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STUDY HABITS AND ATTITUDE TOWARDS SCIENCE IN RELATION TO THEIR SELF CONFIDENCE OF HIGHER SECONDARY STUDENTS

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Introduction:

Education is a process of living. It sharpens the intelligence of a person. It enables the mind to find out the ultimate truth which emancipates, humanity from the bondage of sin and gives wealth, not of things but of inner light, not of power but love, considering the truth as reality and giving expression to it. Education means the exposition of man's complete personality.

Study Habit:

Habit, in its simplest form is the tendency to do, think, or act as one has done, thought or acted in the past. Study habits are buying out a dedicated schedule and un-interrupted time to apply one's self to the task of learning. Study habits tell a person that how much he/she will learn and how far he/she wants to go, and how much he/she wants to earn. Ansari (1980) found that study habits and study behaviour are both significant variables which determine the academic performance of the students. These all could be decided with the help of one's study habits, throughout the life. The importance of study habits in student's life is that it plays a major role in his/her academic achievement. Weiner's (1972) study postulates that ability, as well as effort given by students to their studies, affects the acquisition of thinking skills and academic performance.

Nature of Science:

Science is a way of knowing, a method of learning about Nature. Rooted in common sense, its formal, systematic method is called scientific inquiry. In doing scientific inquiry, scientists use a variety of empirical approaches, techniques, and procedures to collect data from Nature, examine and analyse that data, and construct knowledge based on that. This knowledge relates to living organisms, non-living matter, energy and events that occur naturally.

Self Confidence:

Human life is full of challenges and surprises and it is our intelligence and Self Confidence which prepares us for facing these challenges and accepting the surprises as successfully as possible. Self Confidence is the conviction that one is generally capable of producing desired results. A confident attitude, a belief and a faith in one self-ideas are essential forgetting ahead but it should also be remembered that Self Confidence grows with the success that means it is desirable to develop those qualities within oneself that makes for success. Research has also shown that stronger the individual's Self Confidence and beliefs, the higher the goals they set for themselves and the firmer their commitments are to them (Locke et al., 1991). In the words of Bandura (1994), "Self Confidence is considered alone of the most influential motivators and regulators of behaviour in people's everyday lives". He further states that "the level of Self Confidence within an individual depends upon his/her previous performance experiences, perceived difficulty of the task, the effort expended, the amount of guidance received, the temporal patterns of success and failure and one's conception of a particular 'ability' as a skill that can be acquired versus an inherent aptitude".

Need and Significance of the Study:

Education plays a vital role and is being treated as basic human need as it endows people with knowledge, skills and attitude which would increase their capabilities and capacities to adopt to the changing environment. The excellent academic performance is the ultimate goal of study for every student because it provides the half way of success in the future. Students need to know how they can learn for their achievement and academic performance. Without good study habits, a student cannot succeed. To succeed, students must be able to appropriately assimilate course content, digest it, reflect on it, and be able to articulate the information in written and/or oral form.

Attitude towards studying Science has been a substantive feature of the work of the Science Education Research Community for the past 60 to 70 years. Its current importance is emphasized by the evidence of a decline in the interest among young people in pursuing scientific careers and an increasing recognition of the importance and economic utility of scientific knowledge and its cultural significance.

Self Confidence plays a vital role in personal growth of an individual. A person with Self Confidence is defined as one having positive and constructive self-feeling and evaluation. It refers to a person's expectation of his or her ability to achieve a goal in a given situation and is a very influential factor in ensuring that a person's potential is realized. The latest research of Bandura (1994) showed that the stronger the person's belief in his/her Self efficacy, the better will be the subsequent performance. Thus, by providing appropriate skills and adequate incentives, self-efficacy and performance can be increased.

Today's curriculum in general and school education in particular aims at training, to improve the Study Habits of students and their Attitude towards Science in addition to have good Self Confidence. Hence there exists a need to know the levels of Study Habits, Attitude towards Science and Self Confidence among the higher secondary students as they help the students to solve the challenges of life and make successful adjustment in life. Hence the researcher felt the need to study the Study Habits and Attitude towards Science of higher secondary students in relation to their Self Confidence.

Objectives of the Study:

The following objectives have been formulated for the present study.

- To study the effect on the Study Habits, Attitude towards Science and Self Confidence of higher secondary students, with reference to Gender and Medium of Instruction.
- To find out the correlation between Study Habits and Attitude towards Science of the higher secondary students.
- To find out the correlation between Attitude towards Science and Self Confidence of the higher secondary students.
- To find out the correlation between Study Habits and Self Confidence of the higher secondary students.

Hypotheses of the Study:

The following null hypotheses have been formulated and tested during the course of the study.

- There is no significant difference in Study Habits of higher secondary students with regard to Gender.
- There is no significant difference in Study Habits of higher secondary students with regard to Medium of Instruction.
- There is no significant difference in Attitude towards Science of higher secondary students with regard to Gender.
- There is no significant difference in Attitude towards Science of higher secondary students with regard to Medium of Instruction.
- There is no significant difference in Self Confidence of higher secondary students with regard to Gender.
- There is no significant difference in Self Confidence of higher secondary students with regard to Medium of Instruction.
- There is no significant correlation between Study Habits and Attitude towards Science of the higher secondary students.
- There is no significant correlation between Attitude towards Science and Self Confidence of the higher secondary students.
- There is no significant correlation between Study Habits and Self Confidence of the higher secondary students.

Reviews of Related Literature:

Studies Related to Study Habits:

Nadeem et al. (2014) did a survey to find out the study habits and academic achievement of adolescent girls of Kashmiri and Ladakhi. The study reported a significant difference between Kashmiri and Ladakhi girls. Unal. (2014) conducted a study on Analyzing the Effect of Learning Styles and Study habits of Distance Learners on Learning Performances: A Case of an Introductory Programming Course . The results presented some ideas about distance learners' learning styles and study habits for instructors who wish to incorporate synchronous courses and support learners. Rani (2013) conducted a study on Relationship between Home Environment and Study Habit of Senior Secondary School Students. The study found that there was no significant difference of home environment between boys and girls studying in science stream of senior secondary school. Ishmi Rekha (2014) carried out a study on "study habits and students' achievement in relation to some influencing factors" the problem studied here has several dimensions. The investigator found that there exists significant relationship between study habits and these influencing factors.

Studies Related to Attitude towards Science:

Sadi and Cakiroglu (2011) investigated the effectiveness of Hands-on Activity enriched instruction on sixth standard students' Achievement and Attitudes toward Science. The results revealed that Hands-on Activity enriched instruction were more effective than traditional instruction. Singer (2010) aimed to investigate undergraduate students Attitudes towards Science as a result of teacher feedback. The results revealed that positive oral feedback increased student participation in the classroom, Attitudes of students towards science is

developed as a result of their previous science experiences and the attitude of their science teachers and student attitudes were increased as a result of teacher feedback.

Studies Related to Self Confidence:

Goel and Aggarwal (2012) made a comparative study of Self Confidence of single child and child with siblings and they found that the mean of Self Confidence of the child with a sibling (M=32.5) was quite high in comparison to that of single children (M=27.5) and the calculated t-value is 2.99. This indicated the importance of family in raising the level of Self Confidence in a child. Kumari (2014) conducted a study to identify the socio-economic status, Self Confidence and problems faced by working women and did not find any significant difference in the Self Confidence of urban and rural working women. It was also found that there was no significant relationship between the socio-economic status and Self Confidence of working women of Ludhiana District. Srivastava and Asthana (2010) studied the Self Confidence among children of employed and unemployed mothers. Findings of the study revealed that there was no significant difference in the Self Confidence of children of employed and unemployed mothers.

Design of the Study:

After reviewing the characteristics of the different methods of educational research, the investigator had employed descriptive method using survey as a technique for the present study.

Sample for the Study:

The sample for the study was selected randomly. The sample consisted of 500 school students drawn from two Government, two Government-aided and two Unaided schools from Coimbatore Educational District. A total number of 500 subjects comprising of 250 male and 250 female school students were drawn.

Variables of the Study:

For the present study, the following dependent and independent variables are chosen. To find out whether there is any difference in the Study Habits, Attitude towards Science and Self Confidence of higher secondary students influenced by Gender and Medium of Instruction

Tools Used for the Study:

The following tools in addition to the personal data sheet were used in the presents study.

- Study Habits Inventory prepared and standardized by M. N. Palsane and Anuradha Sharma (2003).
- Attitude towards Science Inventory prepared and standardized by the Investigator.
- Self Confidence Inventory prepared and standardized by Dr. Rekha Gupta (2005).

Analysis of the Data:

After the data was collected, it was subjected to statistical test of significance using SPSS package for testing the hypotheses formulated by the investigator.

Table 1.1: Mean and Standard Deviation of Study Habits, Attitude towards Science and Self Confidence for the Whole Group

S.No	Variables	N	Mean	S.D.
1	Study Habits	500	65.5	7.46
2	Attitude towards Science	500	176.3	21.91
3	Self Confidence	500	30.2	5.76

Differential Analysis for Study Habits:

Table 1.2: Difference in Study Habits of Higher Secondary Students with regard to Gender

Variable	Gender	N	Mean	σ	t-value	Result
Study Habits	Male	250	62.448	8.04	9.1197	Significant
	Female	250	68.552	6.88		

(At 0.05 level of significant the table value of 't' is1.96)

From the above table it is evident that the calculated t-value (9.1199) is greater than the table value (1.96) at 0.05 level of significance. Hence the null hypothesis "There is no significant difference in study habits of higher secondary schools with regard to gender" is rejected. While comparing the mean score (68.552) of Female students is greater than the mean score (62.448) of male students in their Study habits.

Table 1.3: Difference in Study Habits of Higher Secondary Students

Variable	Gender	N	Mean	σ	t-value	Result
Study Habits	English	250	66.5	7.09	2.99	Significant
	Tamil	250	54.5	7.83		

(At 0.05 level of significant the table value of 't' is1.96)

From the above table it is evident that the calculated t-value (2.99) is greater than the table value (1.96) at 0.05 level of significance. Hence the null hypothesis **"**There is no significant difference in study habits of higher secondary students with regard to Medium of Instruction" is rejected. While comparing the mean score (66.5) of English medium students is greater than the mean score (64.5) of Tamil medium students in their Study habits.

Table 1.4: Difference in Attitude towards Science of Higher Secondary Students with regard to Gender

Variable	Gender	N	Mean	σ	t-value	Result
Attitude towards Science	Male	250	176.97	20.45	0.6823	Not Significant
	Female	250	175.63	23.37		

(At 0.05 level of significant the table value of 't' is1.96)

From the above table it is evident that the calculated t-value (0.6823) is less than the table value (1.96). Hence the null hypothesis "There is no significant difference in Attitude towards Science of higher secondary students with regard to Gender"-is accepted.

Table 1.5: Difference in Attitude towards Science of Higher Secondary Students with regard to Medium of Instruction

Variable	Gender	N	Mean	σ	t-value	Result
Attitude towards Science	English	250	175.92	22.35	0.3877	Significant
	Tamil	250	176.68	21.47		

(At 0.05 level of significant the table value of 't' is1.96)

From the above table it is evident that the calculated t-value (0.3877) is less than the table value (1.96). Hence the null hypothesis "There is no significant difference in attitude towards Science of higher secondary Students with regards to medium of instruction" is accepted.

Table 1.6: Difference in Self Confidence of Higher Secondary Students with regard to Gender

Variable	Gender	N	Mean	σ	t-value	Result
Self Confidence	Male	250	30.05	5.85	0.4835	Not Significant
	Female	250	30.36	8.67		

(At 0.05 level of significant the table value of 't' is 1.96**)**

From the above table it is evident that the calculated t-value (0.4835) is less than the table value (1.96). Hence the null hypothesis "There is no significant difference their Self Confidence of higher secondary students with regard to Gender"- is accepted.

Table 1.7: Difference in Self Confidence of Higher Secondary Students with regard to Medium of Instruction

Variable	Gender	N	Mean	σ	t-value	Result
Self Confidence	Male	250	32.8	5.31	10.058	Significant
	Female	250	27.6	6.21		

(At 0.05 level of significant the table value of 't' is1.96)

From the above table it is evident that the calculated t-value (10.058) is greater than the table value (1.96) at 0.05 level of significance. Hence the null hypothesis "There is no significant difference in Self Confidence of higher secondary students with regard to Medium of Instruction" is rejected. While comparing the mean score (32.8) of English medium students is greater than the mean score (27.6) of Tamil medium students in their Self Confidence.

Major Findings of the Study:

- There is a significant difference between Male and Female students in their Study habits. The mean score (68.552) of Female students is greater than the mean score (62.448) of Male students in their Study Habits.
- There is significant difference between English medium and Tamil medium students in their Study Habits. The mean score (66.5) of English medium students is greater than the mean score (64.5) of Tamil medium students in their Study Habits.
- There is no significant difference between Male and Female students in their Attitude towards Science.
- There is no significant difference between English medium and Tamil medium students in their Attitude towards Science.
- There is no significant difference between Male and Female students in their Self Confidence.
- There is a significant difference between English medium and Tamil medium students in their Self Confidence. The mean score (32.8) of English medium students is greater than the mean score (27.6) of Tamil medium students in their Self Confidence.
- There is low positive correlation between Study Habits and Attitude towards Science of higher secondary students.
- There is high positive correlation between Attitude towards Science and Self Confidence of higher secondary students.
- There is moderate positive correlation between Study Habits and Self Confidence of higher secondary students.

Educational Implications of the Study:

In the present study, researcher has studied about the Study Habits, Attitude towards Science and Self Confidence of higher secondary students.

- In order to improve the level of Study Habits of higher secondary students, the teachers, parents, policy makers and administrators have to think on a common platform so as to assess the reason of low Study Habits and provide appropriate measures to inculcate better Study Habits.
- In order to develop more positive Attitude towards Science, the finding highlighted the need to expand Science Education through opening of Science clubs, Science exhibitions, and Science projects.
- The Science teachers will have to make deliberate efforts, to develop positive Scientific Attitude in their pupils, through organising laboratory work, field work or library work that encourage independent self-study and enquiry minds in the students.
- The teaching should not be confined only within the four walls, but instead organising different programmes outside the classroom that allow students to learn through real life situations.
- The teachers should make use of the available laboratory resources. There is a need for improving the laboratory equipment. Library can be improved with number of books, magazines.
- The teacher should be able to use easily available low-cost teaching aids as the teaching learning materials.
- The result of the present study will also help the curriculum workers to make possible changes in the present curriculum to bring in high positive Scientific Attitude among the pupils.
- To enhance Self Confidence, educators can guide parents to provide an atmosphere of love and warmth to their children. They can encourage teachers to initiate and develop activities that are sensitive to the diversity of students. This will provide a supportive school climate that can foster healthy traits.
- Apart from this they can also help children develop resilience by taking on the role of the encourager, someone who acknowledges the significance of the defeat but does not allow it to result in a sense of personal failure.
- The key is to help the child see the big picture and refocus on an ability to try again or, if necessary, find alternative means to accomplish the goal. This process allows the child to accept the responsibility for the effort but also be reassured of his or her own worth.
- Finally, circumstances should spell out the total experience of the students through class room activities, laboratory work, playground experiences, interaction with teachers and peers, inter school and inter class academic and cultural activities.

Conclusion:

Knowledge of Study Habits and Attitude towards Science in relation to Self Confidence of higher secondary school students is a necessity for a developing country. Consequently, additional research is needed to gain not only theoretical consensus but also clarity regarding the most appropriate measurement strategy. This piece of research is a humble effort in testing the application of concept of Study Habits, Attitude towards Science and Self Confidence in the field of Education.

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