

## **INFLUENCE OF ACHIEVEMENT MOTIVATION ON ACADEMIC ACHIEVEMENT IN BIOLOGY**

**Dr.P.SEKAR**

Assistant Professor of Education,  
Govt. Institute of Advanced Study in Education (Autonomous),  
Chennai-600 015

### **ABSTRACT**

The students have experienced academic failure and become more deviant in present day context. An attempt is made to know the achievement motivation of higher secondary students. The present study is designed to make out the status of achievement motivation of +1 biology students. The sample consists of five hundred XI standard students from Puducherry region. Random stratified random sampling method has been adopted for sample selection. However, the higher secondary biology students are moderate in achievement motivation and academic achievement in biology. Similarly, the higher secondary biology students have positive association between achievement motivation and academic achievement of biology.

**Key words:** Achievement motivation, Academic achievement in biology, Higher secondary students, Biology students.

### **INTRODUCTION**

All over the world, the people know motivation as the driving force behind an action. This is probably the simplest explanation about motivation. According to Harris (1940), the one of the most essential factors in academic achievement in the 30s are the drive or degree of motivation. Nothing has changed really since that time; the factor still plays a role in academic success. The same has been observed by Andersson & Keith (1997); Boekaerts (1996); De Raad & Schouwenburg (1996) and Eysenck (1970).

Motivation can be considered with the state of having encouragement in achieving academic excellence. No two students study the same way, and what works for one student may not work for another. Therefore everyone is unlike, and for some students, studying and being motivated to learn comes naturally. Some learn quickly and other slowly, some remember well while others forget, some respond quickly and some other slowly. But many students in high schools and higher secondary schools need to develop achievement motivation where their success is largely depend on.

Achievement motivation is the need to achieve the desire to accomplish something difficult. To master, manipulate and grasp physical objects, human beings and ideas, the students have to rapidly grow and exercise independently as possible as to overcome obstacles and attain high standard to excel over

their self and surpass others to increase self esteem by the successful practice of talents. The achievement motivation is conceived as a talent disposition which is manifested in overt striving only when the individual perceives performance as instrumental to a sense of personal accomplishment (Atkinson and Feather, 1966). Achievement motivation is defined in terms of the way individual orients him towards objects or conditions that he does not possess (Irving Sarnoff. (1962).

### **NEED FOR THE STUDY**

The higher secondary level education is the most important and a turning point in the life of students who are willing to pursue their higher studies. The marks they obtain in the higher secondary examinations lay the basis for their future education and career. To concentrate on their study and come out with flying colours in the academic field, the higher secondary students need to be motivated towards their achievement. Hence, the need for the study on the achievement motivation on achievement in biology has emerged.

### **STATEMENT OF THE PROBLEM**

Achievement motivation is the need influenced by internal drive for action (intrinsic motivation). Achievement motivation reduces tension, anxiety, fatigue and frustration which in turn may improve study habits and more achievement in school subjects. This present study entitled as, 'Influence of Achievement Motivation on Academic Achievement in Biology'.

### **OBJECTIVES**

The investigator has framed the following objectives related to the present study:

1. To find out the level of achievement motivation and level of achievement in biology among higher secondary students.
2. To find out if there is any significant association between levels of achievement motivation and achievement in biology.

### **METHOD OF STUDY**

In the present study, the investigator has adopted normative survey method.

### **SAMPLE**

The present study involves five hundred (250 boys and 250 girls) higher secondary students from various schools situated in Puducherry region. The sample is selected by using stratified random sampling technique.

## TOOLS

In this study, the investigator used the following tools:

1. The students profile is developed by the Investigator.
2. Achievement motivation inventory is constructed by Pratibha Deo and Asha Mohan (1985).
3. Tool for achievement test in biology is constructed and validated by the investigator.

## ACHIEVEMENT MOTIVATION INVENTORY

The Achievement Motivation Inventory (n-Ach) is a five point scale of Likert type. It consists of 50 statements in which 37 are positive items and 13 are negative items.

## ACHIEVEMENT TEST IN BIOLOGY

For the Achievement Test in Biology, the investigator has constructed and validated the question paper which contains 100 multiple choice questions; 50 from Botany and 50 from Zoology. Each question carries 1 mark for the right answer.

## ADMINISTRATION OF THE TOOLS

Before administering the test, the necessary directions were given to the students. No time limit was given to the students and was asked to complete the inventory as early as possible. For the achievement test in biology, 100 minutes were given to each to complete.

## STATISTICAL TECHNIQUES USED

For the analysis of the data, the following statistical techniques have been employed.

1. Descriptive analysis, and
2. Chi-square test.

**Table 1: Level of achievement motivation among higher secondary students.**

Level of Achievement Motivation	N	Percentage
Low	135	27.00
Average	234	46.80
High	131	26.20
<b>Total</b>	<b>500</b>	<b>100.00</b>

From the above table, it is revealed that 46.80 % of higher secondary students (N=500) involved in the study could have only average level of achievement motivation. Whereas 27.00 % of them could only

have low level of achievement motivation and the remaining 26.20 % could achieve high level of achievement motivation.

**Table 2: Level of achievement in biology among higher secondary students.**

Level of Achievement in Biology	N	Percentage
Low	132	26.40
Average	240	48.00
High	128	25.60
<b>Total</b>	<b>500</b>	<b>100.00</b>

It is observed from the above table, that 48 % of higher secondary students (N=500) involved in the study are only average in their level of achievement in biology, 26.40 % of them are low in their level of achievement in biology and whereas the remaining 25.60 % are high in their level of achievement in biology.

**Table 3: Chi-square test for association between level of achievement motivation and achievement in biology.**

Level of Achievement motivation	Level of Achievement in Biology			Total	Chi-square value	P value
	Low	Average	High			
Low	50 (37.2) [37.8]	75 (55.4) [31.3]	10 (7.4) [7.8]	135	85.614	<0.001*
Average	65 (27.7) [49.3]	123 (52.3) [51.2]	47 (20.0) [36.7]	235		
High	17 (13.1) [12.9]	42 (32.3) [17.5]	71 (54.6) [55.5]	130		
<b>Total</b>	132	240	128	500		

- Note: 1. The value within ( ) refers to Row Percentage  
 2. The value within [ ] refers to Column Percentage  
 3. \* Denotes significant at 1 % level.

Since P value is less than 0.01, the null hypothesis is rejected at 1 % level of significance. Therefore it is inferred that there exists significant association between the level of achievement motivation and the level of achievement in biology. Based on the mean score 37.2% of students have low level of

achievement motivation with low level of achievement in biology, 7.8% of students have low level of achievement motivation with high level of achievement in biology, 13.1% of students have high level of achievement motivation with low level of achievement in biology, 55.5 % of students have high level of achievement motivation with high level of achievement in biology.

### **DISCUSSION**

The findings of the present study indicate the presence of average level of achievement motivation as well as achievement in biology, which is concurrent with the studies of Ravi Shankar (2013). However it does not corroborates with the findings of Phillip J. Bowman and Cleopatra Howard (1985); they found high level of achievement motivation in the students of secondary and post-secondary levels. There is a positive association between level of achievement motivation and achievement in biology. Similar findings are observed by Dweck, (1986); Neisser et al., (1996); Vittorio V. Busato et al. (2000); and Ravi Shankar (2013). Discussions of the study was track the achievement in biology during the academic year and determine itself and the reports of achievement motivation construct could be successfully used to predict academic achievement. So, it clearly demonstrates that the achievement motive behaviors in the biology are strongly related to achievement.

### **CONCLUSION**

The above findings reported are based on lot of research in educational psychology. As a result, the researcher had the problem of restriction in opting the range. For example, the illustrated case could present only a small contribution of academic motivation to academic success. It might be worthwhile, if the similar study is done with the students of other fields too. It is appreciated from an educational point of view, to find out how generalizable the results are. So, it is very important to find out the academic success of the students in their very first examination and it should be applied to various subjects other than biology and the academic motivation should be done to students from universities too. This can be analysed more for scientific purposes by performing an international meta-analysis for finding achievement motivation in order to gain more specific knowledge about the relation between these instruments and academic achievement.

### **REFERENCES**

- Andersson, E. A., & Keith, T. Z. (1997). A longitudinal test of a model of academic success for at-risk high school students. *Journal of Educational Research*, 90(5), 259-268.
- Atkinson, J. & Feather, N. (1966). *A theory of achievement motivation*, New York: Willey & Sons.

- Boekaerts, M. (1996). Personality and the psychology of learning. *European Journal of Personality*, 10, 377-404.
- De Raad, B. (1996). Personality traits in learning and education. *European Journal of Personality*, 10, 185-200.
- Dweck, C. S. (1986). Motivational processes affecting learning. *American Psychologist*, 41(10), 1040-1048.
- Eysenck, H. J. (1970). *The structure of human personality* (3rd ed.). London: Methuen.
- Harris, D. (1940). Factors affecting college grades: A review of the literature, 1930-1937. *Psychological Bulletin*, 37, 125-166.
- Irving Sarnoff. (1962). Personality dynamics and development, in *Educational Psychology*, London: John Wiley & Sons.
- Neisser, U., Boodoo, G., Bouchard Jr, T. J., Wade, Boykin A., Brody, N., Ceci, S. J., Halpern, D. F., Loehlin, J. C., Perlo, R., Sternberg, R. J., & Urbina, S. (1996). Intelligence: Knowns and unknowns. *American Psychologist*, 51(2), 77-101.
- Phillip J. Bowman & Cleopatra Howard. (1985). Race-related socialization, motivation, and academic achievement: A study of Black youths in three-generation families. *Journal of the American Academy of Child*, 24 (2), 134-141. [http://www.jaacap.com/article/S0002-7138\(09\)60438-6/pdf](http://www.jaacap.com/article/S0002-7138(09)60438-6/pdf)
- Pratibha Deo & Asha Mohan. (1985). *Achievement motivation scale*, Agra: National Psychological Publication.
- Ravi Shankar, K. (2013). *A study on achievement motivation and scientific attitude among higher secondary students*, M.Ed Dissertation, Pondicherry University.
- Vittorio V. Busato, Frans J. Prins, Jan J. Elshout & Christiaan Hamaker. (2000). Intellectual ability, learning style, personality, achievement motivation and academic success of psychology students in higher education. *Personality and Individual Differences*, 29, 1057-1068.