

Information Processing System of the Visually Impaired Children in Relation to their Styles of Learning

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Abstract

Information processing system is very important in learning process. Children differ among themselves regarding their ability to organize information. Styles of learning are different ways through which a person learns. It's commonly believed that most people have some particular method of interacting with, talking in, and processing stimuli or information. Keeping in view the importance of styles of learning and information processing system in the teaching learning process a study was conducted with the following objectives:- (i) to explore the information processing system of the visually impaired children, (ii) to identify the styles of learning of the visually impaired children, (iii) to find out the difference between the visually impaired boys and girls in their information processing system. (iv) to find out the difference between the visually impaired boys and girls in their styles of learning, and (v) to analyze the relationship between information processing system and styles of learning of the visually impaired children. The present study is descriptive survey type study. Collection of data was done on 150 visually impaired children. Simple random sampling technique was used to select the sample. Data collection was done by using two standardized psychological tools namely; (i) PGI Memory Scale developed by Dwarka Prasad and N. N. Wig (1994) for exploring information processing system, and (ii) Styles of learning by Joy Reid (1984). The collected data was subjected to appropriate statistical calculations. The t-test was applied to determine significant difference between the visually impaired boys and girls in information processing system and styles of learning. The coefficient of correlation was calculated for studying relationship between information processing system and styles of learning of the visually impaired children. The result showed that there exists significant difference between the visually impaired boys and girls both in their information processing system and r styles of learning. There exists negative relationship between information processing system and styles of learning of the visually impaired children.

Keywords: Information processing system, styles of learning, visually impaired children

Information processing system is very important concept in learning process because information processing system is based on the processing and interpreting of sensory data and converting of such data into a form that can later be recalled. Children differ among themselves regarding their ability to organize information. Baroun and Sen (1996) noted that introvert were more accurate in judgment of short time interval. However it depends upon the time of testing also. The introvert was more efficient in sensory processes and decision-making than extroverts. Styles of Learning can be defined as the characteristics or usual strategies of acquiring knowledge, skills and understanding by an individual. Styles of learning can be most simply defined as the learners behavioral characteristics related

to how one learns and process information and integrate into their own knowledge base. Styles of learning means the way in which individual interacts with /take in and process new stimuli or information across the three domains of learning identified in taxonomy of education objectives: Cognitive (knowledge), psychomotor (skills) and affective (attitude). Researches on styles of learning concludes that students styles of learning impact hie/ her performance and one learns more when there is a match between teaching style and styles of learning (Hmieleski 2003).

The term visual impairment describes a wide variety of conditions that affect vision abilities. We use the term to denote mild to most severe vision loss, rather than to defects in the eye itself. It means

a medically verified visually impaired accompanied by limitations in sights that interfere with acquiring information or interaction with environment to the extents that especially education instruction and related services may be needed. Lowenfeld (1973) gives the medical definition of blindness in another word as-”a blind person is defined as heaving central visual acuity of 20/200 or less in the better eye with correcting glasses or centering vision acuity of more than 20/200 if there is a field defect in which the peripherals field has contracted to such an extent that the widest diameter of the visual field subtends an angular distance no greater than 20 degree (pp 29-30). Barrage (1976) has set forth an all encompassing definition that better fits education requirement. “A visual handicapped child is one whose visual impairment interferes with his optimal learning and achievements unless adaptations are made in the method of presenting learning experiences, the nature of material used, and / or in the learning environment.” In a democratic country like India, every child has the right to education, the right to receive help in learning to the limit of his capacities. It is consistent with a democratic philosophy that all children should be given equal opportunity to learn whether they are bright, average, and dull, retarded, blind, deaf, crippled or delinquent. Keeping the educational needs of the visually impaired children in view a study was conducted so that the study findings would provide guidelines to educational planners in designing teaching strategies for these neglected children.

Objectives

The study enlists the following objectives:

- i) To explore the information processing system of the visually impaired children.
- ii) To identify the styles of learning of the visually impaired children.
- iii) To find out the difference between the visually impaired boys and girls in their information processing system.
- iv) To find out the difference between the visually impaired boys and girls in their styles of learning.
- v) To analyze the relationship between information processing system and styles of learning of the visually impaired children.

Hypotheses

The following hypotheses were formulated to achieve the framed objectives: formulated -:

- 1. There exists no significant difference between the visually impaired boys and girls in their information processing system.

- 2. There exists no significant difference between the visually impaired boys and girls in their styles of learning.
- 3. There exists positive relationship between information processing system and styles of learning of the visually impaired children.

Design of the study: The study was conducted by using descriptive survey method. It was conducted on 150 the visually impaired children selected from different special schools of district Amritsar and Ludhiana. Selection of sample was done by employing simple random technique.

Tools used: PGI Memory Scale (By Dwarka Prasad and N.N. Wig.1994) was used to explore the information processing system of the visually impaired children. Styles of learning (SOL) (By Joy Reid 1984) was used to identify the styles of learning of the visually impaired children.

Results, Discussion and conclusion: Result of the study has been presented by following the below given sequence:

1. Status of visually impaired children in their Information Processing System & Styles of Learning.

This section shows the status of the visually impaired children in their information processing system & Styles of Learning which is shown two different tables.

Table 1: Data relating to Information processing system

Gender	N	Mean Score
Boys	75	44.60
Girls	75	41.57

The above table shows the data of the visually impaired boys and girls in their information processing system. A look at the table shows that the mean score of the visually impaired boys and girls in information processing system are found 44.60 and 41.57 respectively. By referring the test manual it was found that the mean scores fall on average Category. This indicates that both the visually impaired boys and girls possess average ability in their information processing system.

Table 2: Styles of Learning of the visually impaired children

Types of Styles of Learning	No. of Students	Mean Score of Boys	Mean Score of Girls
Visual	75	9.28	10.02
Tactile		11.82	10.14
Auditory		15.62	14.26
Kinesthetic		14.97	14.48
Group Learning		16.17	15.13
Individual Learning		17.59	17.65

(Mean score of the visually impaired boys & girls on different types of Styles of Learning)

The Table 1 shows the data relating to styles of learning of the visually impaired boys and girls. A look at the table reflects that the mean score of the visually impaired boys in visual, tactile, auditory, kinesthetic, group learning and individual learning are 9.28, 11.82, 15.58, 14.97, 16.17, and 17.59 respectively. The above stated scores indicates that the visually impaired boys show first preference to “individual learning style” followed by group learning, auditory learning, kinesthetic learning and tactile learning. This indicates that the visually impaired boys at the time of learning use individual learning style as their most preferred styles of learning. The table also shows that the data relating to styles of learning of the visually impaired girls which reflects that the mean scores of the visually impaired girls in visual, tactile, auditory, kinesthetic, group learning and individual learning styles are 10.02, 10.14, 14.26, 14.48, 15.13, and 17.65 respectively. This indicates that the visually impaired girls give first preference to “individual learning style” followed by group learning, auditory learning, kinesthetic learning and tactile learning.

2. Comparison between visually impaired boys and girls in their Information Processing System.

This section shows the Comparison between the visually impaired boys and girls on information processing system which is shown in the below listed table.

Table 2: Comparison between the visually impaired boys and girls in their Information Processing System

Group	N	Mean	Mean differences	S.D	S _{ED}	t-value	Level of significance	
Visually impaired Boys	75	44.60	3.03	7.15	1.72	2.58	0.01	0.05
Visually impaired Girls	75	41.57		7.20			N.S	S

(N= no of the visually impaired children, N.S= insignificant, S=significant)

The above shows the group difference between the visually impaired boys and girls in their information processing system. A look at the above table reflects that the mean scores of the visually impaired boys and girls in information processing system are 44.60 and 41.57 respectively. The mean difference is 3.03. The SD is found to be 7.35 and 7.20. The SEM is found to be 1.72. The calculated ‘t’ value is found to be 2.58 which is higher than the tabulated value both at 0.05 and 0,01 level of significance .This can be interpreted that there exists a significant difference between the visually impaired boys and girls in their information processing system. This reflects that the visually impaired boys are superior to the visually impaired girls in their information processing system. This is also shown in the below given figure.

On the basis of the above stated finding it can be stated that the hypothesis no 1 i.e. “there exists no significant difference between the visually impaired boys and girls in their information processing system” is thus rejected.

The above table shows the difference between the visually impaired boys and girls on different types of styles of learning. The mean scores of the visually impaired boys and girls on visual learning are 9.28 and 10.02 respectively, with the mean difference of 0.74. The obtained ‘t’ value i.e. 2.18 which is higher than the tabulated value at 0.05 level and lower than 0.01 level of significance. This

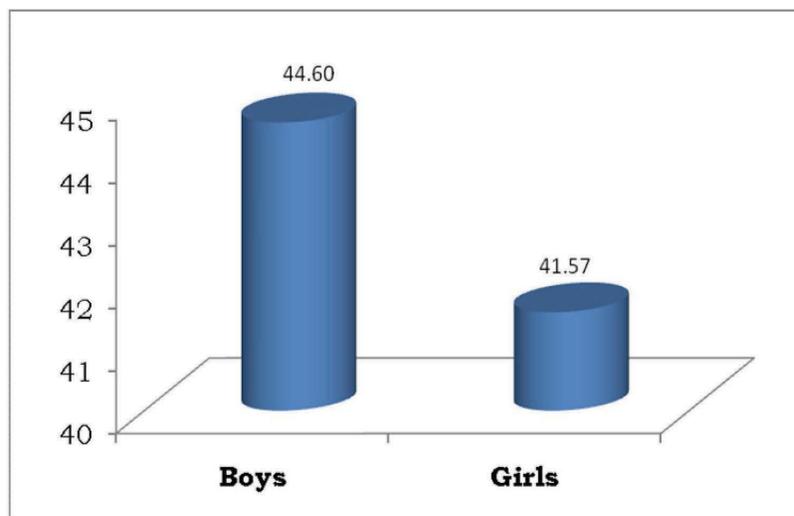


Fig. 1:

Table 3: Comparison between the visually impaired boys and girls in their Styles of Learning.

Types of styles of learning	N	Groups							Level of Significant	
		M1 (boys)	M2 (girls)	Md	SD1 (boys)	SD2 (girls)	SED	t-value	0.01	0.05
Visual	75	9.28	10.02	0.74	1.59	2.46	0.33	2.18	N.S	N.S
Tactile		11.82	10.14	1.68	1.91	3.21	0.43	3.88	S	S
Auditory		15.62	14.26	1.32	1.79	2.47	0.35	3.85	S	S
Kinesthetic		14.97	14.48	0.49	2.10	2.30	0.36	1.36	N.S	N.S
Group		16.17	15.13	1.04	2.12	3.01	0.42	2.44	N.S	S
Individual		17.59	17.65	0.07	2.29	2.68	0.40	0.16	N.S	N.S

N: no of the visually impaired boys and girls, N.S: insignificant, S: significant

shows that on “visual style of learning” the visually impaired boys and girls differ to each other significantly at 0.05 level. It is observed from the above table that on “tactile style of learning” the mean scores of the visually impaired boys and girls on tactile learning are 11.82 and 10.14 respectively, with the mean difference of 1.68. The ‘t’ value i.e. 3.88 which is higher than the tabulated value at both 0.05 level and 0.01 level of significance. This shows that on “tactile style of learning” the visually impaired boys and girls differ to each other significantly at 0.05 level.

It is also observed from the above table that on “auditory style of learning” the mean scores of the visually impaired boys and girls on auditory learning are 15.62 and 14.26 respectively, with the mean difference of 1.32. The obtained ‘t’ value i.e. 3.74 which is higher than the tabulated value at both 0.05 and 0.01 level of significance. This shows that on “auditory style of learning” the visually impaired boys and girls differ to each other significantly at 0.05 level. It is evident from the above table that on “kinesthetic style of learning” the mean scores of the visually impaired boys and girls on kinesthetic learning are 14.97 and 14.48 respectively, with the mean difference of 0.49. The obtained ‘t’ value i.e. 1.36 which is lower than the tabulated value at both 0.05 and 0.01 level of significance. This shows that on “kinesthetic style of learning” the visually impaired boys and girls differ to each other significantly at 0.05 level.

It is found from the above table that on “group styles of learning” the mean scores of the visually impaired boys and girls are 16.17 and 15.13 respectively, with the mean difference of 1.04. The SD is found to be 2.12 and 3.01. The SEM is found to be 0.42. The obtained ‘t’ value i.e. 2.44 which is higher than the tabulated value at both 0.05 and lower than 0.01 level of significance. This shows that on “group style of learning” the visually impaired boys and girls differ to each other significantly at 0.05 level.

It is observed that on “individual style of learning” the mean scores of the visually impaired boys and girls on individual learning are 17.59 and 17.65 respectively, with the mean difference of 0.07. The obtained ‘t’ value i.e. 0.16 which is lower than the tabulated value

at both 0.05 and 0.01 level of significance. This shows that on “individual style of learning” the visually impaired boys and girls differ to each other insignificantly at 0.05 level. Reason may be that the visually impaired children learn independently. They learn by listening through recording and they learn according their pace. The visually impaired boys are expressive in their idea than the visually impaired girls.

On the basis of the above stated finding it can be stated that the hypothesis no 2 i.e. ‘there exists no significant difference between the visually impaired boys and girls in their styles of learning’ is thus rejected.

3. Relationship between information processing system and styles of learning of the visually impaired children.

This section shows the coefficient of correlation between the information processing system and styles of learning of the visually impaired children.

Table 3: Correlation between Information Processing System and Styles of Learning of the visually impaired children

Variables	N	Mean	Coefficient of Correlation
Information processing system	150	43.08	-0.05
Styles of learning	150	84.38	

Table 3 shows the coefficient of correlation between the information processing system and styles of learning of the visually impaired children. The coefficient of correlation is found to be -0.05, which is very low and negative. The above finding suggests that there exist a negative relationship between the information processing system and styles of learning of the visually impaired children. The hypothesis no 3, i.e. “there exists positive relationship between information processing system and styles of learning of the visually impaired children”, is thus rejected.

Conclusion

The study enlists the following conclusions:

1. It was found that the visually impaired boys and girl possess average ability in their information processing system. They possess weak attention and concentration, retention for dissimilar pairs and are not advanced in mental balance.
2. The most preferred styles of learning of the visually impaired children is “individual learning”.
3. The second and third preferred styles of learning of the visually impaired boys are “group learning”, “auditory learning”, and “kinesthetic learning”.
4. The second and third preferred styles of learning of the visually impaired girls are “group learning”, “kinesthetic learning”, and “auditory learning”.
5. On most preferred styles of learning i.e. independent style of learning, there exists significant difference between the visually impaired boys and girls.
6. The coefficient of correlation between information processing system and styles of learning of the visually impaired children was found very low and negative. This shows that there exists a low and negative relationship between the information processing system and styles of learning of the visually impaired children.

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