

TIME CONCEPTS IN PRIMARY SCHOOL DEAF CHILDREN

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This paper studied the time concept in primary school deaf children. It was a pre-test and post-test design. Results indicated significant differences in time concepts of deaf and normal primary school students.

INTRODUCTION

The issue of time focuses upon the experience of past, present, future, simultaneity and duration. It is also possible to divide the question of time into two complementary concepts : (1) Time as an order of events or as relation of the type 'now', 'earlier', 'later' and (2) Time as duration or as the experience of the measure of time. The development of concepts of time is an abstract mental process involving reasoning. Without speech, the reasoning powers of the deaf are stunted. The deaf children use sign language which makes the learning of time concepts even more difficult. The vocabulary of the deaf children is limited. They only understand the words for which there are equivalent signs. The deaf children with sign language have limited exposure to conversational situation. The learning of time depends on memory and retention. The deaf children cannot retain what they learn for a long time. Without hearing the deaf children are deprived from their direct experience with the environment and input from others which are essential in the development of concepts of time in children.

REVIEW OF RELATED LITERATURE

Studies of deaf children's more advanced conceptual and reasoning abilities of time are less common. This may be due to the difficulty in studying the thought and reasoning processes of deaf children who may not understand task instructions and researchers who may not understand the deaf children they test. It has been found that the deaf children did not understand the notions of temporal sequence and duration of time intervals and so were prevented from thinking and planning for the future. In the deaf children, the understanding of time and related concepts is inadequate, incomplete and often virtually non-existent. Levin (1984) studied a total of 630 boys and girls from kindergarten to second grade who were asked to compare durations that differ in beginning times with those that differ in ending times. Possible sources of children's failure to integrate beginning and end points when comparing durations were discussed. Byholt (1997) reviewed the literature on how and when children acquire temporal concepts in the context of the acquisition of time concepts by deaf children. The stages at which children acquired concepts of clock, calendar, historical time, and chronology, and effects of language acquisition were discussed. A more formal structure of temporal concepts in the curriculum was recommended. Robert and Jay (1975) conducted six experiments in which deaf and hearing subjects decided the temporal order of events in picture series and in sentences. The deaf subjects, 8 and 11 years old, performed as well as hearing children on a nonverbal picture sedation task. Both deaf and hearing subjects also described most picture series in the natural left-to-right order in which they were shown, and identified the left-hand picture in most series as happening first and the right-hand picture as happening last. In most respects, the deaf children's linguistic performance resembled that of much younger hearing children. Two major results were that deaf children generally used a sequence of simple sentences to describe the events shown in a picture series, and responded to most multiple-clause sentences presented as though the events being described had occurred in the order they were mentioned.

OBJECTIVES

To study the development of time concepts in primary school deaf children in comparison to hearing children of their own age group.

To study the effect of intervention on primary school deaf children in the development of time concepts.

To study the difficulties involved in forming the time concepts by the primary school deaf children.

METHOD

Sample

Purposive sampling technique was used to select the sample. The sample consisted of deaf children and hearing children in the age group of 6-11 years drawn from the different primary schools of Mysore city. The size of the sample was 200 out of which 100 were deaf children.

Tool

Test on basic time concepts for primary school children developed by the investigator was used. The test consisted of 25 items. The children had to fill in the blanks or put a tick mark to the right answer. Questions regarding 'yesterday' 'tomorrow', 'now', 'earlier', 'later', the names of days, months, counting years (in relation to before-after concept) date, week were given.

Procedure

The study was experimental in nature with pre-test post-test design. The investigator visited the different primary schools of Mysore city selected for the study for the collection of data. The test on basic time concepts for primary school children was administered to both deaf children and hearing children as pretest. The pretest helped to know the difficult areas in time concepts for both deaf and hearing children. The deaf children and hearing children were divided into experimental group and control group. The experimental group consisted of 100 children out of which 50 were deaf children and the remaining 50 were hearing children, similarly the control group also consisted of 100 children out of which 50 were deaf children and remaining 50 were hearing children. Intervention was given only to experimental group for six months for both the groups of deaf and normal. The control groups of deaf and hearing children were exposed to regular classroom teaching. After the intervention, again the test on basic time concept was administered as post test.

ANALYSIS AND DISCUSSION

The 't' test was used for the analysis of the data. There was a significant difference in the development of time concepts between primary school deaf children and primary school hearing children, as the value of 't' in pretest was 2.762 significant at 0.01 level and in post test the value of 't' was 2.84, significant at 0.01 level. The hearing children learnt the time concepts easily and rapidly than the deaf children. Time is an abstract concept that can be particularly difficult for deaf children to understand. Learning to tell time and understanding the concept of time is actually different, deaf children may memorise how to tell time without actually understanding the concept of time. It is important to cultivate attitudes, environments, and techniques that enable the deaf children to learn concepts all day long. It is essential that they have many opportunities every day to make up for what they miss due to limited or distorted hearing. The intervention was meaningful and effective not only for deaf children but also for hearing children. 't' test was used to find the difference in performance after intervention between the experimental and control groups of both deaf and hearing children. For deaf children, the value of 't' was 7.926 significant at 0.01 level and for hearing children the value of 't' was 10.700 significant at 0.01 level. This means that the performance of the experimental groups of both deaf and children with hearing were better than the control groups of both the deaf and hearing children. The deaf got benefited by the multisensory experiential learning. During intervention the investigator observed that the following difficulties were faced by the deaf children in forming the time concepts. The deaf children took more time to respond to abstract time concepts than normal children. They had difficulty in (a) describing the abstract time concepts and in applying them to new situations, (b) separating symbols from their images, and (c) dealing with abstractions as they have little

opportunity to process stimuli that were out of their visual proximity. They had the inability to attend to stimuli for a sufficient length of time. For the deaf children, the simple time concepts had to be concretised.

CONCLUSION

The poor time concepts among the deaf children were not due to language defects rather it can be concluded that since the deaf children were poor at abstract reasoning they could not develop the concepts of time on par with the normal children.

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