EFFECT OF LEARNING STYLES ON LEARNING ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS

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Abstract

The objectives of the study were to investigate the relationship between different learning styles and learning achievements of students studying at secondary schools. To investigate the relationship two types of data were collected. Firstly information about students learning styles were collected by using learning style questionnaire, secondly information about students' achievement was taken from the test conducted. The population of the study was students studying in class 9th of 10 deferent School of Ahmedabad. The sample (1580 students) was drawn by using multistage sampling technique .The data were collected by administering the questionnaires to students in their classes. It was found Students did not preferred collaborative and dependent learning style. They preferred to study at their own this leads that the class room activities were of no use for them. Their concern for the achievement showed their interest for examination. This showed that learning styles may not effect learning achievement but the system of examination effects the achievement. In the light of conclusions it was recommended that the system of examination may be connected with class room activities. It may focus on real classroom learning not to rote memorization.

Key words : *Learning Styles, Learning Achievement, Secondary School*

Life from its start to end is learning. Learning continues since the start to the end of life. The concept of learning is as old as development. The aim of education is the development of six aspects of the personality. These six aspects of personality development are physical, mental, social, spiritual, esthetic and emotional. Development is associated with achievement so the ultimate goal of learning is achievement. According to Dictionary of Education (2002, p.5) achievement is "successful accomplishment or performance in particular subject or course or area of study". Many educationist and psychologists tried since long to know the ways and means of learning and to maximize the achievement. These ways of learning were identified as learning styles and means of learning were the opportunities provided by the environment either by school or by parent. to maximize learning the efforts of all the concerned persons were remained continued as the life goes on. The contributions of psychologist were remarkable for understanding the process of learning. Their contributions were started from Behaviorists to Humanists and then to Cognitivists; all of them described the learning theories. Everyone was trying to define the concept of learning, the nature of learning. How learning takes place? How individual learns? Which factors influence the learning process? Which 2 factors effects academic achievement? What physical and mental changes came as the result of learning? Which steps should be followed to be a learned person? Every psychologist perceives the process of learning in a different way. Those different ways of learning were called learning theories. The learning theories gave new and diverse directions to study the process of learning without discarding the previous.

Relationship between Learning Styles and Learning Achievement : Many students failed to explain everyday phenomena by using concepts they have learned during their educational training. This is not due to the lack of knowledge, because all the students attend 180-200 school days interacting with lectures and practical activities and they are also evaluated on what they have been taught and what they have learned. The problem is not just the lack of ability to transfer domain specific knowledge into everyday life. Evidence shows that the individuals acquired knowledge is fragmented and is unreliable. Many students do not tried to concentrate on acquired knowledge so they are unable to understand the basic concepts from the very beginning of their studies. Research shows that students' constructions of a concept sometime differ from that one the teacher holds and tried to present. Different kinds of misconceptions can be identified when students are asked to explain their own views of established concepts. When explored the students' cognitive structure these misconceptions interfere with subsequent conceptual learning. But this lack of conceptual understanding does not interfere with the students' ability to perform well in problem solving situation.

The discussion may be concluded in this way that all the students in a class did not possess and follow the same way of learning. This forced to acknowledge that different students preferred different learning styles. These different learning styles effect their learning achievement. Verma and Sharma (1987) conducted a study on "academic achievement in relation to learning styles of adolescents" The major findings were the group of students have participant learning style has better performance in the total area of the study than the group having avoidant learning style. Another study conducted by Dunn (1989) on "Grouping students for instruction: effect of learning style on achievement and attitude". The results revealed that the learning style has positive effect on the achievement and attitude as the students preferred learning alone performed significantly better in the learning alone condition and the students preferred learning with peers performed significantly better in the learning with peer condition. Learning is the most important component in education system. Learning style is an individual's characteristic way of responding to certain actions in the instructional environment which leads to learning. The learning styles may have different effects on the student's academic achievements. The study was designed to explore the effects of student's learning on learning achievement at secondary school level.

Research Design and Method : The research design used was descriptive and the nature of the study was ex-post facto research. The independent variables were learning styles of the students and the dependent variable was learning achievement of sampled students.

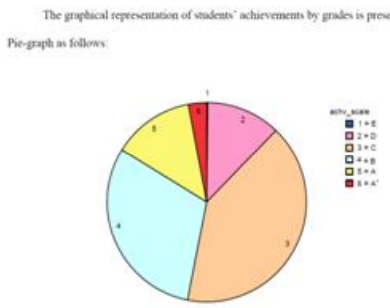
Instruments : For the research two types of data were required: first; information about students Learning Styles, sec-

ond student's achievement scores. For learning styles, Grasha & Riechmann's (1975) questionnaire "Learning Style Scale Questionnaire" was adopted. For the academic achievement test result scores was used.

Results : Table 1 Distribution of students by grades included in the study

Grade	No. of students in sample	Percentage
A+	033	02
A	167	11
B	444	28
C	694	44
D	238	15
E	004	00
N	1580	100

Table 4-1 gives the detail of sampled students' academic achievements according to their respective grades. It shows that only 13% students were declared as pass in A and above grade, 28% students were in B grade and 44% were declared as C grade achievers and only 15% were low achievers. It is further be clarified by Pie graph. The graphical representation of students' achievements by grades is presented by Pie-graph as follows:



Graph-1
Showing achievement of respondents by grades

Graph-2 highlights number of respondents in different grades. The part number 6 of pie graph represents number of respondents who achieved A+ grade. The part 5 showed respondents in A grade. Part 4 was showing B grade achievers, similarly part 3, 2 and 1 represents number of students in C, D and E grades respectively. E grade achievers were reflected by 1 they were small in number (only 4) so it was not visible by graph. The greater part of the graph is showing the total number of C grade achievers. This indicates that the performance of majority was below average.

Table - 2

Achv	Scale
1	E
2	D
3	C
4	B
5	A
6	A+

The overall relationship between learning styles and students achievement is presented in the following table.

Table 4-3
Relationship among different Learning styles and Pearson value of students' achievements by grades

Learning styles	A+	A	B	C	D	E
Independent style	022	089	048	041	027	367
Dependent style	086	155	007	040	053	494
Collaborative style	388	082	066	023	042	Not Defined
Competitive style	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined	Not Defined
Participant style	166	014	070	033	005	494
Avoidant style	046	036	036	049	002	494
Significant at α=05						
Total number of respondents = 1580						

Table 3 depicts that only two relationships were negatively significant. Those were between the A+ and A grade achievers and collaborative and dependent learning styles respectively. The other students having B, C, D and E grades have no significant relationship with any learning style. Further the results of the table showed that the highest value of r =494 was of "E" grade achievers and dependant, participant and avoidant learning styles. "E" grade achievers have no preference for dependent, participant and avoidant learning style. A+ and A grade achievers were studying independently without co-operating with others. These results indicate the preference of high achievers and low achievers. A+ grade achievers and E grade achievers both were not dependent. The reason of both may be different. One group (A+ grade achievers) was more concerned about their studies but other seems having less concern for studies. Both prefer the same style. Both are studying in same class. This shows classroom environment did not effect both groups' achievements or both groups have no interest for classroom activities. Both want to study out of classroom environment.

Findings based on the analysis of relationship between learning styles and achievement

This section presents the findings about the relationship of learning styles and learning achievement. The main findings were: The high achievers (A+ and A grade achievers) do not prefer collaborative and dependent learning style. There is a significantly negative relationship between collaborative and dependent learning styles and high achievers. Some relations although not significant yet exist among A+, B, C, D and E grade achievers and learning styles. There is a positive relation

between A+ grade achievers and independent learning style. There is a positive relation between B grade achievers and participant learning style. There is a positive relation between C grade achievement and avoidant learning style. There is a negative relation between D grade achievement and dependent and collaborative learning style.

Conclusions : The conclusions drawn from the findings of the study are as follows: The A+, A and D grade achievers do not prefer collaborative and dependent learning styles. B grade achievers prefer participant learning style.C grade achievers prefer avoidant learning style.

Recommendations : The following recommendations were made in the light of findings and conclusion of the study: The high and low achievers have no interest for classroom activities as they do not prefer collaborative and dependent learning style. The average ability student's preferred independent learning style, means they like out of class learning. All the groups have no interest with classroom activities. This is an alarming situation for Educationists. There is a need to bring the students back in to the classroom. This may be possible only when the students feel that the classroom activities are interesting and beneficial for their studies. This can be made by making teaching and learning attractive for the student. It is therefore recommended that the teaching may be made student-centered. The practical activities are recommended rather then the theoretical explanation of concepts. This can be done in two phases: one by motivating working teaching staff during refresher courses, second by renovating the activities of prospective teachers at professional training institutions. The prospective teachers may be trained for this situation during their professional training courses. The research institutions and professional training institution can tackle this situation in such a way by shifting the curriculum of prospective teachers to activity based methodology from the theoretical perspective. It is easy to train new teachers rather than changing the old one. If this situation will not be taken by responsible persons the students will lose motivation and the country will face a big problem. The classroom teaching can be made effective by linking it with internal assessment system. The internal assessment provides a link between the teachers teaching and students learning. This provides a binding force to students and teacher's and binds them together to improve the teaching learning situation. The findings of the research showed teachers were teaching in an alien environment and students were focusing the examination style no link exists between them every one going on their own way. There was no activity to bridge their teaching and learning. Both were working in different directions and this is not a healthy situation. It is therefore recommended that internal assessment may be given weight-age along with the final evaluation. It is further recommended that classroom–based assessment program may be launched at schools. Classroom-based assessment is used to make decisions to improve instructions for learning. It is designed to assist students learning. This assessment is subjective, informal, immediate and ongoing and is based on students' performance in the situation where students actually demonstrate proficiently. But the teachers' practices regarding class assessment may be flawed with poorly focused questions, predominance of questions that require short answers, repetition than reflection and they may be influenced by the requirements of external examination. For the improvement and development of teachers' competencies regarding assessment techniques and its uses some activities are suggested at cluster schools; after each terminal examination. In such activities teachers can highlight the practices used by them for the assessment of students and its advantages. They may also discuss which were difficult to use and how to remove these difficulties. It is recommended that the pattern of examination may be shifted from rote memorization to skill acquirement. The public and private partnership can be welcomed to design and construct teaching learning material for students and teachers and its availability at learning institutions so that institution may provide the learning experience to the students.

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