

GENDER VARIATIONS ON LEARNING STYLE OF SECONDARY SCHOOL STUDENTS

Shikha Tyagi* & Dr. (Mrs.) Parveen Sharma**

ABSTRACT

The present study explores that whether the gender makes a difference in learning style preferences of the secondary school students. The sample comprised of 600 secondary school students of standard tenth. Learning Style Inventory by Misra (2012) was employed. The data so obtained was analyzed using mean, S.D., Product Moment Correlation and t. test. The findings of the study reveal that preferences of six styles of learning namely Enactive, Figural, Verbal, Reproducing, Constructive & Total, for secondary school male and female students were found almost same. Mean value make it evident that boys seemed to comparatively lower preference for figural learning style while girls had more inclination towards verbal and constructive learning style. All the learning styles were positively correlated to each other.

Key Word: Learning Style, gender, secondary school.

INTRODUCTION

"Learners learn in different ways. Several studies discuss learning styles and find that learning depends upon many personal factors and everyone has a distinct learning style." (S. Montgomery, 1996; Mumford & Honey, 1996).

The term "Learning Style" has been defined as "the composite of characteristic cognitive, affective, and physiological factors that serve as relatively stable indicators of how a learner perceives, interacts with, and responds to the learning environment" (Keefe, 1979). It is a hypothetical construct that has been developed to explain the process of mediation between stimuli and responses. In simplest terms a student's learning style is the peculiar way with which he learns best. Rita and Kenneth Dunn (1993) studied how people learn and they noticed that some students achieved knowledge only through selective methods. They mentioned many elements that influence learning styles: environmental, emotional, sociological and physical elements. Gilbert and Swanier (2008) confirmed that learning preferences facilitate the way individuals learn when the environment provides a variety of learning styles. Felder (2002) revealed that individuals have different learning styles that are reflected in different academic strengths, weaknesses, skills and interests. Aguirre, Cancino and Neira (2005)

found that the auditory learning style was the most representative in a group. The construct of learning style has recently assumed a special significance in educational contexts. Many researchers and psychologists have expressed the belief that the way student prefer to learn is perhaps the single most important factor in his academic performance. Some proponents of this construct categorically hold that it is more useful than intelligence, personality and cognitive style.

In order to help all students learn, we need to teach to as many of these preferences as possible (Cuaresma, 2008). In a class room situation, it can be done through thoughtful planning and preparation. The various inventories on learning styles allow teachers to gain insight into which areas they can use further development in and which are already well developed. According to Cronbach & Snow (1977), learning styles could be used to predict what kind of instructional strategies or methods would be most effective for a given individual and learning task. Because of these different learning styles, it is important for teachers to incorporate in their curriculum activities related to each of these learning styles so that all students are able to succeed in their classes. While we use all of our senses to take in information, we each seem to have preferences in how we learn best.

*Research Scholar, M.D. University, Rohtak (Haryana)

**Associate Professor, Hindu College of Education, Sonapat (Haryana)

Educational psychologists have consistently found that girls tend to have higher standards in the classroom, and evaluate their own performance more critically. Girls also outperform boys in school (as measured by students' grades), in all subjects and in all age groups. Most studies show that, on average, girls do better in school than boys. Girls get higher grades and complete high school at a higher rate compared to boys (Jacobs, 2002). Standardized achievement tests also show that females are better at spelling and perform better on tests of literacy, writing, and general knowledge (National Center for Education Statistics, 2003). An international aptitude test administered to fourth graders in 35 countries, for example, showed that females outscored males on reading literacy in every country. Girls continue to exhibit higher verbal ability throughout high school, but they begin to lose ground to boys after fourth grade on tests of both mathematical and science ability. These gender differences in achievement have implications for girls' future careers and have been a source of concern for educators everywhere.

During the past decade, there has been a concerted effort to find out why there is difference between boys and girls academic achievement and among the factors responsible for this learning styles could be one of them. Realizing the paramount significance of learning styles in teaching-learning processes, a number of researches have been conducted on learning styles of students at different levels of education and attempted to explore their relationship with many socio-psychological and demographic variables. However many studies were conducted in Western countries but in India it is a most neglected domain of research. Only a few researchers have shown initiation in this newly emerged area. In view of the dearth of studies on learning styles in India, the investigator thought it worthwhile to investigate the learning style preferences of secondary school students on the basis of their gender.

The study was conducted by keeping in view the objective to compare the mean scores of male and female secondary school students on enactive, figural, verbal, reproducing,

constructive & total learning styles. The null hypotheses were formulated for the present study that there will be no significant difference in the mean scores of male and female secondary school students on enactive, figural, verbal, reproducing, constructive & total learning styles.

RESEARCH APPROACH

Research method

As the main objective of the study was to find out the differences in learning styles of male and female secondary school students in natural setting, the research was conducted within the broad framework of descriptive method of research.

VARIABLES

In the present study, gender was considered as an independent variable and learning style was regarded as dependent variable.

SAMPLE

The sample of the present investigation comprised 600 secondary school students studying in tenth class in twenty two Govt. and Aided schools of five districts, Sonapat, Kurukshetra, Kaithal, Karnal & Panipat of Haryana state. Out of this 300 were male and 300 were female. The selection of the institution was made by random sampling technique. Then one section from each institution was also chosen randomly.

TOOL USED

For assessing learning styles of the secondary school students, the investigator employed Learning Style Inventory by Misra (2012). This inventory attempted to help the students to clarify & identify their preferred learning style (s). It consists of 42 statements belonging to six learning styles namely, enactive reproducing, enactive constructive, figural reproducing, figural constructive, verbal reproducing and verbal constructive. It can be clubbed to as 'Enactive learning style', 'Figural learning style', 'Verbal learning style', 'Reproducing learning style' and 'Constructive learning style'.

DATA COLLECTION

The data collection was done by administering the Learning Style Inventory to the secondary school students in natural classroom setting, according to the prefixed schedule with the

Principals of the schools. The standard instructions for recording the responses to the items, given on the inventory were carefully read-out and explained to the students. After the collection of the data, scoring was done strictly according to the directions and instructions given in the manual. Thus a separate score was obtained for each of the learning style.

RESULT AND DISCUSSION

In order to ascertain the difference in learning style of male and female students 't' values were calculated for the scores of six learning styles. The obtained statistics have been reported in Table 1.

Table No. 1. Mean, S.D., t values in respect of six learning styles of secondary school male and female students.

Sr. No.	Learning Style	Male Group (N=300)		Female Group (N=300)		t value
		Mean	S.D.	Mean	S.D.	
1.	Enactive	49.25	7.76	49.10	7.84	0.24 NS
2.	Figural	46.72	8.27	46.77	8.79	0.07 NS
3.	Verbal	51.24	8.25	51.63	8.67	0.91 S
4.	Reproducing	70.84	10.40	71.18	11.16	0.38 NS
5.	Constructive	76.78	12.72	75.58	12.79	1.15 S
6.	Total	147.18	21.18	147.09	23.20	0.05 NS

Significant at .01 levels

Table shows that the obtained 't' value for enactive, figural, reproducing and total learning styles in respect of male and female students are not found significant at even .05 level of significance. However, in case of verbal and constructive learning styles mean difference is significant ($p < .01$) and it is in favor of female group. Hence four null hypotheses are accepted and two hypotheses are rejected.

The findings of the study lead to the inference that male and female secondary school students have equal magnitude of preference for enactive, figural, reproducing and total learning styles. Although a perusal of other means reveals that male students are more inclined to enactive, constructive and reproducing learning styles than their female counterparts; and female

students are more inclined to figural and verbal than male students in their learning style. In fact, these marginal differences in means are attributed to chance factor and male and female students are not different each other with regard to enactive, figural, reproducing and total learning styles.

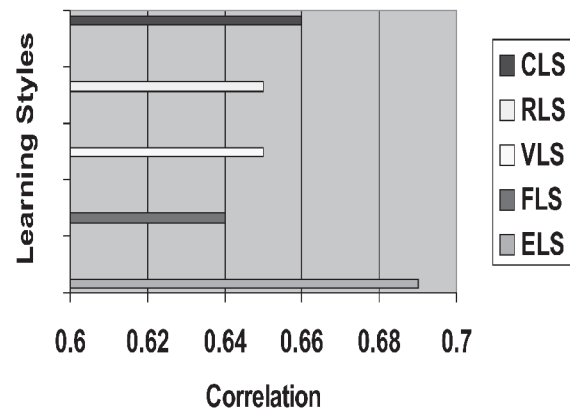
Of course, female students seem to have significantly more inclination towards verbal and constructive learning style than male students. These finding appear to be true beyond chance factor. The results of the present study are partially supportive by the previous research conducted by Singh (2008), Jaiswal (2010), Rajshree S. (2013). Other studies, carried out by Gakhar (2008), Sharma and Neetu (2011) also reported sex differences with regard to some learning styles through using different tools of learning styles.

All the learning styles are highly and positively correlated to each other. The obtained correlation has been reported in Table 2.

Table No. 2. Correlation between all learning styles

	ELS	FLS	VLS	RLS	CLS	TLS
ELS	1					
FLS	0.59	1				
VLS	0.62	0.55	1			
RLS	0.69	0.70	0.70	1		
CLS	0.68	0.66	0.73	0.58	1	
TLS	0.69	0.64	0.65	0.65	0.66	1

Correlation Between All Learning Styles



It is evident from the above table and graph that all learning styles are positively correlated to each other. Total Learning Style is highly associated to Enactive Learning Style (0.69) and Figural learning style (0.64) is the least related to Total Learning Style.

CONCLUSIONS

Male and female students are similar on enactive, figural, reproducing, and total learning styles. Only in case of verbal and constructive learning styles, females are found to have stronger preference than male students.

RECOMMENDATIONS

1. On the basis of the findings of the study it may be stated that male and female students require similar type of teaching strategies. However, in teaching secondary school students with instructional procedures ICT should be given more weightage.
2. It is also necessary to raise awareness of effective learning strategies-- assign mixed-gendered discussion and study groups.
3. Similar studies may be conducted on different age groups and different grade levels for cross validating the present results and have better generalization there upon.
4. Effect of Institutional climate, home environment, personality, anxiety, achievement and socio-economic status on learning styles may be examined.

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