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# A COMPARATIVE STUDY OF LEARNING STYLES OF HIGHER SECONDARY LEVEL STUDENTS

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Experience reveals that all students do not attain the same level of achievement. With due recognition to individual differences in ability, interest and aptitude, it is evident that all children are not capable of reaching the same educational standard, although all of them are quite capable of being improved upon. Consequently, attention is being increasingly paid by the educators to the causes that underlie the variation in achievement. An individual's learning style and approach to a learning situation has a direct impact on performance and success in achievement of learning outcomes. The present study analyses the comparative account of learning styles of Higher secondary level students.

## **Learning Style : The Conceptual Framework**

Various psychologists and researchers have tried to define the term 'learning style' in different ways depending upon their theoretical formulations. The term learning style refers to a way or approach; a student follows in his course of learning. Dunn and Dunn (1975) view learning style as those environmental, emotional, sociological, and physical characteristics through which he/she learns most easily. According to Hunt (1978) learning styles refer to those educational conditions under which students are most likely to learn. Dunn (1983) says that learning styles consist of a combination of physical, psychological, emotional and widespread elements that affect the ways individual receive, store and use knowledge or abilities.

Grasha Riechmann's interpretation of variety of learning styles has been considered meaningful. He states that styles of learning means whether the student shows little intellectual curiosity and learns only what is required, or confident in his own learning abilities; whether he learns most and best by sharing ideas and talents or learns material in order to perform better than

others in the class; whether he learns course content and likes to go to class or not interested in course content in a traditional classroom.

Grasha-Riechmann (1974) developed the student learning style scale to measure the preferences of college students in interacting with teachers and other students. Preferences appear along three bipolar dimensions, are as follows:

- (i) Independent/Dependent
- (ii) Collaborative/Competitive
- (iii) Participant/Avoidant

### **Independent**

This response style is characteristic of the student who likes to think for himself. He prefers to work on his own, but he will listen to the ideas of others in the classroom. He learns the content he feels is important and is confident in his learning abilities.

### **Dependent**

This style is characteristic of the student who shows little intellectual curiosity and who learns only what is required. He sees teachers and peers as sources of information and support. He looks to authority figures for guidelines and wants to be told what to do.

### **Collaborative**

This style is typical of the student who feels he can learn the most by sharing his ideas and talents. He sees the classroom as a place for social interaction, as well as content learning.

### **Competitive**

This response style is exhibited by the student who learns material in order to perform better than others in the class. He feels he must compete with other students in the class for the rewards of the classroom, such as grades or teachers attention. He views the classroom as a win lose situation where he must always win.

### **Participant**

This style is characteristic of the student who wants to learn course content and likes to go to class. He takes responsibility for getting the most out of class and participates with others when told to do so. He feels that he should take part in as much of the class related activity as possible and does little that is not part of the course outline.

## **Avoidant**

This response style is typical of a student who is not interested in learning course content in the traditional classroom. He does not participate with student and teachers in the classroom. He is uninterested by what goes on in the classes.

## **Objective of the Study**

To study the significance of differences in the learning styles of higher secondary level students differing in certain background variables, viz. sex, locality and type of school.

## **Hypotheses**

The following null hypotheses were framed for testing in the present study:

1. There is no significant difference in patterns of learning-styles between boys and girls students.
2. Urban and rural students do not differ significantly in their learning-styles.
3. No significant difference exists between the learning-styles of students of privately managed and government managed higher secondary schools.

## **Methodology**

The present study was conducted through survey method in which learning style scale by Grasha-Richman is given to the sample students studying in Class XI.

## **Sample**

A sample of 600 students belonging to 'Biology stream' and studying in class XI has been selected from government-managed and privately managed secondary schools of Rohilkhand region, on the basis of multistage stratified random sampling technique.

## **Tool**

### *Grasha Riechmann's Student Learning Style Scale (GRLSS)*

Anthony Grasha and Sheryl Riechmann (1974) developed the student learning style scale. This scale contains 60 items using Likert-type five-point scale. It has been developed to assess six learning styles, viz., independent, dependent, collaborative, competitive, participant and avoidant. The test-retest reliability coefficients with a seven day interval between testing, range from 0.76 to 0.83. The validity was determined by rational approach. The data was collected by administering the above tool in a group setting.

### Statistical Techniques used

Mean, standard deviation, t-test were the techniques used for data analysis.

**Table 1:** Significance of Difference in Mean Scores of Learning Style of Boy and Girl Students

Learning styles	Boys			Girls			t-value
	N	M	S.D	N	M	S.D	
Independent	330	3.68	0.69	270	3.57	0.99	1.61
Dependent	330	4.01	0.52	270	4.04	0.53	0.67
Collaborative	330	3.77	0.67	270	3.91	0.70	2.60**
Competitive	330	3.19	1.02	270	3.32	0.95	1.53
Participant	330	3.25	1.03	270	3.87	0.86	7.81**
Avoidant	330	2.71	0.74	270	2.29	0.64	7.26**

\* Significant at 0.05 level of significance

\*\* Significant at 0.01 level of significance

The data presented in Table 1 reveals the t-ratios computed to compare the sexwise differences in the mean scores on independent, dependent, collaborative, competitive, participant and Avoidant learning styles in secondary level of students.

It is evident on independent, dependent and competitive learning styles, the obtained t-values for differences between the mean scores of boys and girls of secondary level are insignificant. It means that boy and girl students show similar preferences on independent, dependent and competitive learning styles.

There is a significant difference between boys and girls on collaborative, participant and avoidant learning styles ( $t = 2.60, 7.81, 7.26, p = 0.01$  respectively). On collaborative and participant dimensions, the mean scores of girls are significantly higher than the mean scores of boys. It means that girl students show high magnitude of preference on these learning styles than boy students. In case of Avoidant learning style boy students have more magnitude of preference than girl students.

The result of the present study supports the previous research conducted by Hopkins (1982) who found that female students indicate their preference for participant, collaborative and dependent learning style while male students exhibit more preference for avoidant, independent and competitive learning style.

**Table 2:** Significance of Difference in Mean Scores of Learning Style of Rural and Urban Students

Learning styles	Rural			Urban			t-value
	N	M	S.D	N	M	S.D	
Independent	200	2.84	0.80	400	4.02	0.53	21.6**
Dependent	200	4.02	0.49	400	4.03	0.54	0.25
Collaborative	200	3.53	0.64	400	3.99	0.66	8.03**
Competitive	200	2.34	0.87	400	3.70	0.70	20.45**
Participant	200	2.58	0.89	400	4.00	0.68	21.53**
Avoidant	200	3.00	0.69	400	2.29	0.62	12.68**

A perusal of data presented in Table 2 makes it evident that on dependent learning style, the obtained t-value for difference between the mean scores of rural and urban students is insignificant. Thus, two groups of students show similar preference in this learning style. However, on the independent, collaborative, competitive, participant and avoidant learning styles, there is a significant difference between rural and urban secondary level students ( $t = 21.6, 8.03, 20.45, 21.53$  and  $12.68$ ;  $p = 0.01$  respectively).

The mean scores of urban students are higher than the mean scores of rural students on all the styles except on avoidant learning style where mean scores of rural students is higher than urban students. It reveals that except on avoidant learning style urban students show more preference on independent, collaborative, competitive and participant learning style than rural students.

The obtained findings with regard to rural-urban differences in learning styles of students are contradictory to the findings of Verma and Kumar (1996). They found that urban women students appear to have greater magnitude of avoidant learning style in comparison to rural women students. Findings also reveal that urban students show inclination towards participant learning style.

**Table 3:** Significance of Difference in Mean Scores of Learning Style of Government and Private School Students

Learning styles	Government Schools			Private Schools			t-value
	N	M	S.D	N	M	S.D	
Independent	200	3.73	0.74	400	3.88	0.88	2.01*
Dependent	200	4.11	0.51	400	3.99	0.52	2.69**
Collaborative	200	3.70	0.71	400	3.90	0.67	3.34**
Competitive	200	3.30	0.86	400	3.73	1.05	0.80
Participant	200	3.51	0.78	400	3.53	1.10	0.19
Avoidant	200	2.08	0.74	400	2.75	0.61	11.76**

Data presented in Table 3 shows that the t-ratios computed for competitive and participant learning styles are insignificant which infers that there is no significant differences in the competitive and participant learning styles of the students of government and private schools.

t-values for independent, dependent collaborative and avoidant learning styles are significant ( $t = 2.01$ ,  $P = 0.05$  and  $t = 2.69, 3.34, 11.76$ ;  $p = 0.01$  respectively). It means that students of government and private schools differ significantly on these learning styles. The mean scores of government school students are higher than the private school students on dependent learning style whereas the mean scores of private school students are higher than the government school students on independent, collaborative and avoidant dimensions of learning styles.

Similar findings were found in the study conducted by Verma & Kumar (1996). They found that private school's women students are significantly higher on independent and avoidant learning styles than the students studying in government schools.

### Conclusion of the Study

1. Sex wise, there are differences in the learning styles of students, girls prefer collaborative and participant learning style more than boys whereas boys prefer participant learning style more than girls.
2. Locality of the student is a determining factor for learning styles preferences in students. Urban students prefer independent, collaborative, competitive and participant learning styles more than rural students and in case of avoidant learning style rural students shows more preference than urban students.
3. The students belonging to privately managed school showed more preference to independent, collaborative and avoidant learning style whereas students of government managed schools prefer dependent learning style.

The findings of this study may be useful in selection of those learning styles which help the students to achieve better in biology. It was observed that the achievement in biology is positively affected where students show high preference to independent, collaborative, competitive and participant learning style but students who prefer avoidant learning style achieve less in biology. It was also found that the boys prefer avoidant learning style more than girls. Present investigation suggest that the boys should adapt independent, competitive and participant learning style in place of avoidant learning style to achieve better in biology.

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