

A Study of Student Achievement in Science in Relation to Gender and Type of School at Secondary School Level

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Abstract: The present study, “A Study of Student Achievement in Science in Relation to Gender and Type of School at Secondary School Level,” examines differences in students’ achievement in science with reference to gender and type of school. The study focuses on secondary-level students and aims to determine whether significant differences exist between male and female students and among students studying in different types of schools. Data may be collected through a standardized or researcher-developed science achievement test and analyzed using appropriate statistical techniques. The findings are expected to provide useful insights for teachers, educators, and policymakers in improving science education and promoting equal learning opportunities.

Key Words: Student Achievement, Science, Secondary School

INTRODUCTION

Man is considered to be the most superior creation of God on earth, because he is blessed with the qualities of head and heart. The problems with which our country is faced today are poverty, population, pollution, illiteracy and ignorance. The eradication of illiteracy from the country can change the destiny of the nation, because the investment on human beings to educate them makes them the human capital. Investment on human beings is the highest investment, which can bring rich dividends after a long time. We invest today and get the benefits in long term. Education is the process of development in which consist the passage of a human being from infancy to maturity the process by which he adopts himself gradually in various ways to the physical, social and spiritual environment.

Moreover, UNESCO has declared Education as a human right, which means, Education is the right of the people living in a particular country and it is the duty of the Government to make provisions for imparting education to the people living in that country. In order to achieve this aim of Education as a human right, the education has been made free, compulsory and universal: at the primary level as a first step in this direction. Moreover, the primary education has also been made as a fundamental right. At present, the education comes under the directive principles, but after a bill being passed in the Parliament, the primary education will

become the fundamental right, where it is the right of the children to receive education between the age 6-14 years at the primary level and the Government has to make the provisions for the same. Formal system of education has not been able to provide education to all, who come within the age group of 6-14 years, because of the explosion of population. Therefore, we have to think of alternatives to provide education to all the children, who came within this age group. The alternative to formal education appears to be non-formal mode of education, where we can impart education to the children of this age group from a distance. That is why distance education is gaining a rapid momentum. So we can say that distance education, non-formal education, correspondence education all have emerged as alternatives to the formal system of education, which can help in achieving the aims of education as a fundamental right 2 and also education for all, who come within this age group. Aristotle once said, the difference between educated and illiterate persons is the same as we find between the living and non-living. Aristotle here compared illiterate persons as non-living beings because they do not contribute anything useful for the progress of the society.

Valuable results of scientific pursuits constantly surround us. These results, which include understandings of the harmful effects of smoking, the ability to use antibiotics to cure some diseases, and the ability to launch and use satellites for worldwide communications, are more than simply accumulations of facts about the world. Instead, these ideas and concepts have great explanatory and, often, predictive power. By having a scientific understanding of the world in which we live, we have some power to predict and control our environment.

“If the goal of ‘understanding for all’ is to be achieved, then the science education community must recognize that understanding in science develops through practice and that we must design classrooms where realistic practice can happen.” (Cartier, et al. 11)

Aristotle (350BC) once said the difference between educated and illiterate person is the same as we find between the living and non- living. Aristotle as compared illiterate person as non-living beings because they do not contribute anything useful for the progress of the society.

Knowledge places a dominant role in achieving the aim of education. “A study of student achievement in subject of science of higher secondary school in government and private schools in relation to their achievement in fine subject of great significance for the educationists, planners and administrators.” Moreover, the knowledge of science is depended or in depended in relation to the knowledge of the other area, which require the research to prove the same. Achievement refers to the level of success and of proficiency attained in some specific area concerning academic work. In the present study, the term academic achievement has been used interchangeably.

The world is becoming more and more co-operative. Quality of performance has become the key factor for personal progress, where achievement is a very important variable.

Among the major developmental tasks confronting the children during the middle childhood years are the development of various intellectual and academic skills and the motivation to master them. Academic or scholastic achievement has become an index of child’s future in this highly competitive world. It is only a drop in the vast sea of education and great many students would appear not to give themselves credit

commensurate with their known or rated abilities. Many times, students of undoubted average or abilities excel (Katyal and Bindra, 1995).

The outcome of education determines the level of life, progress and status of the people living anywhere in the world and it is the vital force for the development of human life and society. In India, with the march of democracy and the proposals for the compulsory free education at the elementary level as/and a different view of the scope and responsibility of educators has emerged. This goal is envisaged in maximizing the achievement of all children. Early research on the prediction of academic performance focused primarily on intelligence and ability factors as predictors.

The trend in the scholastic achievement, rate of drop outs, failures and low percentage of 10th and 12th standard students in the examinations was a question for the researcher to probe into the psychological factors that leads to poor achievement. Children who are high achievers are not necessarily more intelligent than the low achievers (Hurlock, 1978). Intelligence provides insight and direction to the human potential for achieving the goal. Intelligence is related to the process of mental mechanism which is the best way to increase scholastic achievement of the children. Every child in the classroom has within himself a considerable range of talents, it is most important that the school offer a variety of avenues to success. A student's deficiency in academic subject is no reason to assume that he is completely lacking in talent. Every individual can be encouraged to identify and develop his talents to the 6 highest level. The failure of the school to do this deprives the individuals' talents. (Dutt, 1998) Some of the factors may play a pivotal role in determining the success or failure of the students in their academic performance.

Achievement tests are used to measure how much students have learnt as a result of formal or non-formal instructions. Achievement test measures the present level of performance of individual or groups in academic learning. The scores of the tests are used in deciding or grading a student, suitable or what, are the areas of his strength and weaknesses. Mostly the achievement tests are used for evaluating, the course of study, efficiency of teaching, the teaching methods etc. The items of the achievement test can be classified as whether selection type items or supply type items, should be implemented.

OBJECTIVE OF THE STUDY:

The objective of the present studies as follows:

1. To compare the achievement in science of student of IX class in government and private schools.
2. To compare the achievement in science of the male students of IX class in government schools and private schools.
3. To compare the achievement in science of female students of IX class in government schools and private schools.

HYPOTHEIS OF THE STUDY:

1. There is no significant difference between achievement in science of the student of IX class in government and private schools.
2. There is no significant difference between achievement in science of the male student of IX class in government and private schools.
3. There is no significant difference between achievement in science of female students of IX class in government and private schools

METHOD AND PROCEDURE:

In the present research, 160 students are selected from two government and two private school studying in class 9th as sample for collection of required data and information for study. In this, researcher use stratified sampling technique for required sampling. Stratified sampling is a probability sampling technique where the division of entire population into different subgroups or strata.

In present study, the researcher use the standardized tool Science achievement test by Moni Yadav and Dr. Ananthula Raghu. For academic performance researcher take participants marks.

The mean, S.D. and t-test used to find out the science achievement of secondary school students of both government and private on the basis of marks. The t-value is calculated to find out the science achievement between government and private schools on the basis of marks.

DIFFERENCE BETWEEN ACADEMIC PERFORMANCE OF GOVERNMENT AND PRIVATE SCHOOL

Table- 1: On the basis of academic performance of government and private secondary school students

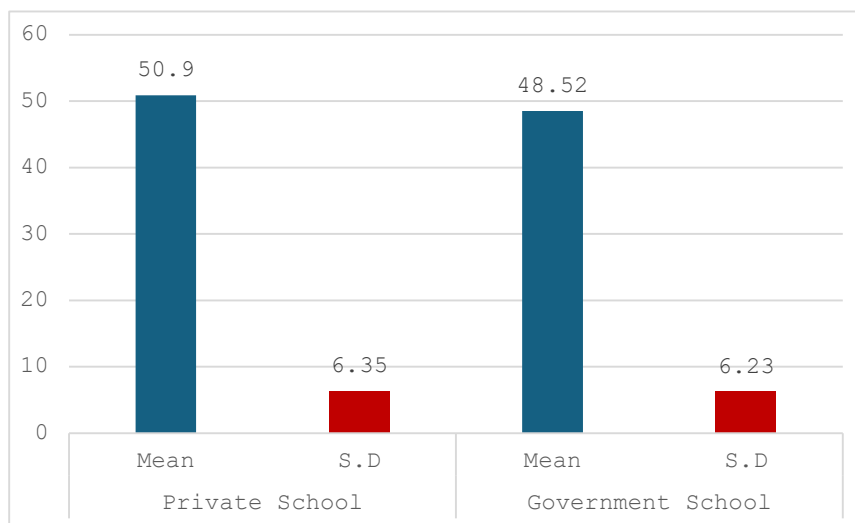
Private School		Government School		t-Test (df=98)
Mean	S.D.	Mean	S.D.	
50.9	6.35	48.52	6.23	1.89
51.44	6.97	48.6	6.5	1.48

Tabular value on 0.01 level of significance (df = 98) = 2.63

Tabular value on 0.05 level of significance (df= 98) = 1.99

Table 1 - Obtained data for mean and S.D. of secondary school students on the basis of academic performance – the mean and S.D. of private is 50.9 and 6.35 or mean and S.D. of government is 48.52 and 6.23. The T- Value shows the result of private and government on the basis of academic performance is – 1.89. It clearly shows that the mean and S.D. of private is more than mean and S.D. of government. Hence the null hypothesis “on the basis of academic performance, there is no significant difference in government and private secondary school students” is fully accepted on the 0.05 significant level.

Table- 2: On the basis of academic performance of male student of government and private secondary school



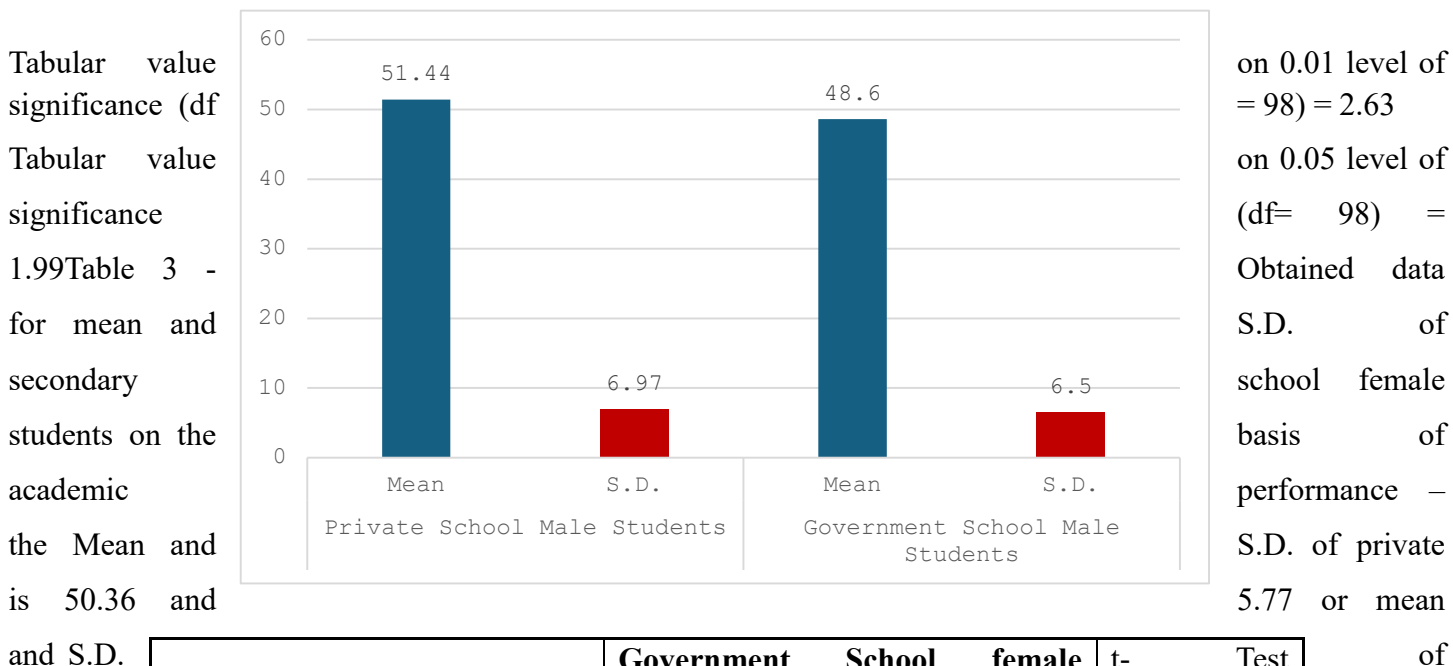
Tabular value on 0.01 level of significance (df = 98) = 2.63

Tabular value on 0.05 level of significance (df= 98) = 1.99

Table 2 - Obtained data for mean and S.D. of secondary school male students on the basis of academic performance – the Mean and S.D. of private is 51.44 and 6.97 or mean and S.D. of government is 48.6 and 6.50.

The T- Value shows the result of private and government male students on the basis of academic performance is – 1.48. It clearly shows that the mean and S.D. of private is more than the mean and S.D. of government school. Hence the null hypothesis “on the basis of academic performance, there is no significant difference in private and government secondary school male students” are fully accepted on the 0.05 significant level.

Table- 3: On the basis of academic performance of female student of government and private secondary school.



government is 48.44 and 6.06. The T- Value shows the result of private and government female students on the basis of academic performance is – 1.14. It clearly shows that the mean and S.D. of private is more than the mean and S.D. of government school. Hence the null hypothesis “on the basis of academic performance, there is no significant difference in private and government secondary school female students” are fully accepted on the 0.05 significant level.

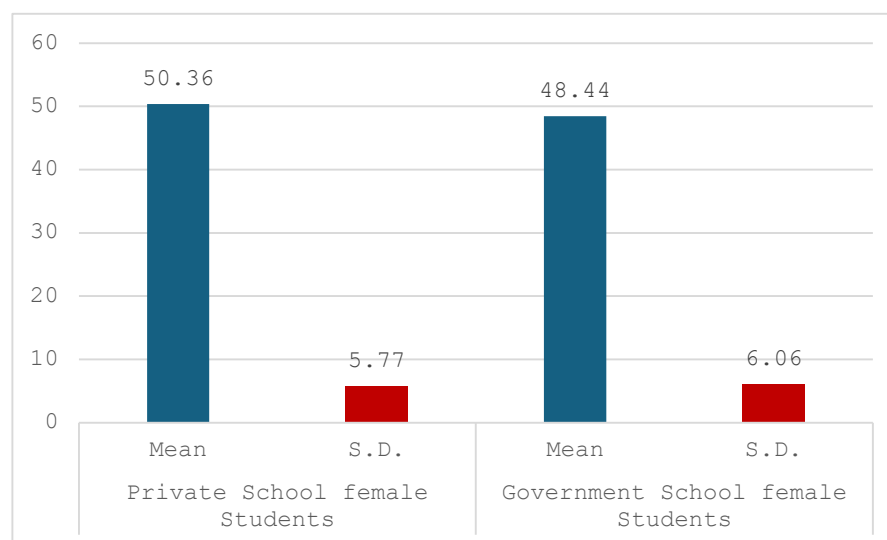
CONCLUSION :-

There is a need to develop more and more tools on account of changing syllabi in science, non-availability of tests in some of the science subjects, and non-availability of tests at some grade levels in different parts of the country. The present study becomes a humble contribution in this direction. Moreover, it has revealed the relative influence of home environment, surroundings, attitudes and interests on the academic achievement of the students. It implies the need for fostering favourable attitude and to develop interest among students in the study

of science. The necessity for improving gains in the affective areas of learning has also been reinforced and suggested for good academic achievement among the students in future.

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