & Dunn-Berntein, 2008). Greenbeg (2000) opined that when pupils with pre-lingual hearing impairment are being introduced to mediated learning as a strategy of teaching writing using the daily school time table, it will improve both pupils and teachers interaction and also further improve children's eagerness toward writing correct sentences when given story passages. In his assertion about Mediated Learning Experience, he said there is a distinction between two learning modalities: Firstly, direct learning refers to learning that occurs through direct interaction between the learners and some environmental learning factors. Secondly, mediated learning is where the direct learning is changed by having the mediator interceding between learners and his environmental. That these modalities help learners interact more efficiently and effectively with learning situation.

According to Satterfield-Nash, Umrigar and Lanzieri, (2021), limited data are available on etiology and identification of prelingual hearing impairment and it has been observed by the researcher that few studies have been carried out on pre-lingual hearing impairment and to reading problems. Also, in spite of the increased attention being directed to professionals, teachers in the field of special education and other stakeholders to curb these menaces at the primary school levels in Jos as well as to enhance effective vocabulary skill acquisition of pupils often ends in comatose. It is on this backdrop that the researcher intends to examine the effects of mediated learning experience on vocabulary skill performance of pupils with pre-lingual hearing impairment Bauchi State.

LITERATURE REVIEW

Vocabulary

Vocabulary is a set of familiar words within a person's language which are usually developed with age, serves as useful and fundamental tool for communication and acquiring language. Vocabulary is the first and foremost important step in language acquisition. In a classroom where students are not finding themselves comfortable with second language, learning can be made interactive and interesting with the introduction of appropriate vocabulary exercises. The National Reading Panel (2008) recommended using a variety of direct and indirect methods of vocabulary instruction in Junior Secondary Schools. According to this National Reading Panel, explicit instruction of vocabulary is highly effective. In order to develop students reading, they should be explicitly taught both specific words and word-learning strategies to deepen their knowledge of word meanings. Vocabulary instruction is rich in contexts and is being provided by authentic texts rather than in isolated vocabulary drills and also produces robust vocabulary learning. However, such instruction often does not begin with a definition, but for the ability to give a definition is often the result of knowing what the word means. A rich and robust vocabulary instruction goes beyond definitional knowledge because it gets students actively engaged in using and thinking about word meanings and in creating relationships among words.

Mediated Learning Experience

Mediated learning experience is a quality of human environment interaction (sign language) for shaping of human cognition in both cultural and social transmission. In Mediated learning experience there is an interaction between the expressor and receptor facilitated by language which helps pupils with pre-lingual hearing impairment (learner) to interact more effectively as the mediator interprets learner's responses. As asserted by Felix (2011) a mediated learning experience approach when properly used, could equip children with pre-lingual hearing impairment the ability to write a word correctly and with less teachers guidance as well as enhances pupils ability to generalize relationships between letters in a given passage.

Moreover, Mediated Learning Experiences are very useful for teachers because they allow them to assess students'

conceptualization capabilities, make students' cognitive structures come to light and clearly and efficiently show the elements that support students in the fulfillment of their potential. Following, are some of the most significant implicit goals of the Instrumental Enrichment: a) promote learning in an engaging and stimulating way; b) strengthen insufficient cognitive functions (we all have them!); c) increase self-esteem and self-motivation to complete tasks; d) encourage people to talk about their feelings by creating suitable occasion; e) allow people to experience that their answers are not necessarily "right" or "wrong," but that sometimes alternative solutions are possible, based on the criterion we adopt, the objective we want to reach, the point we start from, etc. Often, we observe individual strategies that can be compared to the strategies adopted by someone else: such a comparison can result in mutual enrichment; f) develop self-reflection strategies to lead people into seeing themselves as active promoters of their own experiences rather than being passive agents; g) know oneself to know where to go in the world, look for connections between concrete elements and symbolical aspects: where am I, where did I come from, where do I want to go; h) provide tools and resources to engage everyone without forcing them, and show doors that open on possible paths everybody can follow according to their increasing, constantly changing ways, thanks to the Mediator's support.

METHODOLOGY

The pre-test post-test control group research design was adopted for the study. The sample for the pilot study consist only 12 primary five pupils with pre-lingual hearing loss in Special Education Center Bauchi, Bauchi State drawn from the population of the pupils stated above using purposive sampling technique. The researcher assigned the pupils into experimental and control groups using simple stratified sampling technique. The instruments used for the study. Four instruments were used for data collection in the study. These include the following: Umolu Informal Reading Inventory (UIRI), Visual Skill Test (VST), WritingSkill Test (WST) and the Reading Skill Test (RST)A content validity index was obtained thus: for UIRI was 0.71, VST was 0.71, WST was 0.71 and RST was 0.71. The descriptive and inferential method of data analysis was used for this study. More so the Statistical Package for Social Sciences (SPSS) was used to analyze data.

OBJECTIVES

- a) To determine the visual skill level of pupils with pre-lingual hearing impairment in the experimental and control groups before intervention?
- b) To ascertain the writing skill level of pupils with pre-lingual hearing impairment in the experimental and control groups before intervention?
- c) To ascertain the reading skill level of pupils with pre-lingual hearing impairment in the experimental and control groups before intervention?

RESULTS

Research Question One: What is the visual skill level of pupils with pre-lingual hearing impairment who are in experimental and control groups before intervention?

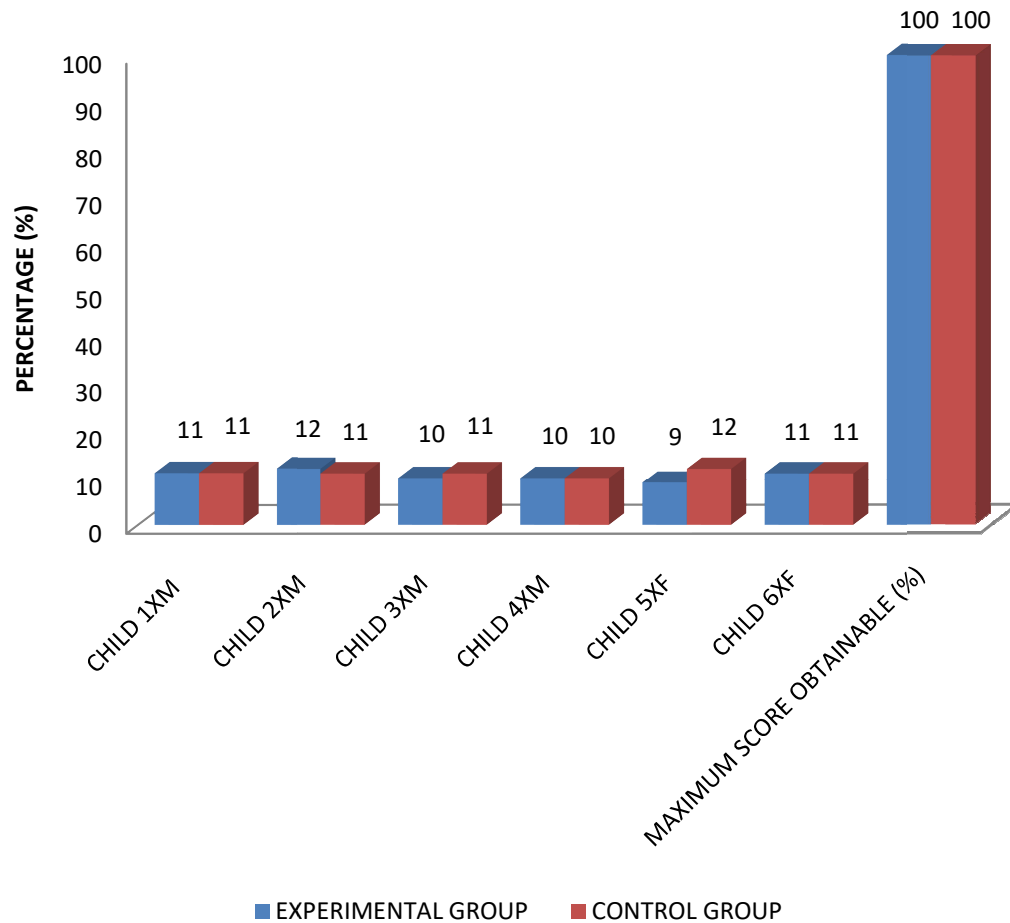


Figure 1: Bar Chart showing the Visual Skill Level of Pupils with Pre-Lingual Hearing Impairment in Experimental and Control Groups Before Intervention

In figure 1 above, the qualitative analysis of the pre-test performance of the pupils for both the experimental and control groups was visually showed in the bar graph. Generally, pupils with pre-lingual hearing loss who are in experimental and control groups had low scores in the skill tested and they were at the same level before intervention.

Research Question Two: What is the writing skill level of pupils with pre-lingual hearing impairment who are in experimental and control groups before intervention?

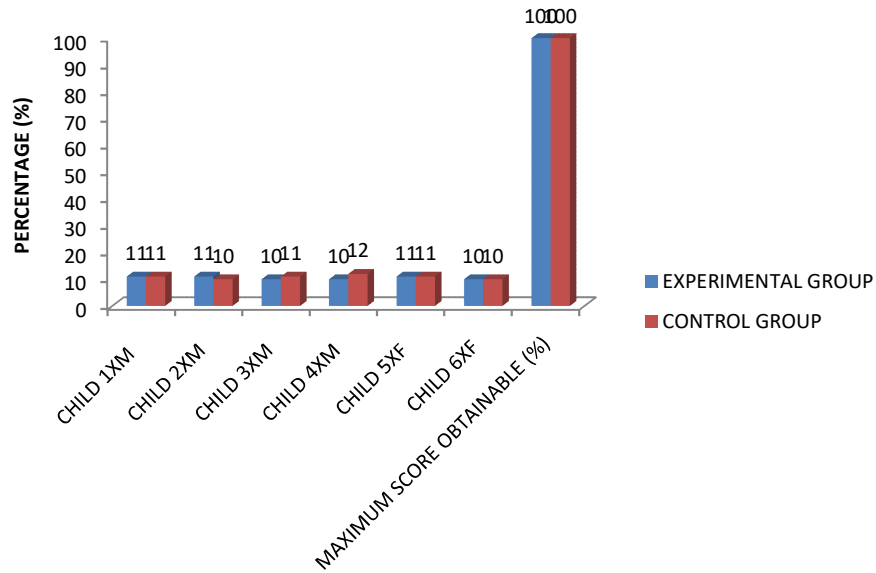


Figure 2: Bar Chart showing the Writing Skill Level of Pupils with Pre-Lingual Hearing Impairment Experimental and Control Groups Before Intervention

The qualitative analysis of the pretest performance of the pupils for both the experimental and control groups was visually showed in the bar graph above. Generally, pupils with hearing impairment who are in experimental and control groups had low scores in the skill tested and they were at the same level before intervention.

Research Question Three: What is the reading skill level of pupils with pre-lingual hearing impairment who are in experimental and control groups before intervention?

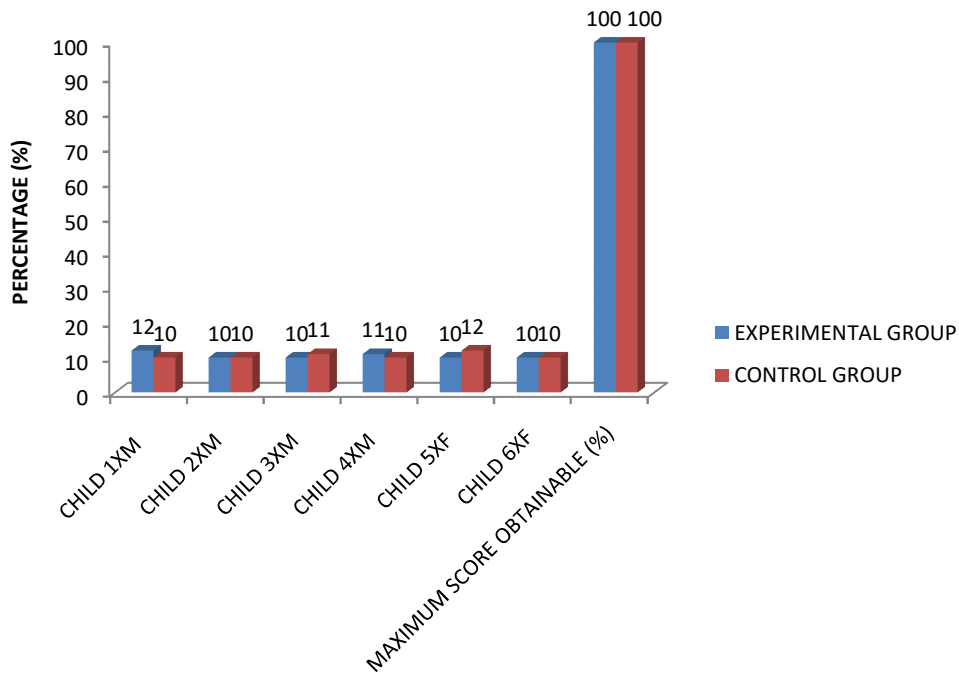


Figure 3: Bar Chart showing the Reading Skill Level of Pupils with Pre-Lingual Hearing Impairment in Experimental and Control Groups before Intervention

The qualitative analysis of the pretest performance of the pupils for both the experimental and control groups was visually showed in the bar graph above. Generally, pupils with hearing impairment in experimental and control groups had low scores in the skill tested and they were at the same level before intervention.

Hypothesis One: There is no significant difference in visual skill mean scores of pupils with pre-lingual hearing impairment between those who are in experimental and control groups after exposure to treatment.

Table 1: Posttest Gain Scores in Visual Skill Performance of Pupils with Pre-Lingual Hearing Loss after Exposure to Treatment

| GROUPS | N | \bar{X} | SD | df | t_{CaL} | t_{TAB} | Sign. Lev. |
|--------------|---|-----------|-------|----|-----------|-----------|------------|
| EXPERIMENTAL | 6 | 58.50 | 6.70 | 10 | 3.78 | 2.460 | .001 |
| CONTROL | 6 | 33.00 | 09.08 | | | | |

P < .005

Table 1 above is the detailed tabulation of the visual skill performance for both experimental and control group. The mean and standard deviations of post-tests were computed and differences between means were analyzed by t-test for independent samples. From the statistical tables, the t-test calculated is 3.78 while the t-critical value is 2.460 with the corresponding P-value of <0.005. The researcher therefore concludes that there is a significant difference between visual skill performance of pupils with pre-lingual hearing loss in experimental and control group since the t-calculate of 3.78 is greater than the t-critical value of 2.460. Therefore, using mediated learning experience on visual skills of pupils with pre-lingual hearing impairment in special education center was successful. Thus, the null hypothesis which states that there is no significant differences in the visual skill mean scores of pupils with pre-lingual hearing impairment between those who are in experimental and control groups after exposure to treatment is not accepted while alternative H_0 accepted.

Hypothesis Two: There is no significant difference in writing skill mean scores of pupils with pre-lingual hearing impairment between those who are in experimental and control groups after exposure to treatment.

Table 2: Analysis of Posttest Scores in Writing Skill Performance of Pupils with Pre-Lingual Hearing Impairment

| GROUP | N | \bar{X} | SD | df | t_{CaL} | t_{TAB} | Sign. Lev. |
|--------------|---|-----------|-------|----|-----------|-----------|------------|
| EXPERIMENTAL | 6 | 54.72 | 10.26 | 10 | 3.88 | 2.460 | .003 |
| CONTROL | 6 | 33.40 | 5.36 | | | | |

P < .005

Table 2 above is the detailed tabulation of the writing skill performance for both experimental and control group. The mean and standard deviations of post-tests were computed, differences between means were analyzed by t-test for dependents samples. From the statistical tables, the t-test calculated is 3.88 while the t-critical value is 2.460 with the corresponding P-value of <0.005. The researcher therefore concludes that there is a significant difference between writing skill performance of pupils in experimental and control group since the t-calculate of 3.88 is greater than the t-critical value of 2.460. Therefore, using mediated learning experiences to improve reading skill performance of pupils with hearing impairment in special education center is effective. Thus, the null hypothesis which states that there is no significant difference between the writing skill mean scores of pupils with pre-lingual hearing impairment between those who are in experimental and control groups after exposure to treatment is not accepted while alternative H_0 accepted.

Hypothesis Three: There is no significant difference in reading skill mean scores of pupils with pre-lingual hearing impairment between those who are in experimental and control groups after exposure to treatment.

Table 3: Posttest Mean Scores in Reading Skill Performance of Pupils with Pre-Lingual Hearing Impairment in Experimental and Control Group

| GROUP | N | \bar{X} | SD | df | t_{CaL} | t_{TAB} | Sign. Lev. |
|--------------|---|-----------|-------|----|-----------|-----------|------------|
| EXPERIMENTAL | 6 | 65.55 | 09.21 | 10 | 4.38 | 2.460 | .000 |
| CONTROL | 6 | 30.55 | 5.58 | | | | |

P < .005

Table 3 presents a detailed tabulation of the reading skill performance for both experimental and control group. The mean and standard deviations of post-tests were computed, differences between means were analyzed by t-test for independent samples. From the statistical tables, the t-test calculated is 4.38 while the t-critical value is 2.460 with the corresponding P-value of <0.005. The researcher therefore concludes that there is no significant difference between reading skill performance of pupils with pre-lingual hearing loss in experimental and control group since the t-calculated of 4.38 is greater than the t-critical value of 2.460. Therefore, using mediated learning experience strategies to improve vocabulary skill performance of pupils with pre-lingual hearing loss in special education center is effective. Thus, the null hypothesis which states that there is no significant difference in reading skill mean scores of pupils with pre-lingual hearing impairment between those who are in experimental and control groups after exposure to is not accepted while alternative H_0 is accepted.

DISCUSSION OF FINDINGS

The study revealed a significant difference between the posttest mean scores in visual skill performance of pupils with pre-lingual hearing impairment in experimental and control group. This was ascertained by mean (58.50), SD (6.70) of experimental group against the control group with a mean of (33.00), SD (09) where the degree of freedom of 10 and then to ascertain that t-calculated table value of 3.78 was higher than the t-critical value of 2.460 with $p=.005$ which confirmed that there is a significant difference between the posttest mean scores of the two groups specifically pupils with pre-lingual hearing impairment who are exposed to treatment. In supporting this finding, Stahl (1999) emphasized that using mediated experiences for pupils with pre-lingual hearing impairment early enough could enhance the children's visual explanation of a given passage.

The study further revealed that there is a significant difference between the posttest mean scores of writing skill performance of pupils with pre-lingual hearing impairment in experimental and control group. This is ascertained by mean (54.72), SD (10.26) of experimental group against the control group with a mean of (33.40), SD (5.36) where the degree of freedom of 10. In addition, the finding of the study confirmed that t-calculated table value of 3.88 was higher than the t-critical value of 2.460 with $p=.0003$ which means there is a significant difference between the posttest mean scores of the two groups specifically pupils with pre-lingual hearing impairment in the experimental group.

Supporting the findings, Borsun (2019) pointed out that if teachers teaching children with hearing impairment acquaint themselves with the rudiments of teaching mediated learning experience approach as early as possible, it will enable them to become more familiar with any child who has a writing problem. Moreso, pupils with pre-lingual hearing loss write their own sentences from a passage to enhance the learning of vocabulary easier and accurately. Furthermore, Greenberg (2000) in agreeing to this finding, said that when mediated learning experience is being used as an approach, teaching of writing is easily accomplished. That as the children struggle to learn how to write correctly, vocabulary problems are conveniently overcome.

The study further revealed a significant difference between the posttest mean scores of reading performance of pupils with pre-lingual hearing impairment in experimental and control group. This confirms the mean (65.55), SD (9.21) of experimental group against the control group with a mean of (30.55), SD (6.58) where the degree of freedom of 10 and also the study ascertained that t-calculated table value of 4.38 was higher than the t-critical value of 2.460 with $p=.005$ which means there is a significant difference between the posttest mean scores of the two groups specifically of

pupils with pre-lingual hearing impairment in the experimental group. Supporting the findings, Smith (2000) pointed out that as pupils with pre-lingual hearing impairment are being encouraged through the use of mediated learning instruction, it encourages their reading activities. Therefore, mediated learning experience is a more practical oriented approach that allows pupils with hearing impairment the exploration of reading activities.

CONCLUSION

The study revealed that the mediated learning experience is an effective approach that can be used to enhance effective vocabulary skill acquisition of pupils with prelingual hearing impairment. The study revealed that there is a positive significance difference in visual, writing and reading vocabulary skills of pupils with prelingual hearing impairment exposed to mediated learning experience approach.

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