



An evaluation of Higher Secondary Students' preferred Learning Style

KEYWORDS

Learning Style preference, Active – Reflective, Sensing – Intuitive, Visual – Verbal, Sequential – Global.

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ABSTRACT

This study is conducted to determine the learning styles of Higher Secondary School Students and compare it based on gender, medium of instruction and news paper reading habit. In this study self constructed learning style preferences inventory based on Felder and Silverman model was used. The inventory consists of 50 items including four dimensions of learning style preferences namely active – reflective, sensing – intuitive, visual – verbal and sequential – global. The main objective of the study was to find out if there is any statistically significant association between learning style preferences and gender, medium of instruction and news paper reading habit. The results of the study revealed that majority of the students possess active, verbal, intuitive and sequential learning style. In addition it was also noted that there was a statistically significant association between gender and the two dimensions of learning style preference namely sensing – intuitive and sequential – global and medium of instruction had significant association with visual – verbal, sensing – intuitive and sequential – global styles of learning. While observing the association between learning style preferences and News paper reading habit significant association was seen with sensing – intuitive learning style preference

Introduction

Many research conducted in the area of learning suggests that learning increases when instruction is based on students learning styles. Learning styles have really gained so much attention in recent years across different age groups and learning environments. The area of learning styles is complex and many questions are still open, including a clear definition of learning styles, a comprehensive model which describes the most important learning style preferences, and the question about the stability of learning styles" (Kinshuk, Liu & Graf, 2009, p. 740). As stated by Felder and Silverman (1988), grouping students according to a number of scales pertaining to the ways they receive and process information is defined as a learning style model. Similarly, according to Jonassen and Grabowski (1993), learning styles are tendencies for the preference to process information in certain ways.

In another definition, a learning style can be described as the composite of cognitive, affective, and psychological characteristics that serve as an indicator of how an individual interacts with and respond to the learning environment (Keefe, 1979; Duff, 2000). In other words, learning styles can be described as the means of perceiving, processing, storing, and recalling attempts in the learning process (James & Gardner, 1995). Various cognitive and learning style theories and models have been proposed over the course of many years, identifying and categorizing students individual differences like Hill's Cognitive Style Mapping (1976), Dunn and Dunn Learning Styles (1978), Gardner's Multiple Intelligence Theory (1983), Kolb's Learning Styles (1984), Gregorc Learning Styles (1985), Felder-Silverman Learning Model (1988), Grasha-Reichmann Learning Style Scales (1996), and Hermann Brain Dominance Models (1996). Of these models, felder-silverman of learning style is currently being used to assess how students learn.

A learning style is defined as the characteristics, strengths and preferences in the way people receive and process information (Felder & Silverman 1988). It refers to the fact that every person has his own method or set of strategies when learning.

Index of learning-style (ILS) is an instrument based on Felder's and Silverman's (1988) model of learning style (Felder and Spurlin, 2005). Based on ILS, a tool was developed by the investigator with 50 items of categorical nature, based on the four dimensions of learning: Active or Reflective, Sensing or Intuitive, Visual or Verbal, and Sequential or Global.

Purpose of the study

This paper has the following objectives:

- (i) To investigate the learning style preference of the higher secondary students
- (ii) To examine the learning style preference of students based on gender and medium of instruction.
- (iii) To examine whether newspaper reading habit influences the learning styles preferred by the students.

Materials and method

Participants in this study were 1005 higher secondary school students from 12 different schools . Of these 420 were males and 585 were females. Survey method was adopted for data collection and the self developed inventory was used for collecting data.

Results

The different Learning Style Preferences taken in the present study are active- reflective, visual -verbal, sensing-intuitive and sequential- global. The exact number and percentage of students possessing different Learning Style Preference are presented in Table.1

Table 1 Percentage Analysis of students with different Learning Style Preference

Learning Style Preference	N= 1005	Percentage	
1	Active	693	69.0
	Reflective	312	31.0
2	Visual	391	38.9
	Verbal	614	61.1
3	Sensing	470	46.8
	Intuitive	535	53.2
4	Sequential	570	56.7
	Global	435	43.3

Table 1 indicates that of the total students, 69 percent of students prefer Active Learning style and 31 percent prefer reflective style of learning. Further analysis revealed that 38.9 percent possess visual Learning Style and 61.1 percent have verbal style of learning. Coming to sensing – Intuitive style of learning 53.2 percent were of Intuitive type where as 46.8 were found to be sensing type of learners. Percentage analysis also showed that 43.3 percent of learners were of global type and 56.7 percent were found to be sequential learners. In general the analysis of Learning Style Preference of higher secondary students revealed the fact that majority of the students are active, verbal, intuitive and sequential learners. Due to the nominal nature of this data, Chi-square tests of independence were performed to determine if a significant association existed between Learning Style Preference and students' gender, medium of instruction and newspaper reading habit. The results of 2x2 Chi-square analysis are presented in Table 2, 3 and 4.

Association between Learning style Preference and Gender

Table 2 shows the association between Learning style Preference and Gender of higher secondary students.

Table 2 Association between Learning style Preference and Gender

Learning Style Preference	Gender		Female (N=585)	%	df	χ^2
	Male (N=420)	%				
Active	290	69.0	403	68.9	1	0.003 NS
Reflective	130	31.0	182	31.1		
Visual	167	39.8	224	38.3	1	0.165 NS
Verbal	253	60.2	361	61.7		
Sensing	181	43.1	289	49.4	1	3.906*
Intuitive	239	56.9	296	50.6		
Sequential	214	51.0	356	60.9	1	9.366**
Global	206	49.0	229	39.1		

NS- Not significant, * - Significant at 0.05 level, ** - Significant at 0.01 level, df-degrees of freedom.

From Table 2 it is seen that the chi square value obtained for sequential – global (9.366) is greater than the critical value at 0.01 level (6.635), which shows that there is a highly significant association between gender and learning style preference namely sequential – global. The value obtained for Sensing – Intuitive (3.906) is greater than the table value at 0.05 level (3.841), which indicates that there is a significant association between gender and learning style preference namely Sensing – Intuitive. It is also seen that the chi square value obtained for active-reflective (0.003) and for visual-verbal (0.165) are less than the table value (3.841), which indicates that there is no significant association between gender and learning style preference.

Association between Learning Style Preference and Medium of Instruction

Table 3 represents the chi square value for the association between different Learning style preference and medium of instruction.

Table 3 Learning Style Preference and Medium of Instruction

Learning Style Preference	Medium of instruction				df	χ^2
	Tamil (N=716)	%	English (N=289)	%		
Active	490	68.4	203	70.2	1	0.235 NS
Reflective	226	31.6	86	29.8		
Visual	246	34.4	145	50.2	1	21.007**
Verbal	470	65.6	144	49.8		
Sensing	318	44.4	152	52.6	1	5.213*
Intuitive	398	55.6	137	47.4		
Sequential	384	53.6	186	64.4	1	9.222**
Global	332	46.4	103	35.6		

NS- Not significant, * - Significant at 0.05 level, ** - Significant at 0.01 level, df-degrees of freedom.

From Table 3 it is evident that the chi square value obtained for visual-verbal (21.007) and for sequential – global (9.222) is greater than the table value at 0.01 level (6.635), which shows that there is highly significant association between medium of instruction and learning style namely visual-verbal and sequential – global. The chi square value obtained for sensing – Intuitive (5.213) is greater than the table value (3.841) at 0.05 level, which indicates that there is significant association between medium of instruction and learning style namely sensing – Intuitive. It is also found that the chi square value obtained for active-reflective (0.235) is less than the table value (3.841) which indicates that there is no significant association between medium of instruction and Learning style Preference.

Association Between Learning Style Preference and News Paper Reading Habit of Higher Secondary Students

Chi square test was administered in order to examine whether there is any significant association between Learning style preference and News paper reading habit of the students. The results of the test are presented in Table 4.

Table 4 Learning Style Preference and News Paper Reading Habits

Learning Style Preference	News paper reading habits				p	df	χ^2
	Yes (N=576)	%	No (N=429)	%			
Active	404	70	289	67	0.347	1	0.883 NS
Reflective	172	30	140	33			
Visual	217	37.7	174	41	0.029	1	0.861 NS
Verbal	359	62.3	255	59			
Sensing	254	44	216	50.3	0.049	1	3.861*
Intuitive	322	56	213	49.7			
Sequential	322	56	248	57.8	0.546	1	0.364 NS
Global	254	44	181	42.2			

NS - Not significant, * - Significant at 0.05 level, df-degrees of freedom.

The results χ^2 (1, N=1005=3.861), P=0.049 on the contingency reveal that there is a significant association between Sensing –Intuitive Learning style preference and News paper reading habit alone.

Conclusion

The present study concluded that there is difference in the learning style preference of students based on gender, medium of instruction and newspaper reading habit of selected higher secondary students. To conclude, learning style is related to individual characteristic and preferences on how they perceive the environment, interact with environment, react and experience learning.

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