

EFFECT OF ACHIEVEMENT MOTIVATION ON LEARNING STYLES

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ABSTRACT

This paper deals with the effect of achievement motivation on learning styles. The purpose of this study was to find out whether there was any particular learning style of high achievement motive students and low achievement motive students or not. The study was conducted on 348 secondary school students of Lucknow city. To achieve the purpose of the study, the ILS of Richard M. Felder and Soloman (1994) was used. The instrument comprises of 44 bipolar items for 8 learning styles: Active v/s Reflective (ACT/REF), Sensitive v/s Intuitive (SEN/INT), Visual v/s Verbal (VIS/VRB) and Sequential v/s Global (SEQ/GLO). Total 8 bipolar learning styles measures the learning style of the students. The revised BAMI (Kannaujia and Bhattacharya, 2016) administered on same 348 students to measure the effect of achievement motivation on Learning Styles. BAMI form 'A' measures 11 dimensions of Achievement Motivation with 44 items. This study considered only high achievement motive and low achievement motive students. The study found that there is no significant difference in Learning Styles of high achievement motive and low motive students. They preferred same learning styles to learn except sensitive v/s intuitive learning style where clear cut style did not emerge.

KEYWORDS: Learning Styles, High Achievement Motive Students, Low Achievement Motive Students

INTRODUCTION

Learning Styles are individual differences in learning. An individual's learning style refers to the way as he or she pursue the process, remembers and comprehend the new things and skills. An individual's educational attainment depends on their learning style also not only the learning environment and abilities (Allinson and Hayes 1990). The field of learning is complex and leads to distinguished concepts and views. A person's approach to learning is a relatively stable response to the learning environment. Often the classroom environment is not enough to deal with various students having different leaning styles. Majority of educators till day have not considered student's learning styles. Understanding learning styles and role of learning style in the teaching-learning process is a mile stone for effective

Process. Use of learning style theory in the classroom is extremely beneficial at all levels of education. There are several learning styles inventory available: Vermunt's Model of Learning, Myers Briggs Type Indicator (MBTI), Jackson's Learning Style Profiler (LSP), Kolb's Learning Style Inventory (LSI), Honey and Mumford's Learning Style Questionnaire (LSQ), Allison and Hays' Cognitive Style Index (CSI) and Felder and Silverman's Inventory of Learning Style (Gunes,2004; Capso and Hayen, 2006; Kazu, 2009).

Achievement motivation has been defined as a concern for excellence in performance, as reflected in competition with the standards set by others or oneself, unique accomplishment or long term involvement (McClelland et al., 1953). The theory of achievement motivation is developed by J.W. Atkinson and his associates. The concept of achievement motivation (N-Ach) was subsequently popularised by David McClelland (1953).

Index of Learning Style

This tool was originally constructed by Richard M. Felder and Silverman (1991), with four learning dimension model from North Carolina State University. After that in 1994 several hundred sets of scores were collected but in factor analyses, items did not load significantly. A new version of ILS was introduced by Richard M. Felder and Barbara A. Soloman (1994). Paper-pencil version of the instrument was put in 1996 and the online version of the instrument was launched in 1997. Present researchers used this inventory with the written permission of the constructors of the tool. The inventory comprises 44 bipolar items for 8 learning styles: Active v/s Reflective (ACT/REF), Sensitive v/s Intuitive (SEN/INT), Visual v/s Verbal (VIS/VRB) and Sequential v/s Global (SEQ/GLO). Total 8 bipolar learning styles measures the learning style of the students. Researchers translated the items in Hindi for the Hindi speaking Indian examinees.

Active learners can learn and understand things better by doing himself or herself. Though reflective learners prefer think first then doing things. Active learners prefer group work more rather than reflective learners. But human nature is complicated and fussy that's why sometime they are active and sometime reflective. According to **Richard M. Felder (1993)** preferences for one category or the other may be strong, moderate, or mild. A balance of the two is desirable. If one always acts first without thinking or thinking so much without doing, both are dangerous. So, a balance is always required.

Sensitive learners tend to learn facts, actual, real and current things. He or she always notices the real facts and remembers the details that are important to him or her. One can say that they are totally pragmatic personality. In spite of that, the intuitive learners tend to discover new things, possibilities and work with symbols. They are better in grasping new concepts and work fast. **Felder** think that 'the overemphasize intuition may miss important details or make careless mistakes in calculations or hands-on work; the overemphasize sensing, may rely too much on memorization and familiar methods and not concentrate enough on understanding and innovative thinking'.

Visual learners tend to learn what they see like: diagrams, pictures, flow charts, films, images, models and other visual demonstrations. Verbal learners learn best through audio material, spoken explanations and peer conversations. Verbal learners often prefer to learn through reading. Good learners are able to grasp information by both learning styles.

Sequential learners are focused on linear learning, step by step. This approach solves their problems in a systematic way. Systematic means use of logical steps to resolve the problems. Global learners are able to solve complex problems quickly because they have wide picture of the problem in their minds and they got sudden solutions of the problems. They put scattered information together and find immediate solutions of the problems.

Each learning style is associated with 11 forced-choice items with option (a and b) corresponding to one and other dimension of that particular learning style (e.g., active or reflective). The score ranges from 0 to 11 and in odd numbers, 1, 3, 5...11. Scores are always in an odd numbers. But, Scores are deducted from high scores so that final scores in a dimension is always positive.

If your score on a scale is 1-3, you are fairly well balanced on the two dimensions of that scale. If your score on a scale is 5 or 7, you have a moderate preference for one dimension of the scale and will learn more easily in a teaching environment which favours that dimension. If your score on a scale is 9 or 11, you have a very strong preference for one dimension of the scale. You may have real difficulty learning in an environment which does not support that preference. Transfer your scores to the ILS report form by placing X's at the appropriate locations on the four scales.

Achievement Motivation

Bhattacharya's Achievement Motivation Inventory (BAMI) was introduced by Rai and Bhattacharya (1986). This tool is available in two forms: Form 'A' and Form 'B'. This paper considered only form A. Present researchers conducted a research on revalidation of Bhattacharya's Achievement Motivation Inventory (2016). The paper is accepted and under publication (IOSR Journals, International Organization of Scientific Research). This revised BAMI form 'A' measures 11 dimensions of Achievement Motivation with 44 items. The 11 dimensions of this tool refers as Persistence (P), Personal Responsibility (PR), Aspiration Level (AL), Risk Taking (RT), Upward Mobility (UP), Time Perspective (TS), Time Perception (TP), Partner Choice (PC), Achievement Behaviour (AB), Recognition Behaviour (RB), Task Tension (TT). This study is delimited to form 'A' only. The items were prepared keeping in view the behaviour style of the student in the form of Achievement Related (AR), Task Related (TR) and Unrelated (UR). Only achievement related behaviour were given one mark and task related and unrelated behaviours were given zero marks.

OBJECTIVE

- To find out whether there is any significant difference in specific learning style of High Achievement Motivation student and Low Achievement Motivation students.

Sample and Tools of the Study

Two tools, namely, BAMI (2016) and ILS (Felder and Soloman, 1994) were administered on 348 secondary school students of Luck now city. The top 27% scores and 27% bottom scores have been taken from the Bhattacharya's achievement motivation inventory and lay aside the middle 46% scores. Top 27% consisted of 94 scores and same as for the bottom 27%. Upper Group was considered as high achievement motivation group and lower group as low achievement motive group. Only high achievement motive students and low achievement motive students have been considered in this study. Then the scores of learning style tool were placed to determine that whether high achievement motive students and low achievement motive students have any particular learning style or not.

Analysis of the Study

After having analysed the data, researchers found from percentage distribution of data that three learning styles were coming clearly at the left of the pole instead of at the other pole of those three learning styles, except for second dimension of Sensitive v/s Intuitive where no clear cut style emerged. The relative results are given in Table 1 and Table 2.

Table 1: Learning Style Preferences of High Achievement Motive Students (n=94)

	ACT	REF	SNS	INT	VIS	VRB	SEQ	GLO
n	68	26	46	48	66	28	62	32
%	72	28	49	51	70	30	66	34

Table 1 indicates that high achievement motive students preferred active, visual and sequential learning. All preferences clearly show that there was one particular learning style in each dimension of high achievement motive students except Sensitive v/s Intuitive learning style where no clear cut pattern emerged. The table of preference within each learning style of high achievement motivation group is given in Table 2.

Table 2: Learning Style Preferences Percentages of High Achievement Motive Students (n=94)

Upper Group	ACT	REF	SNS	INT	VIS	VRB	SEQ	GLO
Strong Preferences	0%	0%	1%	2%	4%	1%	6%	0%
Moderate Preferences	24%	4%	14%	13%	27%	6%	22%	10%
Fairly Balanced Preference	48%	24%	34%	36%	39%	23%	38%	24%
Total Percentages	72%	28%	49%	51%	70%	30%	66%	34%

Table 1 and 2 indicate that 72% students preferred active learning style and 28% students were in favour of reflective learning style in upper group (high achievement motive students). 49% students preferred sensitive learning style and 51% students preferred intuitive learning style. 70% students preferred visual learning style and 30% students preferred verbal learning style. 66% students preferred for sequential learning style and 34% students preferred global learning styles. But, there is very less percentage of student having strong preference for any dimension Table 2. This otherwise indicates that teachers will not have to arrange for teaching matching with strong preferred learning styles in majority of the cases. By adjusting their teaching in some situations, they can manage effective learning for their students.

Table 3: Learning Style Preferences of Low Achievement Motive Students (n=94)

	ACT	REF	SNS	INT	VIS	VRB	SEQ	GLO
n	55	39	52	42	66	28	65	29
%	59	41	55	45	70	30	69	31

Table 3 and 4 indicate that low achievement motive students also preferred active, visual and sequential learning. Off course, they showed a bit more inclined to towards sensitive style, but that does not help in interpreting clear cut preference as intuitive is also 45%. Three preferences clearly show that there was one particular learning style in each dimension of low achievement motive students. The Table 4 shows percentage of strength of preference in each learning style of low achievement motivation group.

Table 4: Learning Style Preferences Percentages of Low Achievement Motive Students (n=94)

Lower Group	ACT	REF	SNS	INT	VIS	VRB	SEQ	GLO
Strong Preferences	1%	1%	1%	2%	2%	2%	1%	0%
Moderate Preferences	19%	11%	17%	13%	16%	7%	22%	9%
Fairly Balanced Preference	39%	29%	37%	30%	52%	21%	46%	22%
Total Percentages	59%	41%	55%	45%	70%	30%	69%	31%

Table 4 indicates that 59% students preferred active learning style and 41% students were in favour of reflective learning style in lower group (Low achievement motive students). 55% students preferred sensitive learning style and 45% students preferred intuitive learning style. 70% students preferred visual learning style and 30% students preferred verbal learning style. 69% students preferred for sequential learning style and 31% students preferred global learning styles. When these most preferred Learning styles were further analysed for level of preferences, there were practically no difference in strong preference section and the frequencies were also too low to the range 0% to 2% Table 4. Hence, further analyses with these strong preference group were dropped. The analyses were carried out with Moderate preference groups and fairly balanced groups for all the three learning styles except the Sensitive vs Intuitive group which did not throw any clear picture. Further, when a particular style comes out clearly under any dimension, then it is futile to find out the difference between high and low achievement motivation group on the other pole of the same dimension as the analyses give the picture of one side preference on each dimension. Hence, analyses for Active in Active v/s Reflective,

Visual in Visual v/s Verbal, Sequential in Sequential v/s Global were carried out with moderate preference and fairly balanced preference relating to the comparison of High Achievement Group and Low achievement group to assess the effect of achievement motivation on learning styles. The students who scored 1 or 3 come under fairly balanced group, students who scored 5 or 7 come under moderate preference group, those who scored 9 or 11 come under strong preference group. As already explained that strong preference group was dropped from analyses due to inadequate frequency. The scores of each dimension at the pole where the concentration was higher were subjected to finding out mean, standard deviation and standard error of means. They have been tabulated and t were computed. These resulted in 6 tables from Table 5 to Table

Table 5: Showing Significance of the Mean Difference between Active Style of Learning Styles of Moderate Preference High Achievement Motive and Low Achievement Motive Groups

Moderate Preferences	n	M	SD	σD	D	T
ACT in High Group	23	5.52	0.897	0.284	0.03	0.10*
ACT in Lower Group	18	5.55	0.921			

* $p > 0.05$

Table 6: Showing Significance of the Mean Difference between Visual Style of Learning Styles of Moderate Preference High Achievement Motive and Low Achievement Motive Groups

Moderate Preferences	n	M	SD	σD	D	T
VIS Upper Group	25	5.80	1.00	0.325	0.20	0.615*
VIS Lower Group	16	6.00	1.03			

* $p > 0.05$

Table 7: Showing Significance of the Mean difference between Sequential Style of Learning Styles of Moderate Preference High Achievement Motive and Low Achievement Motive Groups

Moderate Preferences	n	M	SD	σD	D	T
SEQ Upper Group	20	5.80	1.00	0.319	0.20	0.62*
SEQ Lower Group	20	6.00	1.02			

* $p > 0.05$

In all the above mentioned Tables 5 to 7, there are no significant differences between moderate learning styles of high achievement motive and low achievement motive groups as none of the three 't's were significant at 0.05 level of significance. Students preferred same learning styles in both the higher and lower achievement groups with moderate preference.

Table 8: Showing Significance of the Mean difference between Active Style of Learning Styles of Fairly Balanced Preference High Achievement Motive and Low Achievement Motive Groups

Fairly Balanced Preferences	n	M	SD	σD	D	T
ACT Upper Group	45	1.97	1.01	0.216	0.36	1.66*
ACT Lower Group	36	2.33	.956			

* $p > 0.05$

Table 9: Showing Significance of the Mean Difference between Visual Style of Learning Styles of Fairly Balanced Preference High Achievement Motive and Low Achievement Motive Groups

Fairly Balanced Preferences	n	M	SD	σD	D	t
VIS Upper Group	37	1.70	0.968	0.212	0.25	1.17*
VIS Lower Group	48	1.95	1.00			

* $p > 0.05$

Table 10: Showing Significance of the Mean Difference between Sequential Style of Learning Styles of Fairly balanced preference High Achievement Motive and Low Achievement Motive Group

Fairly Balanced Preferences	n	M	SD	σD	D	t
SEQ Upper Group	36	2.11	1.00	0.221	0.02	0.09*
SEQ Lower Group	44	2.09	1.00			

* $p > 0.05$

In all above mentioned Tables 8 to 10, not a single t became significant. Hence, for fairly balanced preference groups in all the three learning styles high and low achievement motivation groups did not differ at 0.05 level of significance. Meaning thereby, when effect of Achievement motivation on Learning styles is assessed then no effect is visible either for moderate preference or for fairly balanced preference groups in any learning styles out of three styles. However, Richard M. Felder and Barbara Soloman used three learning style preferences (Strong preferences, Moderate preferences and Fairly Balanced Preferences) but researchers used only two preferences: moderate and fairly balanced learning styles of high achievement motive and low achievement motive groups as there was practically very less frequency in the strong preference. No parallel study related to the effect of achievement motivation on learning style could be traced by the researchers.

SUMMARY AND CONCLUSIONS

Every learner is unique and has some particular learning style of learning. But it is not stable, it's changeable. Sometime they are active and sometime reflective. As above mention comment of **Richard M. Felder** that preferences for one category or the other may be strong, moderate, or mild. A balance of the two is desirable. If one always acts first without thinking or thinking so much without doing, both are dangerous. So, a balance is always required. This study determined that there is no significant difference in learning styles of high achievement motive and low achievement motive students. They preferred same learning style to learn except sensitive v/s intuitive learning style whose analyses were avoided due to paucity of data.

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