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A STUDY ON THE PROBLEM SOLVING ABILITY OF VISUALLY IMPAIRED AND SIGHTED STUDENTS

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ABSTRACT

The present study was conducted on visually impaired and sighted students in relation to their problem solving ability. A total of 100 visually impaired and sighted students were selected randomly from Chandigarh, Panipat and Karnal district participated in the present study. The't' test was used to find out the differences between the visually impaired and sighted students on their problem solving ability. The findings of the present study clearly indicate that the sighted students are better in problem solving ability than the visually impaired students.

INTRODUCTION

A human being becomes a complete man through the process of education. The process of education continues from birth to death. Education means, the harmonious development of all the powers of a human being physical, social, intellectual, aesthetic and spiritual (UNESCO). So, to ensure the quality of life of an individual right to education finds a place in constitution. The goal of Universalisation of Primary Education (UPE) provides direction to planned development efforts. To achieve this goal educational facilities have expanded enormously in the past independence period millions of children have benefited from these facilities. But unfortunately fruits of UPE have not however reached to some special groups of children. Most developing countries visualize integrated education as an expedient measure to reinforce efforts to improve assess to school as a part of universalisation of basic education (Jangira, 1985). All modes of education in India are collectively covering only eight percent visually impaired children of school age (Punani and Rawal, 1995). Special schools are quite limited in numbers and support services are painfully inadequate (Advani, 1992).

However the various educational approaches like special education, supportive education and compensatory education to help the disabled to achieve personal self-efficiency, social competency and economic independence. But very few percentages of disabled children are being served by this programmed. Currently, the trend in education of disabled children has taken a turn towards integrated education. This is a positive step towards achieving the goal of mainstreaming. As Zones (1998) stated, it is a right of the disabled to be integrated into regular school, but the barrier to their full acceptance remains. The means this movement can take shape only when larger community accept the disabled population.

From birth onwards everybody in this world is faced with one problem or the other definite goals or aims is set in order to satisfy the needs and the motives. But the individual faces certain objects in the realisation of the these goals and thus a problem is created which needs a serious attention on his part and the solution to the problem is learnt through the occurrence of complex mediating process called 'thinking'. Problem solving is creative thinking and

found that problem solving influences creative thinking. Problem solving is the most complex and useful form of intellectual activity and at the same time a creative and productive process.

In general, the state of tension is created in mind when an individual faces a problem. He exercises his greatest efforts and imagination observation etc. Some individual are able to solve problem sooner than other. Cognitive abilities develop more slowly or in a different way in blind children than the sighted students. Visual impairment places at a disadvantage in the areas of sensory stimulation, concept formulation and communication. The concept of the blind child is in some ways more restricted that those of the sighted child. In the absence of vision blind child solve the problems uses remaining senses modality to receiver information and hence those sources sensory input must be exploited to the maximum. Those children have learning difficulties because the concept formation of the congenitally blind is restricted, as they do not have any perception faced on one sense modality. These children are not able to deal with random shapes or distorted objects and their reasoning ability is also less developed, because unless basic concepts are formed, reasoning becomes handicapped. These children should be trained to use the tactile sense modality to compensate for the deficiency of the vision.

NEED AND SIGNIFICANCE OF THE STUDY

Vision is the dominant sense giving us information about the environment. Vision play such a dominant role in cognition, the blind child's position need in the area will show specific differences as compared other children. Unfortunately, students who are blind or deaf-blind are not afforded the same opportunities to participate in regular physical activity and do not attain the same psychological, social, and physical benefits as their sighted peers (Sherrill, 1998). That situation occurs in part because having to devote more time to academic subjects than their sighted peers hinders their ability to engage in leisure and physical activity (Sherrill, 1998). Psychologically and socially, people who are more sedentary tend to have negative affect, anxiety, depression, low self-esteem, low confidence, and poor self-efficacy (Morgan, 1994). Normal children are more sociable, emotional, energetic and distractible than handicapped children (Tangri, 1990).The group of visually handicapped adolescents vary with age of onset of the handicap in their adjustment to the interacting environment (Banerjeee, 1988). The normal children displayed significantly higher field-dependence than the handicapped children (Chandrakar, 1988). Blind boys and girls and the sighted boys and girls differed significantly on all aspects of vocational interest record (Lal, 1992). Maladjustment in society, family and especially in school and unsuitable school settings are the most prominent factors which lead to academic retardation of the visually handicapped. After completing pre-primary or primary education at special institutions, emphasis should be laid on placing visually impaired integrated educational settings (Sharma, 1988). From the above findings, the present study will be helpful in understand the effect of visual impairment on the problem solving ability of visually impaired students. On the basis of the findings of the study, practioners will be able to develop appropriate pedagogy to improve the problem solving ability of such students. The study will also furnish scientific data which will enable teachers to design instructional material for the purpose of improving problem solving ability of students with visual impairment.

OBJECTIVES OF THE STUDY

The objectives of the present study are to:

1. To study the difference between visually impaired and sighted students on problem solving ability.

2. To study the difference between the sighted boys and girls on problem solving ability.
3. To study the difference between the visually impaired boys and girls on problem solving ability.
4. To study the difference between totally blind and partially sighted students on problem solving ability.

HYPOTHESES OF THE STUDY

In order to realise the objectives of the study, the following hypotheses were formulated.

1. There exists no significant difference between the visually impaired and sighted students on problem solving ability.
2. There exists no significant difference between the sighted boys and girls on problem solving ability.
3. There exists no significant difference between the visually impaired boys and girls on problem solving ability.
4. There exists no significant difference between totally blind and partially sighted students on problem solving ability.

RESEARCH METHODOLOGY

Keeping in view the nature of the present study, the survey method was used.

SAMPLE OF THE STUDY

In the present study, 5o visually impaired students studying in class 8^{th}, 9^{th} and 10^{th} (Age13-18years) were selected randomly from Chandigargh and Panipat. In the same way, 50 sighted students studying in class 8^{th}, 9^{th}, and 10^{th} (Age13-18years) of Karnal were selected randomly in the present study. Thus, a total of 100 students were selected in the present study.

TOOLS USED

Problem Solving Ability Scale (PSAS) developed and standardised by L. N. Dubey was used in the present study.

STATISTICAL TECHNIQUES USED

Different statistical techniques were used for analysis of the data such as Mean, Median, Mode and S.D. were work out to know the nature of the data and t-ratio was used to find out the difference between two groups on particular variables of the study.

ANALYSIS, INTERPRETATION AND DISCUSSION OF RESULTS

The data were analyzed and interpreted separately for each of the item and objectives. Interpretation has done carefully, logically and critically examining the result obtained after analysis considering the limitation of the sample chosen, the tools selected and used in the study.

Table-1. Significance difference between the mean scores of Visually Impaired and Sighted students on problem solving ability.

Group			D	SEd	t-ratio	Level of Significance
Sighted	0	3.62	.98	0.74	7 .11	Significant at .01 level
Visually Impaired						

	0	.36	.27			

The table 1 reveals that, the mean scores of 13.62 of the sighted students are higher than the mean scores of 8.36 of visually impaired students. The "t" ratio between the mean scores of two groups comes out to be 7.11 which is greater than the table value at 0.01 level. Thus, the difference in mean scores of the students of sighted and visually impaired students on the problem solving ability test is significant at 0.01 level. This indicates that the problem solving ability of the sighted students is significantly higher than the visually impaired students. Ho is rejected.

Table-2. Significance difference between the mean scores of sighted boys and girls students on problem solving ability.

Group			D	SEd	t-ratio	Level of Significance
Sighted Boys	5	4.4	.55	0.96	.70	Not Significant
Sighted Girls	5	2.8	.29			

It can be observed from the table 2 that, the mean scores 14.44 of the sighted boys students is higher than the mean scores of 12.8 of sighted girls students. The "t" ratio between the mean scores of two groups comes out to be 1.70, is less than the table value at .05 level (df-48). Thus, the difference in mean scores of the sighted boys and girl students on the problem solving ability is not significant at 0.05 level. This indicates that the problem solving ability of the sighted boys and girls students are almost equal. Ho is accepted.

Table-3. Significance difference between the mean scores of Visually Impaired boys and girl students on problem solving ability.

Group			D	SEd	t-ratio	Level of Significance
Visually Impaired Boys	5	.00	.67	0.65	.07	Not Significant
Visually Impaired Girls	5	.72	.86			

It can be observed from the table 3 that, the mean score 8.00 of the visually impaired boys students is less than the mean scores of 8.72 of visually impaired girls students. The "t" ratio between the mean scores of the two groups comes out to be 1.07, is less than the table value at .05 level (df-48). Thus, the difference in mean scores of the visually impaired boys and girls students on the problem solving ability is not significant at 0.05 level. This indicates that the problem solving ability of the visually impaired boys and girls students are almost equal. Ho is accepted.

Table-4. Significance difference between the mean scores of Partially Sighted and Totally Blind students on problem solving ability.

Group		M	D	SEd	t-ratio	Level of Significance
Partially Sighted	6	8.46	.89	0.67	0.31	Not Significant
Totally Blind	4	8.25	.87			

It can be observed from the table 4 that, the mean scores 8.46 of the partially sighted students is higher than the mean scores of 8.25 of the totally blind students. The "t" ratio between the

mean scores of two groups comes out to be 0.31, is less than the table value at .05 level (df-48). Thus, the difference in mean scores of the partially sighted and totally blind students on the problem solving ability is not significant at 0.05 level. This indicates that the problem solving ability of the partially sighted and totally blind students are almost equal. Ho is accepted.

DISCUSSION OF RESULTS

Findings of the study clearly indicate that problem solving ability of sighted students is better than of visually impaired students. It means that the vision play significant role on the development of this dimension of the personality. Vision play such as dominant role in cognition will show specific differences as compared to other children. With regard to gender it has been found that boys and girls of visually impaired, boys and girls of sighted do not differ in relation to their problem solving ability. The result supported by the findings of the study conducted by Mandaravalli (1991) that there is no significance differences of relationship between concrete operational stage of the visually impaired students in relation to their sex.

EDUCATIONAL IMPLICATIONS

The study revealed that the problem solving ability of visually impaired students is less than that of sighted students. So, the visually impaired students require more time to solve the mathematical problems in comparison to sighted students. Therefore the teachers should give them sufficient time to solve the problems. Activities in the psychomotor domain develop and improve physical and motor skills, sport-specific skills, and lifetime activities. In addition, programs may include adventure activities, aquatics, and dance. Promoting team work, cooperation, and appropriate social interactions throughout the program address the affective domain. Finally, activities that require problem solving, critical thinking, and basic understanding of rules and procedures of play enhance the cognitive domain. (Rink, 1998). The visually impaired students should be made proficient in the use of mathematical aids like Taylor Frame and Abacus etc. In trying to resolve these barriers, teachers should be assured that students with visual impairments are as capable of performing motor tasks as their sighted peers (Norris, Spaulding, & Brody, 1957) and should, therefore, be given the same opportunities for involvement in activities. The school authorities should make adaptations in the curriculum according to the needs of the students, therefore teachers and others should pay more attention to take appropriate measures for improving the problem solving ability of students with visually impaired.

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