

ACHIEVEMENT MOTIVATION OF SECONDARY SCHOOL STUDENTS IN RELATION TO FIGURAL AND VERBAL LEARNING STYLES AND ACADEMIC ACHIEVEMENT IN MATHEMATICS

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ABSTARCT

The study examined achievement motivation of secondary school students in relation to figural and verbal learning styles and academic achievement in mathematics. 148 secondary school students were selected as sample by using Random sampling technique (78 boys & 70 girls). The population of this study consisted of all 9th graders from the government schools in District Rajouri. Mukherjee achievement motivation test and K.S.Mishra learning style inventory were used for data collection. t test used to compare the mean scores as statistical technique. Result of objective (1) revealed that high and low achievers in mathematics having high figural learning style do not differ significantly in their achievement motivation. Objective (2) showed that high and low achievers in mathematics having low figural learning style do not differ significantly in their achievement motivation. Objective (3) showed that high and low achievers in mathematics having high verbal learning style do not differ significantly in their achievement motivation. Last objective revealed that high and low achievers in mathematics having low verbal learning style do differ significantly in their achievement motivation.

Key Words: Achievement Motivation, Figural And Verbal Learning Styles, Academic Achievement, Secondary School

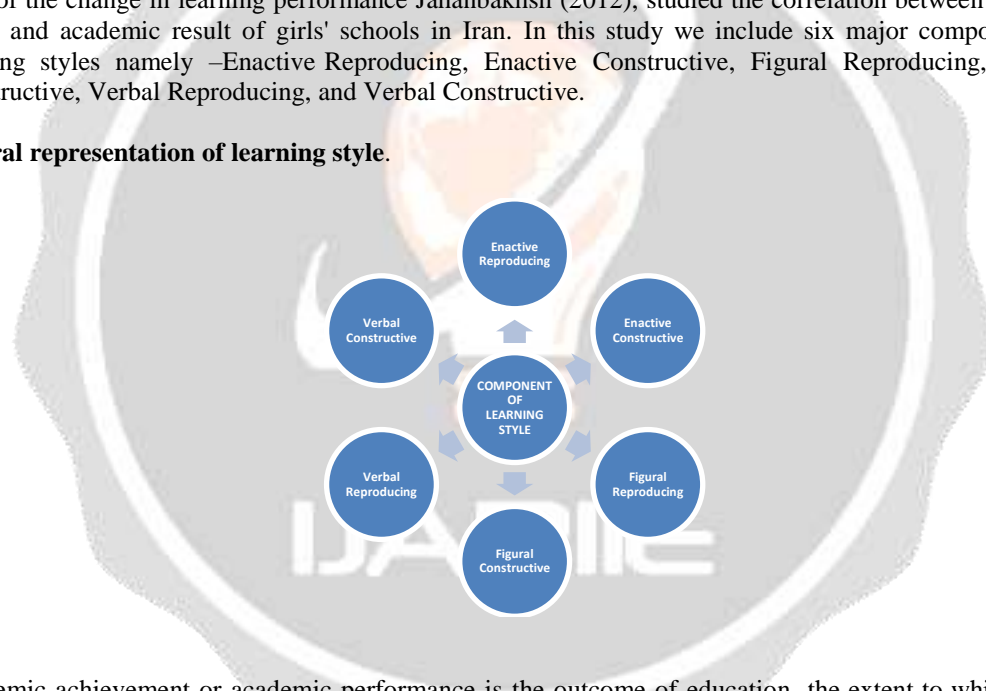
INTRODUCTION

McClelland & Winter (1969) achievement motivation is one of the psychological factors that significantly influence a man's success and achievements. "Cognitive, emotional, and behavioural characteristics of student investment in and connection to education" are referred to as motivation as an academic engagement. According to McClelland (1966), a nation will make significant progress if its citizens care about excellence in its schools and institutions. So, a nation's development is largely dependent on its youth and students, particularly in terms of their academic performance. Learning styles demonstrate the difference in the individual's preferences in the knowledge acquisition process (Kafadar, 2014). David McClelland's research marked the start of the contemporary study of motivation for achievement. He and his collaborators created the phrase "n Ach" (meaning "need for achievement") (McClelland, 1961; McClelland & Winter, 1969). According to this hypothesis, when given the right circumstances, people will act in the manner for which they have been rewarded. The most comprehensive attribution theory of accomplishment motivation and emotions was introduced by Weiner (1986). The two main categories of goals discussed in Elliot and McGregor's (2001) model of achievement motivation are mastery goals, or "mastering" the activity at hand, and performance goals, or outperforming others. The primary considerations for striving to fulfil these academic aims are social ones. Maehr (2008) asserts that motivation for achievement is mostly social psychological in origin. That frequently happens in groups, where interpersonal interactions can hinder or help participation in the work at hand. Motives are inferences drawn from behavior. From a laborious student we might infer the motive to achieve, to master

challenges. Motives are the tools of explanation of behavior. Achievement motivation is something that causes a person to make an effort to become successful and be goal oriented. Obviously, it is what people need to achieve a “good life”. Staying motivated keeps a person active and gives a feeling of being in control. People who are motivated by achievement often set fairly difficult but realistic targets, which ensure that they achieve their goals.

Learning is a permanent change in behavior brought about by activity training or experience. But not all change in behavior is learning. Change or modification also occurs through fatigue, drugs, illness, and warm-ups and through maturation but the behavioral changes brought about by the first four are transitory whereas learning involves permanent changes. The maturational changes are the result of upholding and ripening of inherited traits and are relatively independent of activity practice or experience. Preferred learning style guide the way persons learn. We learn using our preferred learning styles. Learning styles group common ways in which people learn. Positive correlation between learning styles and academic achievement in Physics of a group of high school students in Thai Nguyen City (Husin et al., 2021; Dudar et al., 2021). Homayoni & Abdolahi (2003), looked into the relationship between learning styles and academic achievement of high school students. Their study revealed a very close correlation between learning style and learning performance. Siddiquei & Khalid (2018); Komarraju et al. (2011), studied the correlation between personality, learning style and academic achievement. This study was conducted on a sample of 308 students. It indicated that personality and learning style can together influence and result in 17% of the change in learning performance Jahanbakhsh (2012), studied the correlation between learning styles and academic result of girls' schools in Iran. In this study we include six major components of learning styles namely –Enactive Reproducing, Enactive Constructive, Figural Reproducing, Figural Constructive, Verbal Reproducing, and Verbal Constructive.

Figural representation of learning style.



Academic achievement or academic performance is the outcome of education, the extent to which a student, teacher or institution has achieved their educational goals. Academic achievement is commonly measured by examination or continuous assessment, but there is no general agreement on how it is best tested or which aspects are most important, procedural knowledge such as skills or declarative knowledge such as facts. Academic achievement is very important factor in the life of students these days. The term achievement has much broader meaning and refers to the acquisition of all the behavioral changes belonging to cognitive, affective, and psychomotor domain. In the present investigation the academic achievement is the achievement in the academic field and achievement level of students, what he/she attains after a proper training. For the present investigation since the investigator has taken 9th class students, so actual marks of class 8th were recorded. These were taken from students records with the permission of the head of the institution and concerned subject teacher. The purpose of the study is to investigate achievement motivation of secondary school students in relation to figural and verbal learning styles and academic achievement in mathematics.

OBJECTIVES

1. To find differences in Achievement Motivation of High and Low Achievers in Mathematics Having High Figural Learning Style among secondary school students.
2. To find differences in Achievement Motivation of High and Low Achievers in Mathematics Having Low Figural Learning Style among secondary school students.
3. To find differences in Achievement Motivation of High and Low Achievers in Mathematics having High Verbal Learning Style among secondary school students.
4. To find differences in Achievement Motivation of High and Low Achievers in mathematics having Low Verbal Learning Style among secondary school students.

HYPOTHESIS

1. There will be no significant differences in Achievement Motivation of High and Low Achiever in Mathematics Having High Figural Learning Style.
2. There will be no significant differences in Achievement Motivation of High and Low Achiever in Mathematics Having Low Figural Learning Style.
3. There will be no significant differences in Achievement Motivation of High and Low Achiever in Mathematics having High Verbal Learning Style.
4. There will be no significant differences in Achievement Motivation of High and Low Achiever in mathematics having Low Verbal Learning Style.

METHODOLOGY

Descriptive research method followed by the researcher to investigate this problem. **Samples:** 148 secondary school students were selected as sample by using Random sampling technique (78 boys & 70 girls). The population of this study consisted of all 9th graders from the government schools in District Rajouri. **Tools:** Mukherjee achievement motivation test and K.S.Mishra learning style inventory were used for data collection.

Statistical Techniques: t test used to compare the means. In order to divide the sample into two groups—high achievers in mathematics and low achievers in mathematics—students scoring 45% of the possible points, or 22 points out of a possible 50, were classified as low achievers in mathematics, while students scoring 70% of the possible points, or 35 points out of 50, were classified as high achievers in mathematics.

ANALYSIS & DISCUSSION

TABLE 1

Difference in Mean Score of Achievement Motivation of High and Low Achievers in Mathematics having High Figural Learning Style

H ₀ 1	Variables	N	M	S.D	<i>SE_{DM}</i>	t	Significance	Results
1	High Achiever	31	16.13	2.90	0.95	0.04	Not Significant	Ho.1 is accepted

	Low Achiever	39	16.17	16.17			
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Interpretation

From Table 1 It may be easily evident from the table that the mean scores of achievement motivation of high and low achievers in mathematics having high figural learning style is not significant. As the calculated value of $t = 0.04$ which is less than that 1.96 the table value of t at 0.05 level of significance. Therefore it can be inferred that high and low achievers in mathematics having high figural learning style do not differ significantly in their achievement motivation. Therefore hypothesis 1 stating that, “there will be no significant difference in achievement motivation of high and low achiever in mathematics having high figural learning style”. Therefore a hypothesis (1) is accepted.

TABLE 2

Difference in Mean Score of Achievement Motivation of High and Low Achievers in Mathematics having Low Figural Learning Style

H ₀ 2	Variables	N	M	S.D	<i>SE_{DM}</i>	t	Significance	Results
2	High Achiever	7	20.28	2.75	4.43	1.14	Not Significant	Ho.2 is accepted
	Low Achiever	7	15.85	8.08				

Interpretation

From Table 2 It may be easily evident from the table that the mean scores of achievement motivation of high and low achievers in mathematics having low figural learning style is not significant. As the calculated value of $t = 1.14$ which is less than that 2.18 the table value of t at 0.05 level of significance at $df=12$. Therefore it can be inferred that high and low achievers in mathematics having low figural learning style do not differ significantly in their achievement motivation. Therefore hypothesis (2) stating that, “there will be no significant difference in achievement motivation of high and low achiever in mathematics having low figural learning style”. Therefore a hypothesis (2) is accepted.

TABLE 3 Difference in Mean Score of Achievement Motivation of High and Low Achievers in Mathematics having High Verbal Learning Style

H ₀ 3	Variables	N	M	S.D	<i>SE_{DM}</i>	t	Significance	Results
3	High Achiever	5	15.4	3.44	5.03	0.32	Not Significant	Ho.3 is accepted
	Low Achiever	6	17	4.79				

Interpretation

From Table 3 it may be easily evident from the table that the mean scores of achievement motivation of high and low achievers in mathematics having high verbal learning style is not significant. As the calculated value of $t = 0.32$ which is less than that 2.26 the table value of t at 0.05 level of significance at 9 degree of freedom. Therefore it can be inferred that high and low achievers in mathematics having high verbal learning style do not differ significantly in their achievement motivation. Therefore hypothesis (3) stating that, “there will be no significant difference in achievement motivation of high and low achiever in mathematics having high verbal learning style”. Therefore a hypothesis (3) is accepted.

TABLE 4

Difference in Mean Score of Achievement Motivation of High and Low Achievers in Mathematics having Low Verbal Learning Style

Ho	Variables	N	M	S.D	<i>SE_{DM}</i>	t-value	Significance	Results
4	High Achiever	37	18.08	5.85	1.42	2.42*	Significant at 0.05 level	Ho.4 is rejected
	Low Achiever	11	14.64	3.47				

Interpretation

From Table 4 it may be easily evident from the table that the mean scores of achievement motivation of high and low achievers in mathematics having low verbal learning style differ significantly. As the calculated value of $t = 2.42$ which is greater than that 1.96 the table value of t at 0.05 level of significance. Therefore it can be inferred that high and low achievers in mathematics having low verbal learning style do differ significantly in their achievement motivation. Looking at the table 4.4 we find that the mean score of achievement motivation of high achiever having low verbal learning style is greater than the mean score of low achiever having low verbal learning style. In other words we can say that the achievement motivation of high achiever having verbal learning style is better than that of low achiever having verbal learning style.

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