

## A Comparative Study of Academic Achievement in Physics of 11<sup>th</sup> Students

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**Abstract:** In the modern scientific and technical world, education plays a vital role. The educational advancement of a country shows its pace of development. Overall development of a country lies in its optimum use of human resources. Education is the greatest source of social regeneration and revitalization. Education shapes an individual from beginning to end. Education does not merely impart literary ability; it also disciplines behaviours. Education thus is the process of developing the inner abilities. Alio Ann denotes the victory of knowledge achiever. Achievement is the proficiency of the student assessed by his performance in the academic subjects. There are many factors that contribute to the academic achievement. Basically these factors include personality, intelligence, study habits, home environment and interest and school factors. In education effective learning not only depends upon good teaching but it is also responsibility of pupils. Generally speaking achievement implies the net result of an individual's effort over a period of time. It shows the level of proficiency attained in scholastic or academic work. Achievement is an enduring personality characteristic in which the individual is predisposed towards success and relatively concerned with failure. Achievement tests generally measure the present proficiency, mastery and understanding of general and specific areas of knowledge, largely, they are measures of instruction and learning. They are used to evaluate teacher's effectiveness, method of teaching, the school standards and in making surveys of pupils performance. Thus, it enables us to know the progress of pupils in specific area of works or the whole performance in learning process of subjects for a particular period of time.

**Key words:** *Academic Achievement in Physics, an Enduring Personality Characteristic, Developments, Knowledge Attained or Skill Developed, ACADEMIC + ACHIEVEMENT" that implies "SCHOLAR" + ACCOMPLISHMENT.*

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### I. INTRODUCTION

In the modern scientific and technical world, education plays a vital role. The educational advancement of a country shows its pace of development. Overall development of a country lies in its optimum use of human resources. Education is the greatest source of social regeneration and revitalization. Education shapes an individual from beginning to end. Education does not merely impart literary ability; it also disciplines behaviours. Education thus is the process of developing the inner abilities. Alio Ann denotes the victory of knowledge achiever. The word achievement is a main student's learning in a particular subject or a group of subjects. Achievement is a measure of how far a particular student has been able to learn and acquire or has benefitted from the learning experiences given to him/her. Achievement is the proficiency of the student assessed by his performance in the academic subjects. There are many factors that contribute to the academic achievement. Basically these factors include personality, intelligence, study habits, home environment and interest and school factors. In education effective learning not only depends upon good teaching but it is also responsibility of pupils. Efficient learning depends on the learner's ability to schedule his time, physical conditions; preparation for examinations etc. learning involves the development of proper study habits and skills. Some mechanism has always

existed for assessing the worth of an individual in accordance with the needs of society. Even in ancient Greece in Sparta, tests were devised to measure the physical competence of youthful pupils (Schwartz et al, 1962). In 223 B.C. Chinese were selecting civil servants through examination (Schwartz et al, 1962). The modern testing methods can, however, be traced to the beginning of 20th century. In contemporary times, annual examination continues to be the most widely used system of evaluation. Generally speaking achievement implies the net result of an individual's effort over a period of time. It shows the level of proficiency attained in scholastic or academic work. Achievement is an enduring personality characteristic in which the individual is predisposed towards success and relatively concerned with failure. Achievement tests generally measure the present proficiency, mastery and understanding of general and specific areas of knowledge, largely, they are measures of instruction and learning. They are used to evaluate teacher's effectiveness, method of teaching, the school standards and in making surveys of pupil's performance. Thus, it enables us to know the progress of pupils in specific area of works or the whole performance in learning process of subjects for a particular period of time.

## ACADEMIC

The term academic has been derived from the term "Academy". The meaning of term "Academy" is "School" where special types of instruction imparted.

## ACHIEVEMENT

Achievement means knowledge attained or skill developed by pupil usually in the school subjects measured by test scores or marks assigned by teacher or by both. Achievement signifies accomplishment or gain or performance carried out successfully by an individual or a group on the completion of task whether it is academic, manual, personal or social.

Of person's learning and his ability to apply what he has learned."

## II. ACADEMIC ACHIEVEMENT

In the literal sense of the term, academic achievement is the combination or two words "ACADEMIC + ACHIEVEMENT" that implies "SCHOLAR" + ACCOMPLISHMENT." Academic achievement may be called as "Competence of students shown in school subjects for whom they have taken instructions." Academic achievement or academic performance is the outcome of the education- the extent to which a student, teacher or institution has achieved their educational goals. Academic achievement is commonly measured by examinations 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 facts. Knowledge such as skills or declarative Academic achievement is one of the most important goals of education. Good academic records predict the future of the child. In the age of competition at every step in life academic records speak for an individual.

## REVIEW OF RELATED LITERATURE

**Kapoor (2007)** The objective of the study to find are working outside and get experience have good practical and hand in upper closing practical paper. They may try to relate the class room experience with the field work experience, so that they may subsume the new learning with work study. Working students have better knowledge about theory paper and their academic achievement is higher than the non working student marginally.

**Graham (2008)** In this study observed that there was no significant relationship between student's achievement and principle's allocation of instructional leadership time. Principle with larger faculties spent more time in instructional leadership roles.

**Gay (2009)** conducted a study on Educational Orientations and Related factor affecting the Academic Achievement of University Student". The sample of the study consisted of

1100 student selected from number of college affiliated to the Bangalore University. For data analysis, correlation techniques and  $t$  test were used.

**VAPPA (2010)** Conducted study on "Factors affecting the academic achievement of high school student "with object to find out the relationship of study habits and academic achievement on 900 high school student He found that both study habits and academic achievements are significantly correlated with each other.

**Salim Kumar (2011)** conducted a study on Educational achievement in biology is depend deep approaches to study and located, and independent off the main effect of organized/disorganized method of study, achievement motivation and sex. But achievement motivation and locale have a combined effect on achievement where as one deep/surface approach to study combined with achievement motivation, sex and locale, no joint effect on environment is noticed.

## III. STATEMENT OF THE PROBLEM ACADEMIC ACHIEVEMENT IN PHYSICS OF 11<sup>TH</sup> STUDENTS

### OBJECTIVES OF THE STUDY

The study is carried out by the investigator with the following objectives:-

- To study the significant difference in the academic achievement in physics of students studying in private schools of HBSE and in private schools of CBSE of Sirsa district.
- To study the significant difference between academic achievement in physics of male and female students of private schools of CBSE.
- To study the significant difference between academic achievement in physics of male and female students of private schools of HBSE.
- To study the significant difference between Academic achievement in physics of male students of private schools of CBSE and HBSE of Sirsa district.
- To study the significant difference between Academic achievement in physics of female students of private schools of CBSE and HBSE of Sirsa district.

### HYPOTHESES

The study has been undertaken on the basis of following hypotheses:-

- There is no significant difference between Academic achievement in physics of students studying in private schools of CBSE and HBSE of Sirsa district.

- There is no significant difference between Academic achievement in physics of male and female students studying in private schools of CBSE of Sirsa district.
- There is no significant difference between Academic achievement in physics of male and female students studying in private schools of HBSE of Sirsa district.
- There is no significant difference between Academic achievement in physics of male students studying in private schools of CBSE and HBSE of Sirsa district.
- There is no significant difference between Academic achievement in physics of female students studying in Private schools of CBSE and HBSE of Sirsa district.

#### IV. METHODOLOGY

In research there are various methods and procedures to be applied.

- (1) Historical method
- (2) Experiment method
- (3) Descriptive method

#### DESIGN OF THE STUDY

The present study is comprised to Normative Survey Design. Data was collected from Sirsa city with the help of a questionnaire. The responses were in multiple choices.

#### POPULATION

All 11th class students of Private Schools of HBSE schools and students of Private Schools of CBSE of Sirsa district constitute the population of the research.

#### SAMPLE

Purposive stratified random sampling has been used for present study. This study was conducted on 240 students of 11<sup>th</sup> class of SIRSA district. The sample was classified further into two categories of private School students of HBSE and CBSE. These students were further categorized into male and female students.

#### TOOLS TO BE USED

In this study Physics Achievement Test authored by S.N.L.Bhargava was used.

#### STATISTICAL TECHNIQUES USED

Mean, SD, t-ratio and other appropriate techniques was used to interpret the results scientifically and objectively.

**i. Mean :** It is commonly taken as velocity average. It is computer by diving the sum of all the scores by the number of scores.

$$\bar{X} = \frac{\sum x}{N}$$

M = Mean

$\sum$  = Summation

N = Number

**ii. Standard Deviation (SD) :** It is used as a measure of the spread of scores in a distribution.

$$S.D. = \sqrt{\frac{\sum x^2}{N}}$$

**iii. 't' Test :** - Since the means probably the most satisfactory measure for characterizing, the researcher found it important to determine whether the difference between the mean of the two samples is significant or not necessarily identical, any difference that appeared at the end of the experimental cycle possible significant, the difference must be greater than that of reasonably attributed to sampling error. This test is applied to test the significance of the difference between two means. It comprises the computation of the ratio between two means. It comprises the computation of the ratio between experimental variance (observed difference between two sample means) and error variance (sampling error factor).

$$t = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

**Where**

M<sub>1</sub> = Mean of I Group

M<sub>2</sub> = Mean of II group

N<sub>1</sub> = Number of Cases of I Sample

N<sub>2</sub> = Number of cases of II Sample

1 = Variable of I sample

2 = Variable of II sample.

#### MAIN FINDINGS

##### IN HYPOTHESIS No. 1

There is significant difference between Private School students of CBSE and Private School students of HBSE. Therefore, hypothesis is rejected. The calculated 't' value is more than standard table value at both levels of significance. The mean value of Private School students of CBSE is more than Private School students of HBSE regarding academic achievement in Physics. Therefore the academic achievement of Private School students of CBSE is more than Private School students of HBSE, regarding academic achievement in Physics.

##### IN HYPOTHESIS No. 2

There is significant difference between academic achievement in Physics of male and female students of Private Schools CBSE. Therefore hypothesis is rejected. The calculated 't. value is more than standard table value at both levels of significance. The mean value of male students of Private Schools of CBSE is more than female students of Private Schools of CBSE regarding academic achievement

in Physics. Therefore the academic achievement of male students of Private Schools of CBSE is more than female students of Private Schools of CBSE, regarding academic achievement in Physics.

#### **IN HYPOTHESIS No. 3**

There is significant difference between academic achievement in Physics of female and male students of Private Schools HBSE. Therefore, hypothesis is rejected. The calculated t value is more than standard table value at both levels of significance. The mean value of female students of Private Schools of HBSE is more than male students of Private Schools of HBSE regarding academic achievement in Physics. Therefore the academic achievement of female students of Private Schools of HBSE is more than male students of Private Schools of HBSE, regarding academic achievement in Physics

#### **IN HYPOTHESIS No. 4**

There is significant difference between male students of Private Schools of CBSE and male students of Private Schools of HBSE. Therefore, hypothesis is rejected. The calculated 't' value is more than standard table value at both levels of significance. The mean value of male students of Private Schools of CBSE is more than male students of Private Schools of HBSE regarding academic achievement in Physics. Therefore the academic achievement of male students of Private Schools of CBSE is more than male students of Private Schools of HBSE, regarding academic achievement in Physics.

#### **IN HYPOTHESIS No. 5**

There is significant difference between female students of Private Schools of CBSE and female students of Private Schools of HBSE. Therefore, hypothesis is rejected. The calculated 't' value is more than standard table value at both levels of significance. The mean value of female students of Private Schools of CBSE is more than female students of Private Schools of HBSE regarding academic achievement in Physics. Therefore the academic achievement of female students of Private Schools of CBSE is more than female students of Private Schools of HBSE, regarding academic achievement in Physics.

#### **EDUCATIONAL IMPLICATIONS**

There is difference between the academic achievements of the students of Private Schools of HBSE and students of Private Schools of CBSE. The academic achievement of students of Private Schools of CBSE is more than as compared to academic achievement of students of Private Schools of HBSE. Thus change must be made in teaching in Private Schools of HBSE so that achievements of students can be increased. Female students of Private CBSE schools

of Sirsa district have low academic achievements, so efforts must be made to increase their academic achievements in Physics. The average of whole sample regarding academic achievement in Physics is low. Thus new methods must be used to make this subject more interesting by adding some new activities related to it, so as to make this subject more popular. From the present study it is suggested that activities like seminar, discussion, quiz contest etc. must be the part of teaching Physics in schools, so that we can develop the interest of students among Physics and then in science. It is suggested to teacher to give, proper guidance to students about the importance of Physics for their future use.

#### **SUGGESTIONS FOR FURTHER RESEARCH**

- This study has been confined to only Private Schools. Efforts can be made to conduct this type of study at all the schools whether they are Govt. or Private
- This study has been conducted only on 11th class students to check their academic achievement in 10th class. It can be conducted on the other classes also.
- This study has been confined to schools of Sirsa district only. Efforts can be made to conduct this type of study at State or National level.
- A comparative study can be conducted on students belonging to rural areas.
- This study has been done only on 240 students of Sirsa district. This can be conducted on more number of students.
- This study has been conducted only on subject Physics. It can be conducted on other subjects like Maths, Chemistry and language subjects.
- This study can be related with other variables like intelligence, interest achievement, motivation etc.
- This study can be conducted on college students.

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