

Education High School Students' Attitude towards the Use of Smart Classroom

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ABSTRACT

Today the need of ICT is of great importance in teaching and learning process, as it facilitates effective teaching and learning. Though ICT has a lot of applications in various fields, one should not forget its application in the field of Education. This piece of research work aimed to find the attitude towards the use of smart classroom of ninth standard students. The data was collected from 35 English Medium students those who studied with the help of smart classroom. The tool was constructed and standardized by the researcher. The tool has 38 statements, out of which 31 items are favourably worded and the remaining 7 items are unfavourably worded. Likert's method of summated ratings was adopted to find the level of attitude. This scale has face validity, content validity and construct validity. Split half method was used to find out the reliability which is 0.853. The result shows that the Ninth Standard students has a favourable attitude towards the use of the smart classroom.

KEY WORDS: Attitude, Smart classroom, High School students.

INTRODUCTION

Education elevates one's mind and intellect through a planned process of learning to a higher level of knowledge and better state of efficiency. It always aimed at perfection and excellence. Education is conceived as a powerful agency, it is instrumental in bringing out the desired change in the social and cultural life of a nation. It implies that only education can bring the social change. The whole process of education is to shape and mould the human personality called the student who plays vital role in the system of education. To meet out the challenging needs of the society students should undergo best practices and strategies in the classroom. The

concept Education through Computer is an important milestone. It aims at shaping the individual to imbibe self confidence and self reliance in learning.

NEED FOR THE STUDY

Modern times are termed as an age of technology. Computer becomes an integral part of our life. The success in school is determined by three R's READING, WRITING and ARITHMETIC. The success becomes great success if fourth R is added, which is COMPUTER. Smart Classroom is highly systematic in approach, unimaginably swift in its operations and astonishingly multifarious in its applications is the most fitting tool in the field of education. The

Smart Classroom will change to the maximum extent the nature of practice of education with respect to the fundamental aspects of What to teach? How to teach? and Why to teach? In Tamil Nadu, probably all Matriculation Schools and some of the Government Aided schools have Smart Classroom. Tamil Nadu Government has planned to establish Smart Classroom in all Schools. In this juncture it is essential to study the students' attitude towards the use of Smart Classroom. As there is no suitable tool available to study the High School Students' Attitude towards the use of Smart Classroom, the investigator has decided to construct and standardise a scale to measure the High School Students' Attitude towards the use of Smart Classroom.

REVIEW OF RELATED LITERATURE

Anderson (2006) investigated the views of 1027 students from central region of Ghana about the Relevance of Science Education (ROSE). His results showed that the majority of students believed that Science and Technology are useful for the society and can help to reduce poverty and famine in the world.

Stefansson (2006) examined the Icelandic Students' views about Science and Technology and also School Science. He suggested that everyone should learn science in school, the school science is interesting and the school science is useful in day to day life.

Basu and Barton (2007) mentioned that the science curriculum is a key factor in developing and sustaining students' interest in science and students may become disengaged from school science if their funds of knowledge are not incorporated into the science curriculum.

Hirata and Hirata (2008) studied Japanese Students' attitude towards hybrid learning. The findings revealed that the blended learning was more effective.

However, few students preferred traditional learning.

Lavonen et al. (2008) studied the interests and experiences of students of Finland in Physics and Chemistry. The research was conducted on 3626 Secondary Students with average of 15 years old. According to their results, students have many experiences related to science and technology outside the school.

Adas and Abu Shmais (2011) conducted a study on Palastinian University Students to find out their perception towards blended learning environment. The results show that the majority of learners expressed their positive attitude towards blended learning. But no significant difference was mentioned.

In a study by Tanveer (2011) with Omani students to explore the students' attitude towards integrating e-learning in classroom, he found that majority of students preferred blended learning and thought that teachers who use e-learning in the classroom were better teachers.

Jena(2013) has investigated the effect of smart classroom learning environment on academic achievement of rural high achievers and low achievers in science. This experimental study was conducted in Jalandhar district of Punjab. The result of the study reveals that smart class learning environment is better to teach both low achievers and high achievers than traditional class.

OPERATIONAL DEFINITIONS

SMART CLASSROOM

A Smart Classroom is equipped with multimedia components like networked computer with monitor, key board, mouse, ceiling mounted projector, screen, DVD players, remote control, microphone and classroom speakers.

HIGH SCHOOL STUDENTS

Students those who are studying ninth standard in the schools run by the Department of School Education, Tamil Nadu Government.

ATTITUDE

An Attitude is a permanent mental disposition of an individual. Attitude means the individual's prevailing tendencies to respond favourably or unfavourably to an object, person or group of people, institutions or events.

OBJECTIVES OF THE STUDY

The chief objective of the study was to examine the High School Students' Attitude towards the use of Smart Classroom. The researcher formulated the following objectives for the study.

- i) To find out the Students' Attitude towards the use of Smart Classroom at the pre test and post test level.
- ii) To find out the Students' Attitude towards the use of Smart Classroom at the pre test and post test level with respect to their residence.
- iii) To find out the difference, if any, between the Students' Attitude towards the use of Smart Classroom at the pre test and post test level with respect to their family type.

HYPOTHESES OF THE STUDY

In order to verify the objectives the researcher devised the following null hypotheses.

- i) Students' attitude towards the use of smart classroom at the pre test and post test level is not favourable.
- ii) There is no significant difference in the students' attitude towards the use of smart classroom between the pre test and post test level with respect to their residence.
- iii) There is no significant difference in the students' attitude towards the use

of smart classroom between the pre test and post test level with respect to their family type.

METHOD AND SAMPLE OF THE STUDY

Some selected topics in science were taught to the students in the smart classroom with teacher's support and then achievement test was conducted. This is considered as our treatment. Normative survey method was employed to collect data from the students. The data was collected two times from the students. The questionnaire was given to the students before the treatment. This is considered as pre test. The questionnaire was given to the students after the treatment. This is considered as post test.

The researcher aimed to study the high school students' attitude towards the use of smart classroom. This study is possible only where the smart classroom facility is available. Such a facility is available in Sourashtra Boys Higher Secondary School, Madurai. This is a Government aided school governed by Department of School Education, Tamil Nadu. The sample consists of as many as 35 English Medium students of ninth standard. Cluster sampling method is adopted for the present study.

TOOL USED FOR THE STUDY

The selection of tool is considered as a significant part of the research. The research findings depend upon the data and the data depends upon the accuracy of the tool. The accuracy of the tool plays vital role in the establishment of validity and estimation of reliability. Therefore the investigator developed and standardized a tool for the present study. After reviewing many related studies done in the field of ICT both in India and other countries dimensions having positively and negatively correlated were selected for constructing the tool. The scale has been constructed by making use of Likert's Method of Summation to get five

point judgements on each item. The scale consists of 38 statements out of which 31 statements are favourably worded and remaining 7 statements are unfavourably worded

VALIDITY AND RELIABILITY

The scale has content validity as it has the “Universe of Content” (Edward.L.Allen, 1957). It has construct validity as the items selected were having the ‘t’-values greater than or equal to 1.75 (Edward.L.Allen, 1957). The reliability

of the scale was found to be 0.853 by using split-half technique followed by the use of Spearman-Brown Prophecy formula.

STATISTICAL TECHNIQUES USED

The present study was concerning to the high school students’ attitude towards the use of smart classroom. For analyzing and computing the result, the investigator used measures of central tendency, measures of variability and t-test.

Table – 1
Distribution of scores of attitude towards the use of smart classroom

Measures	Before Treatment (Pre - test)	After Treatment (Post - test)
N	35	35
Mean	138.6857	150.1714
Std. Error of Mean	2.16107	2.06836
Median	141.00	148.000
Mode	142.00	145.00
Std. Deviation	12.78504	12.23660
Variance	163.457	149.734
Skewness	-0.234	-0.285
Kurtosis	-0.748	-0.374
Minimum	112.00	119.00
Maximum	160.00	170.00

Scores on attitude towards smart classroom of group with teacher support before treatment

The Scores on attitude towards smart classroom of group with teacher support before treatment are found to form a normal distribution with a mean of 138.68 whose standard error is found to be 2.161 and the standard deviation is 12.78. The confidence of the mean gain score at 0.05 level lies within the limits of 112 to 160. The median and mode are found to be 141 and 142.

The co-efficients of skewness and kurtosis are found to be -0.935 and 0.212 respectively. The distribution is negatively skewed and leptokurtic. It is concluded therefore the scores on

attitude towards smart classroom of group with teacher support before treatment are slightly amassed at the right end of a leptokurtic curve.

Scores on attitude towards smart classroom of group with teacher support after treatment

The Scores on attitude towards smart classroom of group with teacher support after treatment are found to form a normal distribution with a mean of 150.17 whose standard error is found to be 2.06 and the standard deviation is 12.23. The confidence of the mean gain score at 0.05 level lies within the limits of 119 to 170. The median and mode are found to be 148 and 145.

The co-efficients of skewness and kurtosis are found to be -0.85 and -0.374 respectively. The distribution is negatively skewed and platykurtic. It is concluded therefore the scores attitude towards smart classroom of group with teacher support after treatment are slightly amassed at the right end of a platykurtic curve.

Table – 2

Objective – i) To find out the Students’ Attitude towards the use of Smart Classroom at the pre test and post test level.

Hypothesis – i) Students’ attitude towards the use of Smart classroom at the pre test and post test level is not favourable.

Attitude towards the use of smart classroom	N	Mean	SD	r-value	t-value	Remarks (5% level of significance)
Before Treatment (Pre - test)	35	138.6857	12.7850	0.681	6.792	S
After Treatment (Post - test)	35	150.1714	12.2366			

S-Significant

Interpretation:

In the above table, the calculated value of ‘t’ (6.792) is greater than the table value (2.00) for df 68, at 0.05 level of significance. Hence the null hypothesis is rejected. It is concluded that there is a significant difference in the gain scores between pre - test and post – test. **The mean score shows that the mean value of post - test is greater than that of pre - test.**

Table – 3

Objective – ii) To find out the Students’ Attitude towards the use of Smart Classroom at the pre test and post test level with respect to their residence.

Hypothesis – ii) There is no significant difference in the students’ attitude towards the use of Smart classroom between the pre test and post test level with respect to their residence.

Attitude towards the use of smart classroom	Residence	N	Mean	SD	t-value	Remarks (5% level of significance)
Before Treatment (Pre - test)	Rural	4	135.000	17.473	0.462	NS
	Urban	31	139.161	12.356		
After Treatment (Post - test)	Rural	4	149.750	15.945	0.058	NS
	Urban	31	150.225	12.010		

NS - Not Significant

Interpretation:

In the above table, the calculated values of t (0.462 and 0.058) are less than the table value (0.203) for df 33, at 0.05 level of significance. Hence the null hypothesis is accepted. It is concluded that there is no significant difference in the students’ attitude towards the use of smart classroom scores between the pre test and post test. **The mean scores show that the mean value of post - test is greater than that of pre - test.**

Table – 4

Objective – iii) To find out the difference, if any, between the Students’ Attitude towards the use of Smart Classroom at the pre test and post test level with respect to their family type.

Hypothesis – iii) There is no significant difference in the students’ attitude towards the use of Smart classroom between the pre test and post test level with respect to their family type.

Attitude towards the use of smart classroom	Type of family	N	Mean	SD	t-value	Remarks (5% level of significance)
Before Treatment (Pre - test)	Nuclear	29	138.413	13.505	0.347	NS
	Joint	6	140.000	9.359		
After Treatment (Post - test)	Nuclear	29	150.724	12.612	0.645	NS
	Joint	6	147.500	10.821		

NS - Not Significant

Interpretation:

In the above table, the calculated values of t (0.347 and 0.645) are less than the table value (0.203) for df 33, at 0.05 level of significance. Hence the null hypothesis is accepted. It is concluded that there is no significant difference in the students' attitude towards the use of smart classroom scores between the pre test and post test. **The mean scores show that the mean value of post - test is greater than that of pre - test.**

FINDINGS OF THE STUDY

The major findings of the study are as follows:

- i) High School Students' Attitude towards the use of Smart Classroom at the post test is increased than that of pre test.
- ii) There is no significant difference between the Students' Attitude towards the use of Smart Classroom at the pre test and post test with respect to their residence.
- iii) There is no significant difference between the Students' Attitude towards the use of Smart Classroom at the pre test and post test with respect to their family type.

CONCLUSION

On the basis of analysis and interpretation of the data, the following conclusions can be drawn.

- i) Students have a favourable attitude towards the use of smart classroom.
- ii) There is no change in the level of attitude towards the use of smart classroom with respect to the residence of the students.
- iii) There is no change in the level of attitude towards the use of smart classroom with respect to the family type of the students.

SUGGESTIONS

The researcher by virtue of experience gained from the study would like to put forward the following suggestions for the future study.

- i) Sample size can be enlarged.
- ii) The same study can be conducted for girls also.
- iii) The same study can be conducted for teachers also.
- iv) A similar study can be carried at primary and higher secondary level.

EDUCATIONAL IMPLICATIONS

Based on the findings and the conclusion of the study, the following recommendations are put forward.

- i) This study would help to bring out the high school students' attitude towards the use of smart classroom.
- ii) This study would help the high school teachers to make the students more active in learning Science.
- iii) This study would help the high school teachers to understand the necessity of smart classroom in the teaching and learning process.
- iv) This study would help the high school teachers to understand the expectations of the students regarding the teaching methods.

- v) This study would help the education department to strengthen the quality of education in the high school level.

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