IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A STUDY ON LEARNING STYLE IN RELATION TO ACADEMIC ACHIEVEMENT OF SCONDATY SCHOOL STUDENTS

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Abstract:

The main aim of the study was to find the relationship of learning style with academic achievement of secondary school students. The participants of the study were 100 students from different schools of Raichur, 50 each from government and private schools selected by stratified sampling technique. The tool used was Kolb's Learning Inventory by David Kolb. The results reveal that there is no significant difference in the learning styles of government and private school students at high school level and there is no significant difference in the learning styles among girls and boys at high school level.

Key words: *learning style, academic achievement, secondary school students*

1. Introduction:

Education is a form of learning in which cognitive (Knowledge), affective (attitudes, believes, values) and psychomotor (skills) of a group of people are transferred from one generation to the next through teaching, training, research, or simply through oral transaction. It occurs through any experience that has a significant and formative effect on the way one thinks, feels, or acts. Education is not a mere process to comprehend the highest levels of knowledge attained by humanity at a given point of time but a continuous activity that creates new knowledge to sustain life across temporal and spatial barriers. Therefore, learning is acquiring new, or modifying existing knowledge, behaviour, skills, values, or preferences and may involve synthesizing different types of information. Learning is not compulsory; it is contextual. It does not happen all at once, but builds upon and is shaped by what we already know.

Learning styles is a pattern of behavior that human beings use for new learning. Every person is unique in his/her styles of learning teachers need to know and adopt different teaching styles as one style does not fit for every pupil. Educators need to focus their instruction based on individual differences in learning styles. For decades, education researches designed models that differentiate how people learn. Yet the results are often harder to understand. The proponents say that teachers should asses the learning styles of their students and adopt their classroom method to best fit each students learning style to make the teaching learning process effective.

Learning styles are the cognitive, affective and psychological ways learners perceive, interact with, and respond to the learning environment, students differ in the ways they approach the learning tasks and the behavior in learning situations determines their learning style. All students have strengths and abilities but each student's way of learning is his or her natural way of learning. Students with different learning styles understand and try to solve problems in different relatively stable ways. The different styles of conceptualization and pattern and patterning of activities may be the most important characteristic of an individual in respect of learning (Tyler, 1978).

Learning styles have a big contribution to the academic performance of a student. Awareness of one's learning style will help a person maximizes his potential in accumulating learning to the best of his ability with the use of his preferred learning styles. The learner should be the major focus of any education system and policy since the reason for the existence of teachers and schools is the learner and also that he should be picked up easily, captivated comfortably and satisfied perfectly. People differ in how they go about learning, thinking and problem solving.

Some people like to study alone while some like to study in groups. Some people comprehend more when they see graphs, tables and figures, while some understand better when reading their lessons on hearing somebody lecturing. Learning is the life long process of transforming information and experience into knowledge, skills, behavior and attitudes.

As learning styles have a big contribution to the academic performance of a student, awareness of one's learning style will help a person maximize his potential in accumulating learning to the best of his ability with the use of his preferred learning styles. The teacher's awareness of the student's learning styles will help him or her select teaching strategy that would maximize the student's learning potential.

Kolb's states that, the four major categories of learning styles are divergent, assimilation, convergent,

accommodating. Kolb's learning theory sets out four distinct learning styles (or preferences), which are based on a four-stage learning cycle. (Which might also be interpreted as a 'training cycle'). In this respect Kolb's model is particularly elegant, since it offers both a way to understand individual people's different learning styles, and also an explanation of a cycle of experiential learning that applies to us all.

Cognitive styles or Learning styles could be defined as an individual's orientation for approaching learning tasks, or preferred way in which a learner processes information. Learning styles characterize a person's typical manner of thinking, remembering or problem solving, they simply denote a tendency to behave in a certain manner, as they are consider to be bipolar dimensions. Unlike learning styles, abilities describe peak performance in a unpopular fashion ranging from zero to a maximum value.

One of the main exponents of learning styles is David A. Kolb who in his book "Experiential Leaning" (1984) proposes a Theory of Experiential Leaning in which he identifies four principal stages: Concrete Experiences (CE), Reflective Observation (RO), Abstract Conceptualization (AC), and Active Experimentation (AE). The CE/AC and AE/RO dimensions are polar opposites in terms of learning styles, and Kolb suggests four types of learners: Divergers, Assimilators, Convergers, and Accommodators, depending upon their position on these two dimensions.

The concept of experiential learning explores the cyclical pattern of all learning from Experience through Reflection and Conceptualizing to Action and onto further Experience. Kolb's work builds on the work Piaget, Dewey and Lewin, and it explores the processes associated with making sense of concrete experiences and the learning styles involved in doing so.

Experiential learning occurs as a direct result of the learner's participation in events, it utilizes the participants' own experience and their own reflection about that experience. It is a learner centered approach which starts with the premise that people learn best from experience (learning by doing). It is particularly effective due to its holistic approach of addressing cognitive, emotional and the physical aspect of the learner.

2. Pattern of the learning process

The learning cycle has been determined by observing that learning invariably follows a pattern that can be divided into four stages. Kolb argues that the learning cycle can begin at any one of the four points however, the following is the most often suggested pattern of the learning process.

State-I-Concrete Experience: An individual carries out a particular action and then observes the effect of

the action in this situation. Experiencing or immersing oneself in the "doing" of a task is the stage in which the learner simply carries out the task assigned. The engaged person is usually not reflecting on the task at this time but rather just carrying it out with intention.

State-II-Reflective Observation: Reflection involves stepping back from task involvement and reviewing what has been done and experienced. The skills of attending, noticing differences, and applying terms helps identify subtle events. One's paradigm (values, attitudes, beliefs) influences whether one can differentiate certain events. Understanding of the effects of an action in the particular instance is required in order to anticipate what would follow from the action if it was to be taken again under the same circumstances.

Stage-III- Abstract Conceptualization: Conceptualization involves interpreting the events that have been noticed and understanding the relationships among them. It is at this stage that theory may be particularly helpful as a template for framing and explaining events. One's paradigm again influences the interpretive range a person is willing to entertain. Understanding the general principle under which the particular instance falls does not imply ability to express the principle in a symbolic medium.

Stage-IV-Active Experimentation: Application through action in a new circumstance within the range of generalization. Within this context planning enables taking the new understanding and translates it into predictions about what is likely to happen next or what actions should be taken to refine the way the task is handled.

Learning styles based on Kolb's theory of learning give convergers, divergers, assimilators, and accommodators. Conversers dominant learning styles are abstract conceptualization and active experimentation. It is the mode of learning, which has often been associated with the classroom and caused by traditional assessment. People with this style do best in tests where the problems require single solutions. Not very emotional, they tend to prefer things to people convergence relates to the part of problem solving which is related to the selection of a solution and the evaluation of the consequence of the solutions.

Diverges are the opposite of converges. Diverges are best in the situation of concrete experience and reflective observation they like to imagine and generate ideas. They are emotional and relate well to people, and do not perform as well in the tests that demand single solutions. Divergence related to that part of the problems solving process that identifies differences (problems) and compares goals with

reality.

Assimilator's dominant learning skills are abstract conceptualization and reflective observation. They are not so much concerned with people as with abstract concepts. They are interested in the precise and logical development of theory rather than its application. Kolb describes them as pure rather than applied scientists. Assimilation relates to the solution of problems and the consideration of alternative solutions in the problem-solving process.

Accommodators are the opposite of assimilators. Their dominant learning strengths are concrete experience and active experimentation. They like doing things and want to devise and implement experiments. Such individuals take more risks than those with other learning styles.

The analysis of learning style would be helpful to the instructors in designing suitable instructional materials and methods. It is felt that there is a need of identifying the learning styles and the impact of learning styles on academic achievement of high school students in order to satisfy the demands of productive people on the society. Student's academic performance and success in life depend on thinking and problem solving skills they develop in their early period.

Learning styles were found to affect learners' learning behaviors. Learners having different learning style preferences would behave differently in the way they perceive, interact, and respond to the learning environment. Since learners differ in their preferences to certain learning styles, it will be important for teachers to examine the variations in their students on the features of their learning styles, because the information about learner's preference can help teachers become more sensitive to the differences students bring to the classroom. Adjustments can then be made to accommodate the students' varied needs. This study, therefore, aims at depicting the relationship of learners' learning style preference and the overall academic achievement of secondary school students.

Research Questions: Does the type of management influence the learning style of student? Does the learning style vary with respect to gender? Is the academic achievement of learner influenced by the learning style?

3. The objective of the study:

a. To compare the learning styles of students under different managements at high school level.

b. To compare the learning styles of students based on gender at high school level.

c. To find out the relationship between learning styles and academic achievement of students at high

school level.

4. The Hypotheses of the study are:

a. There is a significant difference in the learning styles of students in government and privately managed at high school level.

b. There is a significant difference in learning styles among the girls and boys at high school level.

c. There exist significant relation between learning style and academic achievement among the students at high school level.

5. Method:

The participants of the study were 100 students from different schools of Raichur, 50 each from government and private schools selected by stratified sampling technique was employed to make the group representative of the population. A standardized inventory modified slightly was used as a tool for the data collection. The tool used was Kolb's Learning Inventory by David Kolb. The learning style scale contains 20 questions related to identifying Divergers, Accommodator, Assimilators and Convergers. The responses were expected on four point scale. The statistical techniques used to find out the significant difference in the students' learning styles with respect management, gender and academic achievement are the mean, standard deviation, t - test and coefficient of correlation

6. Results:

Hypothesis-l: There is a significant difference in the learning styles of students in government and private at high school level.

Table-1: Mean score, standard deviation and `t' value of government and private school students

Types of Learning Style	N	Type of Management	Mean	S.D	`t' Value	Level of Significance
Diverging	50	Govt.	51.38	6.21	45	Not sig at .05 level
	50	Private	50.72	8.70		
Accommodating	50	Govt.	51.84	5.92	445	Not sig at .05 level
	50	Private	52.36	5.11		
Assimilating	50	Govt.	48.58	4.8	2 17	Sig at .05 level
	50	Private	46.06	6.09		
Converging	50	Govt.	48.34	6.87	1 02	Not sig at .05 level
	50	Private	49.80	6.39		

The result shows that, there is no significant difference in the learning styles of government and private school students at high school level.

Hypothesis-2: There is a significant difference in the learning styles among the girls and boys at high school level.

Table-2: Mean, standard deviation and `t' value of girls and boys at high school level with respect to their learning style

Learning style	N	Gender	Mean	S.D	t- value	Level of Significance
Diverging	50	Female	50.98	9.16	0.92	Not significant at .05 level
	50	Male	51.12	5.53		
Accommodating	50	Female	53.16	5.57	1.92	Not significant at .05 level
	50	Male	55.18	5.64		
Assimilating	50	Female	46.16	5.41	2.12	Significant at .05 level
	50	Male	48.48	5.60		
Converging	50	Female	48.42	6.69	1.06	Not significant at .05 level
	50	Male	49.72	6.31		

The result shows that, there is no significant difference in the learning styles among girls and boys at high school level.

Null Hypthesis-3: There is no significant relationship between learning style and academic achievement among the students at high school level.

Sl.No.	Variable	r- value	Significant
1	Learning style	0.143	Not significant at either 0.01 or 0.05 level
2	Academic achievement		

The result shows that, there is very low or negative correlation between learning styles and academic achievement of students at high school level.

Table-3:

Relationship between learning style and academic achievement among the students at high school level with respect to their learning styles

Learning Style	Learning Style Mean	Academic Achievement Mean	Coefficient of Correlation
Divergers	51.68	56.64	-0.152
Accommodators	51.57	56.64	0.006
Assimilators	47.28	56.64	.177
Convergers	49.07	56.64	-0.058

All the students showed similar mean score on the different learning style i.e. divergers, accommodators, assimilator and converger. Thus, it may be inferred that all types of learner exist in the class. However, as the mean score is highest in accommodative style, indicating that it is the predominating learning style

among both students of Government as well as private schools. Instruction is to be designed or all types of learners at the same level. As the standard deviation values are also similar, not much variation in learning style of the students may be concluded. The type of management did not show any influence on the learning style related divergers, accommodators and converger. The type of management influenced the student with assimilating learning style. The students in government schools have better assimilating capacity than student in private schools. The students in government schools are better at abstract conceptualization in combination of reflective observation. They are probably better at watching and thinking.

In terms of learning style both genders showed different types. The mean score remained similar for the different learning style that is divergers, accommodators, assimilator or convergers. However, the predominating learning styles among both genders were accommodative learning style. The standard deviation scores indicate not much variation among the different learning style. The results corroborated with the results of study by Lehmann (2011) which also noted no significant difference based on gender. Girls and boys did not differ in diverging, accommodating and converging learning styles. This indicates that girls and boys have similar reflective observation on their concrete experiences. The gender did not influence the abstract conceptualization and experimentation either. They did not differ in doing and thinking. The results also showed equal ability to solve practical problems. Similarly the boys and girls did not differ in the perception of concrete experiences and active experimentation. Both are equal in action orientation. With respect to assimilating learning style the boys and girls differed. Boys showed better abstract conceptualization and reflective observation. They are probably better at watching and thinking.

A negative correlation between academic achievement and diverging learning style indicate that, may be the instructional designing rarely includes concrete experience and reflective observation.

A positive but very low correlation between academic achievement and accommodating learning style indicate that probably the instruction in schools include very little concrete experience and active experimentation.

A low positive correlation between assimilator and academic achievement is observed. Thus it may be inferred that, the teaching in schools perhaps include very little abstract conceptualization and reflective observation that can influence academic achievement.

A negative correlation between academic achievement and converging learning style indicate most likely do not show inclusion of action experimentation in the teaching learning process. Doing and thinking is given very little importance. Solving practical problems are not encouraged in the teaching learning process.

In the present study it has been found no significant correlation between learning styles and academic achievement of high school students. Due to an increase in competition, n not much of attention is paid to learning styles as much knowledge is gained through rote memory. The private school students fared well in their academic achievement compared to government students. This may be due to parental influence and teachers pressure to score more in academics from this the researcher concludes that the change in the attitude of parents, teachers and the entire education system where students are excelling in the academic achievement is not because of learning styles but only due to rote memory.

7. Conclusion:

Learning styles have a big contribution to the academic of students. Educators must place emphasis on institution feeling, sensing and imagination, performance in addition to the traditional skills of analysis, reason and sequential problem solving. Teachers should design their instruction methods to connect with all four learning styles, using various combinations of experience, reflection conceptualization and experimentation. Instructors can introduce a wide variety of experiential elements into the class room, such as sound, music, visual experience and even talking.

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