



## ACHIEVEMENT IN CHEMISTRY OF IX GRADERS IN RELATION TO ACHIEVEMENT MOTIVATION

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### **Abstract**

*The Study was done to study the relation existing between Achievement in Chemistry and Achievement Motivation. Sample of the study consisted of 236 IX class students from four Government schools of Ludhiana city. Achievement Motivation scale by Deo and Mohan (2011, revised) was used to determine Achievement Motivation of the students. Achievement test in Chemistry (developed and standardized by the investigator) were used as tool for data collection. The results of the study showed that Achievement in Chemistry of the students was positively correlated with the Achievement Motivation. The overall result of co-relation showed that there exists a positive and significant relationship between the two variables of the study.*

**Key Words:** *Achievement in Chemistry, Achievement Motivation, IX Graders*



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**Introduction:** Education is a wonderful tool to bring about an all round development of an individual. We can easily differentiate between an educated from an uneducated person with respect to any aspect of personality. Every person sends their children in the best possible school, one can afford. We cannot ignore the fact basically one is more focused on curricular achievement as compared to co-curricular aspect. All the efforts of parents', institutions', teachers' focused on to increase the achievement or more appropriately academic achievement of the children. Even the institution which claims hundred percent result claims to be an excellent institution in the society.

It is a product of the interaction between several factors operating in the pupil. These factors can

be cognitive such as environmental factors as school environment (Mukhopadhyaya, 1988; Koteswara, 1991; Natarajan, 1992; Okwilagme, 1992; Ilori, 1995; Kulshreshtha, 1992; Hymel, Schonert-Reichl & Miller, 2006), , home environment (Grover, 1979; Gaur, 1982; Sarkar, 1983; Lall, 1984; Jagannadhan, 1985; Mitra, 1985; Paul, 1985; Trivedi, 1987; Codjoe, 2007; and Muola, 2010), examination system or affective behavioral factors as abilities, interest (Agarwal, 1973; Patil, 1984; Mehna, 1986; Singh, 1986; and Saxena, 1988), and motivation (Saraswati, 1988; Saxena, 1988; Dhar, 1989; Devanesan, 1990; Bhaskaran, 1991; Harikrishan, 1992; and Rani 1992); Achievement Motivation (Desai, 1971; Mitra, 1991; Lekhi & Kaur, 1995; Sreenivasa & Baburao, 1997; Vaslow, 2000; Ellakakumar & Elankathirslvan, 2001; Khosa, 2001; Yadav & Mayuri, 2001; Sardana, 2006; Kaur & Mehta, 2007), thus Achievement Motivation is an important correlate of academic achievement.

**Achievement:** Achievement signifies accomplishment or gain or a performance carried out successfully by an individual on the completion of task. It means all those behavioural changes which take place in an individual as a result of learning experiences of various kinds. Crow and Crow (1954) defined achievement as the extent to which learner is profiting from instructions in a given area of learning i.e. achievement is reflected by the extent to which knowledge or skill has been acquired by a person from the training imparted to him. Traw (1960) defined academic achievement as the attainment ability or degree of competence in school tasks usually measured by standardized tests and expressed in grades or units based on norms, derived from a wide sampling of pupil's performance. Kumar (2001) defined academic achievement as "the sum total of information gained after completing a course of instruction (partially or fully) in a particular grade that he has obtained on an achievement test." According to Craighhead and Nermeroff (2001), "Academic achievement may be defined as "a measure of knowledge, understanding of skills in a specified subject or group of subjects." According to Dictionary of Education (2008), "Academic achievement is a measure of knowledge gained through formal education usually indicated by test scores, grade point average and degree."

**Achievement in Chemistry:** Achievement refers to a degree or level of success or that of proficiency attained in some specific area concerning scholastic or academic work. Higher the achievement more is the openings for the students and they can go for better lines and better jobs in all fields thereby bringing success in one's life. This success is equally related with Science so study of Science is one of the essential aspects. Chemistry is one of the main branches of Science

dealing with chemicals and reactions. Here Achievement in Chemistry is considered as scores obtained by the students in the achievement test in Chemistry.

**Achievement Motivation:** In the 21<sup>st</sup> Century every person wants to have a unique accomplishment, an accomplishment of excellence. When a person tries to manifest concern for excellence in his work, we call it as behaviour backed by achievement motive. Achievement Motivation is considered to be deep rooted and fixed in human nature. Achievement Motivation is a system of goal direction that is closely associated to competence, higher standards of excellence, hope of success, aggressiveness, dominance perseverance and fear of failure. It is a desire to do well. Achievement Motivation sometime refers to as “The motive for mastery”.

Achievement Motivation is an important ability. Ability determines what a person can do and motivation determines what a person will do, thus motivation plays an important role in improving the level of performance. This desire is as basic and natural as the other biological or psychological needs. However, in a competitive society or set up the desire to excel over other or achieve higher level than one’s peers is intensified which in turn lead to a stronger may derive or motive to achieve something or everything that is essential to beat the other in a race and consequently experience a sense of pride and pleasure. This type of motivation produced by such desire for achievement is called achievement motivation.

Generally Achievement Motivation has two aspects- positive and negative. The person who has more positive approach or aspect is called high motivated person and a person having more avoidance is called a low motivated person.

It was Murray (1938) who first of all used the term Achievement Motivation to refer to achievement needs. According to him, Achievement Motivation means to accomplish something difficult, to master, to manipulate or to energize physical objects, human beings or ideals and to do this as rapidly and independently as possible so as to overcome obstacle and attain a high standard.

Atkinson (1964) states “the theory of Achievement Motivation attempts to account for the determinants of the direction, magnitude and persistence of behaviour, in limited but very important domain of human activities.” Whereas according to Colman (2001), “Achievement Motivation is a social form of motivation involving a competitive drive to meet standard of excellence.” Salvin (2006) defines Achievement Motivation as the generalized tendency to strive for success and choose goal for development in life.

**Review of Related literature** Various studies have been reported by different researchers involving Achievement and Achievement Motivation. Results of studies by Desai (1971), Sharma (1984), Mitra (1991), Deewan (1996), Archer et al. (1999), Vaslow (2000), Ellakakumar and Elankathirslvan (2001), Khosa (2001), Tavani and Losh (2003), Manimekalai and Dharma (2005), Steinmayr and Spinath (2009), Prasad (2013), Chetri (2014), Sandhu (2014), and Siddiqui and Fatima (2014) showed a positive relationship between Achievement and Achievement motivation but the results of studies by Kalie and Kaur (1990), San Juanita (1998), Kaur (2001), Onete et al. (2012) and Emmanuel et al. (2014) confirmed no significant relation between Achievement and Achievement motivation. Kingra (1986) found significant negative correlation between Academic Achievement and Achievement Motivation.

**Significance of the Study:** A nation's destiny is based upon its citizens and children. So the wholesome development of children is the need of the hour but in spite of all the efforts made in schools to raise the abilities, capacities and other personality traits of the children, it has not been possible for us to attain the optimum level of educational goal. Normally children feel problem in Science particularly in Chemistry portion. The present study wants to check correlation between Achievement in Chemistry and Achievement Motivation. So that proper care should be taken by the parents and teachers to facilitate achievement in the subject by developing Achievement Motivation.

### **Objective**

1. To investigate the significance of relationship between Achievement in Chemistry and Achievement Motivation of students.

### **Hypothesis**

Ho1 There exists no significant relationship between Achievement in Chemistry and Achievement Motivation.

**Sample:** The study conducted on 236 IX grade students from Government Secondary Schools of Ludhiana district of Punjab affiliated to Punjab School Education Board Mohali.

### **Tools**

1. Deo-Mohan Achievement Motivation Scale (DMAMS) by Deo and Mohan (2011, Revised).
2. Chemistry achievement test (Developed and Standardized by the investigator)

## **Result and Discussion**

To investigate the significance of relationship between Achievement in Chemistry and Achievement Motivation of the IX grader students, coefficient of correlation was applied and the value is given in the table below:

**Table: Significance of relationship between Achievement in Chemistry and Achievement Motivation**

<b>Variables</b>	<b>N</b>	<b>Standard deviation</b>	<b>r</b>
Achievement Motivation	236	17.99	0.34*
Achievement in Chemistry	236	10.48	

\*Significance at 0.01 level of significance.

Table reveals that value of correlation between Achievement Motivation and Achievement in Chemistry is 0.34., which is significant at 0.01 level of significance. This leads to rejection of null hypothesis which states that ‘There exists no significant relationship between Achievement in Chemistry and Achievement Motivation.’ There is significant positive relationship between Achievement Motivation and Achievement in Chemistry. This finding is well supported by the studies conducted by Desai (1971), Sharma (1984), Mitra (1991), Deewan (1996), Archer et al. (1999), Vaslow (2000), Ellakakumar and Elankathirslvan (2001), Khosa (2001), Tavani and Losh (2003), Manimekalai and Dharma (2005), Steinmayr and Spinath (2009), Prasad (2013), Chetri (2014), Sandhu (2014), and Siddiqui and Fatima (2014).

**Implication:** The present study shows a positive relationship between Achievement Motivation and Achievement in Chemistry. Hence this study shows that Achievement Motivation plays an important role in case of achievement. Therefore, the teachers and the parents should adopt new and innovative methods of teaching by which Achievement Motivation can be developed and there by facilitating Achievement in the subject. The study is important for the counseling purpose that can help individuals to understand themselves better and become able to deal with their strengths and weakness. Hence educational institutions must offer varied programs to provide opportunities to the students to develop their Achievement Motivation to become them socially competent individuals.

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