A STUDY OF THE RELATIONSHIP BETWEEN ATTITUDE TOWARDS SCIENCE AND ACADEMIC ACHIEVEMENT OF UPPER PRIMARY SCHOOL STUDENTS

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ABSTRACT:

The present study is aimed to find out the impact of attitude towards Science on the academic achievement of students belonging to upper primary stage. For this purpose a sample consisting of 120 students from class VII were taken from A.M.U Schools by using Simple Random Sampling Technique. Attitude Towards Science Scale developed by Dr. Anuradha Agnihotri (2009) was used for data collection purpose. Marks obtained by the students in the previous class were used as an indicator of their academic achievement. Data was analyzed by using Karl Pearson Product Moment Correlation Coefficient and t-test. The findings of the study revealed the fact that there exists a moderate and positive relationship between attitude towards Science and academic achievement of students at Upper Primary stage. Also the study showed that academic achievement varies according to the variation in attitude towards Science students.

Keywords: Attitude towards Science, Academic Achievement, Rationality, Self-confidence, Self-reliance.

1. INTRODUCTION

Education is an important parameter with which we rank a nation. The world considers those nations developed who made remarkable achievement in Science and technological field. Education is a powerful instrument with which desirable change can be made in a society (Education Commission 1964-66). The education in India is imparted in the classrooms. The classrooms are nothing but a place where the future of a nation gets furnished.

The most important asset of a nation is her child. Children are considered as a nation builder. They are foundation of a nation. To dream of a strong and well-developed nation, it is mandatory to make its foundation i.e. children stronger enough.

The strength can only be acquired through a well-balanced educational system. A balanced educational system is a system, which has all its subjects' weightage in a right proportion. It is observable that developed nations made so by laying more stress on scientific education. We can also gain the same status by motivating our children to positively pay respect towards Science subject.

Attitude towards Science

An attitude is our personal temperament, which we reflect towards different things under distinct scenarios. An attitude is a relative term, which can be change with time and according to the needs of an individual. Attitude towards Science is a mindset of a student towards Science subject. Science is a subject of common people.

The whole world is highly dependent on scientific and technological innovations. It is highly observable that our common domestic needs and commercial needs are solved with Science and technology (Mishra, 2013).

It is a progressive subject i.e. there is no saturation point of scientific discoveries. A type of discipline and appreciation of technology can only be achieved if we can develop positive attitude towards Science. Science is a subject of development as it enhances the skills; induce rationality in thought process and action in their approach. Science is one the subject that builds a relationship of an individual to his environment. It induces self-confidence and self-reliance inside the human being.

2. ACADEMIC ACHIEVEMENT

It requires continuous assessment of any task for its proper functioning. The same is true for students' academic performance. It is only the marks and grades, which determines an academic achievement of students. It is a tool with which a teacher and an institute assigned rank to its students.

Academic achievement is an essential parameter, which guarantees how pupils perform in their academics. Academic achievement is not a single entity rather it is the grouping of multiple activities, which is manifested by students in number of activities. Academic performance is a combination of scholastic and co-scholastic activities. The co-curricular activities are as important for students as the curricular and examinations.

Dictionary of Education (2003) defines "Academic achievement means the knowledge attained or skills developed in school subjects, usually determined by test score or by marks assigned by teacher or both".

According to Oxford Advanced Learner's Dictionary (2000) "Achievement is a thing that somebody has done successfully, especially using his/her own effort and skill. Academic achievement in this sense will mean in learning the contents of books taught in the school".

Gardener (1993) agreed that there are number of ways to judge and assess the academic performance of students. He further concluded, "Assessment, then, becomes a central feature of an educational system. We believe that it is essential to depart from standardized testing. We also believe pencil-and-paper; short-answer tests sample only a small proportion of intellectual facility. The means of assessment we favor should ultimately search for genuine problem-solving or product-fashioning skills in individuals across a range of materials."

Academic achievement is the most important tool to assess the performance of students. Academic achievement has its dependence on so many factors such as quality of teachers, classroom environment, peer relationship and so on. All these factors constitute the academic performance of students.

3.   REVIEW OF RELATED LITERATURE

The work undertaken by Shah et al. (2013) showed how positive attitude towards learning Science influence the academic achievement of students. Taking a sample of 1233 students taken from 37 government schools carried out the study. Result of the study showed that higher academic achievement of students is highly influenced by the positive attitude they possess towards learning Science. Moreover girls had better attitude towards learning Science and thus had better academic performance.

 Also Narmadha and Chamundeswari (2013) studied to find out the relationship between attitude towards learning Science and the achievement in Science subject. Taking a sample 422 students from secondary level did the study. The study revealed the fact that there exists a positive impact of learning Science on academic achievement.

Khan and Ali (2013) enquired about the relationship between attitudes of students towards Science with their academic achievement and found that both the variables are interlinked and correlated. The higher the positive attitude of students towards Science, the more likely to get better results in their academics.

Apart from all the above studies, a large number of studies (Ali & Awan, 2013; Tiwari & Anwar, 2015; Hacieminoghu, 2016; Kyode John, 2014; Ahmad & Hassan, 2003) have also proclaimed that those students who possess positive attitude towards Science also do better in their academic achievement.

4. OBJECTIVES

1. To study the relationship between attitude towards Science and academic achievement of upper primary school students.
2. To study the relationship between attitude towards Science and academic achievement of male students at upper primary stage.
3. To study the relationship between attitude towards Science and academic achievement of female students at upper primary stage.
4. To find out the difference in attitude towards Science of male and female students of upper primary stage.
5. To find out the difference in academic achievement of male and female students of upper primary stage.

5. NULL HYPOTHESIS

1. There exists no significant relationship between attitude towards Science and academic achievement of upper primary school students.
2. There exists no relationship between attitude towards Science and academic achievement of male students at upper primary stge.
3. There exists no significant relationship between attitude towards Science and academic achievement of female students at upper primary stage.
4. There exists no significant difference between male and female students in relation to their attitude towards Science at upper primary stage.
5. There exists no significant difference between male and female students in relation to their academic achievement at upper primary stage.

6. METHODOLOGY

The study demonstrates the relationship between attitude towards Science and academic achievement of upper primary school students. The present study is descriptive in nature, which investigates the present mindset of upper primary school students towards Science as a subject. The sample consists of 120 students of A.M.U. Schools.

Attitude Towards Science Scale developed by Anuradha A. (2009) was used for data collection, while the total mark obtained by the students in the previous class is used as an academic achievement. Mean (M), Standard Deviation (S.D) and One-way Anova are the statistical techniques used in the present study.

7. DATA ANALYSIS

Table 1- Relationship between Attitude towards Science and Academic achievement of upper Primary School.

Variables	N	r- value	Sig.(2 tailed)
Attitude towards Science	120	0.68	.000*
Academic Achievement			

*Significant at .05 level

Table 1 shows that the correlation coefficient 'r' between attitude towards Science and academic achievement is found to be 0.68 (p=.000<.05) which indicates a positive and high correlation and hence null hypothesis 1 is rejected.

This shows that students having a good and positive attitude towards Science as a subject do better in their academics.

Table 2- Relationship between Attitude towards Science and Academic achievement of male students at upper Primary Stage.

Variables	N	r- value	Sig.(2 tailed)
Attitude towards Science	60	0.74	.000*
Academic Achievement			

*Significant at .05 level

Table 2 shows that the correlation coefficient 'r' between attitude towards Science and academic achievement is found to be 0.74 (p=.000<.05) which indicates a positive and high correlation between the attitude and academic achievement of male students and hence null hypothesis 2 is rejected.

Table 3- Relationship between Attitude towards Science and Academic achievement of female students at upper Primary Stage.

Variables	N	r- value	Sig.(2 tailed)
Attitude towards Science	60	0.62	.000*
Academic Achievement			

*Significant at .05 level

Table 3 shows that the correlation coefficient 'r' between attitude towards Science and academic achievement is found to be 0.62 (p=.000<.05) which indicates a positive and high correlation between the academic achievement and attitude towards Science of female students and hence null hypothesis 3 is rejected.

Table 4- Significant difference of male and female students in relation to their Attitude towards Science.

Variables	N	Mean	S.D	df	Sig.(2 tailed)
Male	60	83.4	17.54	118	.185
Female	60	79.38	15.40		

*Significant at .05 level

Table 4 shows that the (p-value > 0.05) which indicates that there exists no significant difference between attitude towards Science of male and female students and hence null hypothesis is accepted.

Table 5- Significant difference of male and female students in relation to their Academic achievement.

Variables	N	Mean	S.D	df	Sig.(2 tailed)
Male	60	7.29	1.34	118	0.375
Female	60	7.09	1.18		

*Significant at 0.05 level

Table 5 shows that the (p-value > 0.05) which indicates that there exists no significant difference between academic achievement of male and female students and hence null hypothesis is accepted.

8. FINDINGS OF THE STUDY

1. A significant positive correlation was found between attitude towards Science and academic achievement of upper primary school students.

2. A significant and positive correlation was found between academic achievement and attitude towards Science of male students.

3. A significant and positive correlation was found between academic achievement and attitude towards Science of female students.

4. No significant difference was found between the attitude towards Science of male and female students.

5. No significant difference was found between academic achievement of male and female students.

9. CONCLUSION

It is concluded from the study that Science plays an important role in acquiring good marks in academics. The subject proves to be a backbone in scholastic and co-scholastic achievement. It is essential for students to obtain good marks in order to pass the examination.

Getting good marks is dependent on so many factors. One of the most important factors is attitude towards Science. Science is a very popular, valuable and dynamic subject. The subject believes in understanding rather than rote learning. To achieve better in academics, it is pre-requisite for the students to make positive attitude towards Science.

10. SUGGESTIONS AND EDUCATIONAL IMPLICATION

Science is a very valuable subject as it is considered as one of the core subject in academics. It is the responsibility of schoolteachers as well as parents to develop good attitude towards this valuable subject as it plays a significant contribution to the academic performance of students. We have to encourage our students to study Science up to higher secondary level and also to our teachers to produce Science as an interesting subject inside the classroom with the help of demonstration and experimentation method. The present study would be helpful for teachers and parents to understand the importance of Science and also to motivate their students and children towards learning science.

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