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"Teachers' attitudes towards smart classroom in relation to some demographic factors"

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Abstracts

This study investigates Teachers' attitudes towards smart classroom in relation to some demographic factors. The purpose of the study was to determine the attitudes of teachers towards smart classroom with respect to gender, teaching experiences, qualification and streams. The study was adopted descriptive survey method. 71 teachers were selected from five English medium school of Yamuna Nagar district affiliated with Central Board of Secondary Education by random sampling technique. Self developed teachers' attitude towards smart classroom scale (TASCS) was used for data collection. T–test was used to analyze the data. The results revealed that there are no significant difference between the mean attitude score of male and female teachers, more and less experienced teachers, different group of teachers in relation to their qualification and different group of teachers in relation to their streams. Therefore, it was concluded that attitude of teachers towards smart classroom does not influence by demographic variable such as gender, teaching experience, qualification, streams.

Key words: Attitude, smart classroom and demographic variables.

Introduction and background

Education is the back bone of any society or country. Infrastructure growth is only depends on efficient, effective educational system. Technology plays a vital role in this era. There are three major component in the education system i.e. teacher, students and content. The teacher performs various role, act as guide, counsellor, as the transmitter of culture, builder of students' character and personality. Teacher's competency, teaching style, behaviour, and attitude are the vital component of their personality. Amongst them their attitudes play significant role in understanding and improving educational process. **Mathews-Aydinli, Julie and Elaziz, Fatih (2010)** explored the attitudes of students and teachers toward the use of interactive whiteboards in a foreign language teaching and learning context. Also they

investigated possible factors affecting teachers' and students' attitudes toward interactive whiteboard technology. The results revealed that both students and teachers have generally positive attitudes toward using of interactive whiteboard in language instruction. Smart class is the latest way of teaching through technology. In this kind of teaching, teacher will teach by software and shown to you with projector in the classroom. In school there are many teachers and their attitudes are so many types. The successful implementation of any technology in classroom largely depends on teacher being positive about it and it is a great deal of research has sought to examine teachers' attitude towards the inclusion. **Wong Et al. (2013)** reported that teacher will only involves themselves with the new smart board technology in the class room when they can see the benefits and value of using it. It clearly shows that teachers have positive attitude towards smart board. Further some demographic related factors such as gender, teaching experience, educational qualifications and their streams were also associated with teachers' attitude towards inclusion. The term attitude is frequently used in educational and philosophical researches. Thurston (1946) defines attitude as "the degree of positive and negative effect associated with the some psychological object". In this way all what one thinks, feel and how does he react expresses one's attitude. If one keeps positive and favourable attitude towards an object, he will be attracted towards it, he will admire it and try to achieve it. On the other hand if one has a negative or unfavourable attitude one will try to avoid it and even feel hostile to it. **Chandini (2016)** reported that there is significant difference in secondary school teacher's attitude towards the use of computers in education with respect to their age. **Yadav and Reena (2015)** examined that teachers of urban area school showed more positive attitude towards use of ICT as compared to rural area school teachers. Private School teachers showed greater attitude towards use of ICT in education as compared to government school teachers. **Erduran and tataroglu (2010)** did a study to compare the opinion of science and mathematics teachers on the usage of interactive white board in the classroom. The finding shows that there is no significant difference between both science and mathematics teachers towards the use of interactive white board in the classroom. **Winzenried et al. (2010)** conducted a case study; they found that teachers showed a wide range in ability to integrate IWBs into their teaching practices to engage students in learning. Teachers' shows the positive attitude towards the use of IWB in their classroom.

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Justification of the study

As the world is progressively rapidly, the student need to be given more knowledge in quick time. Now a day's class room teaching is very much inadequate in India without help of technology. Very often parents also complain that nothing is taught in the class room. Traditional teaching learning process was based on chalk and talk method. But today various means of information technology like films, slides, radio, television, computer, satellite and internet can be used effectively to teach the students. **Moss et al. (2007)** examined that the frequencies of teachers' IWB use in smart classroom under the following categories: Never, Hardly ever, some, most and every lesson. They found no significant difference in mathematics, science and English teachers in terms of the frequency of IWB use.

Since this world is using technology at an ever faster rate. Technology open up possibilities just like any other innovation of teaching. **Balta and Duran (2015)** conducted a study to investigate teachers' and students' attitudes toward interactive whiteboard technology along with differences in attitudes resulting from some demographic factors. The results reported that interactive whiteboards are highly rated by both teachers and students. Students mostly prefer the usage of interactive whiteboards in math courses, and their attitudes differ across their genders and school levels. This concept introducing in a thrilling and exciting manner, assessment that are done instant result which further helps a teacher to assess the class has understood or not understood a concept and it is the teacher's responsibility to keep up with the new trends in using technology. So, the researcher is interested to study the attitudes of teachers towards smart classroom.

Statement of the problem

Keeping in view of the above justification, the present study was entitled, "Teacher attitudes towards smart classroom in relation to some demographic factors".

Operational definition of the key term used

Smart class

In present study smart class is the latest way of teaching of education through technology. In smart classroom, the teacher will teach by software and with help of electronic gadgets like smart board and projector etc.

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Attitude towards smart classroom

In the present study, Attitude towards smart classroom means score obtained by teachers on a scale measuring attitude towards smart classroom developed by the investigator.

Objectives of the study to investigate

1. To study the levels of teachers' attitude towards smart classroom in terms of total sample.
2. To find the significant difference in the attitudes of teachers in relation to some demographic variable such as gender, experience, qualification and streams.

Hypotheses of the study

1. There is no significant difference between the mean attitude score of male and female teachers.
2. There is no significant difference between the mean attitude score of more and less experience teachers.
3. There is no significant difference between the mean attitude score of different group of teachers in relation to their qualification.
4. There is no significant difference between the mean attitude score of different group of teachers in relation to their streams.

Design of the study

The present study was designed to investigate the topic entitled, "Teachers' attitudes towards smart classroom in relation to some demographic factors" in Yamuna Nagar district. In order to study this, the investigator adopted descriptive survey method.

Sample of the study

A total 71 teachers were selected by using random sampling from five private school affiliated with CBSE Delhi, of district Yamuna Nagar for execution of the study

Tool used for the study

For the purpose of the present study the investigator used a self developed likert type teachers' attitude towards smart classroom scale (TASCS) for data collection. The tool contain 25 statement, each statements has five responses. The responses, Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD) are respectively assigned value point of 5, 4, 3, 2 and 1 for positive statement and in reverse order for the negative statement.

The reliability of the teachers' attitude towards smart classroom scale (TASCS) was estimated by test-retest (0.81) methods. This shows that the scale is highly reliable to measure the attitude of teachers towards smart class room.

Statistical techniques used

The investigator employed Descriptive Statistics (Mean & Standard Deviation) and inferential Statistics (t-Test) were used to analyze the data from the sample.

Procedure for data collection

For the purpose of data collection, investigator visited five private school affiliated with CBSE Delhi of Yamuna Nagar district. At the time of administration of the test teachers were informed about the nature and utility of the study. They were also informed that the test results will be kept confidential. Therefore they should be frank, honest and sincere in responding the each statement. After all the formalities, self developed attitude scale was distributed among the sample teachers. Instructions were explained to teachers in the beginning of the test. On an average they took 15 to 20 minutes answering the scale.

Results and discussion

After collecting data and summed up the scores, same has been analyzed, interpreted with proper techniques. Keeping in view of all, the objectives and hypotheses of the study, the results are interpreted into two different sections. The processed data have been represented into different section as follows:

Section – I

The first section deals with different levels of teachers' attitudes towards smart classroom. In this section we divide attitudes of teacher into three different levels. The table 1 show the Distribution of teachers in relation to total attitude scores into three different levels.

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Table - 1

Distribution of teachers in relation to total attitude score

Sr.no.	Raw scores	Level of attitude	Number of teachers	Percentage
1.	101 – 125	High	49	69.01%
2.	76-100	Moderate	22	30.98%
3.	50 – 75	Low	0	0%

It is observed from table 4.1 that out of 71 teachers 69.01% teachers have high level of attitude, 30.98% teachers have moderate attitude and 0% teachers have low level of attitude towards smart classroom. The result revealed from the table that teachers have positive attitude towards smart classroom. Since the investigator assumed that the teacher whose attitude score is above 75 has positive attitudes towards smart classroom.

Section II

This section II deals with the differential analysis with respect to (a) Gender (b) Teaching experience (c) qualification (d) streams. The assessment of the significance of difference between attitudes of teachers towards smart classroom in relation to their gender, experience, qualification and streams were done by the employing mean, standard deviation and t - test. The details have been presented in following table:

Table – 2

Comparison of teachers' attitude towards smart classroom with respect to their gender

Gender	Number	Mean	Std. Deviation	Degree of Freedom	Value of (T)
Male	30	104.47	7.44	69	1.84
Female	41	101.17	7.44		

df = N1+N2-2, df = 71-2 = 69, 't' = 1.97 at 0.05 level

't' = 2.54 at 0.01 level

It is observed from the table 2 that the mean attitude scores of male and female towards smart classroom are 104.47 and 101.17 respectively, whereas the standard deviations are 7.44 and 7.44, the calculated 't' value is 1.84, which does not exceed the table value at 0.05. Hence the concerned null hypothesis i.e. "There is no significant difference between the

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mean attitude score of male and female teachers" is accepted. The result indicates that there is no significant difference between the mean attitude score of male and female. Now it may be concluded that gender does not influence the attitude of teachers towards smart classroom.

Table - 3

Comparison of teachers' attitude towards smart classroom with respect to their teaching experience

Teaching Experience	Number	Mean	Std. Deviation	Degree of Freedom	Value of (T)
Above 5 years	41	104.17	5.85	69	1.85
Below 5 years	30	101.03	7.79		

df = N1+N2-2, df = 71-2 = 69, 't' = 1.97 at 0.05 level

't' = 2.54 at 0.01 level

It is observed from the table 3 that the calculated't' value for teachers' attitude towards smart class room with respect to their teaching experience is 1.85 , which does not exceed the table value at 0.05 level of significance. Hence the concerned null hypothesis i.e "There is no significant difference between the mean attitude score of more and less experience teachers" is accepted. Hence, teaching experience does not influence the attitude of teachers towards smart classroom.

Table - 4

Comparison of teachers' attitude towards smart classroom in relation to their qualification

Qualification	Number	Mean	Std. Deviation	Degree of Freedom	Value of (T)
Graduation	31	101.94	6.33	69	0.99
Post Graduation	40	103.55	7.25		

df = N1+N2-2, df = 71-2 = 69, 't' = 1.97 at 0.05 level

't' = 2.54 at 0.01 level

It is clearly evident from the above table that the calculated't' value for teachers' attitudes towards smart class room in relation to their qualification is 0.99, which does not exceed than table value at 0.05 level of significance. Therefore the related null hypothesis i.e. "There is

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no significant difference between the mean attitude score of different group of teachers in relation to their qualification" is accepted. Hence, we can say that qualification does not influence the attitude of teachers towards smart classroom.

Table - 5

Comparison of teachers' attitude towards smart classroom in relation to their stream

Streams	Number	Mean	Std. Deviation	Degree of Freedom	Value of (T)
Science	31	100.75	8.7783	69	0.96
Arts	40	103.5161	15.1240		

df = N1+N2-2, df = 71-2 = 69, 't' = 1.97 at 0.05 level

't' = 2.54 at 0.01 level

It is clearly evident from the above table that the calculated't' value for teachers' attitudes towards smart class room in relation to their streams is 0.96, which does not exceed than table value at 0.05 level of significance. Therefore the related null hypothesis i.e. "There is no significant difference between the mean attitude score of different group of teachers in relation to their streams" is accepted. Hence, we can say that streams do not influence the attitude of teachers towards smart classroom.

Discussion of the results

The main purpose of the study was to know teachers' attitudes toward smart classroom in relation to some demographic factors. In the light of the above results we see that, there are no statistically significant differences between the mean attitude score of –

- Male and Female teachers.
- More and less experience teachers.
- Different group of teachers in relation to their qualification.
- Different group of teachers in relation to their streams.

Hence, we concluded that attitude of teachers towards smart classroom does not influence by demographic variable such as gender, teaching experience, qualification, streams. The reason may be that the all teachers having equal opportunities for using interactive white boards in

the classroom and similar consciousness. This study is in line with the finding of moss et al. that there exists no significant difference in mathematics, science and English teachers in terms of the frequency of IWB use .This present study is also supported by Erduran & tataroglu (2010), reported that there is no significant difference between both science and arts toward the use of interactive white boards in the classroom. From a general perspective, the results of the study are similar those encountered in the literature.

Main finding of the study

Following are the main findings of the present study:

1. There is no significant difference between the mean attitude score of male and female teachers.
2. There is no significant difference between the mean attitude score of more and less experience teachers.
3. There is no significant difference between the mean attitude score of different group of teachers in relation to their qualification.
4. There is no significant difference between the mean attitude score of different group of teachers in relation to their streams.

Educational implications

1. It has been found that teachers have positive attitude towards smart classroom. So, with the present method of teaching through smart classroom is very effective and it will help to attain the objective of teaching.
2. Workshops and seminars for pre-service and in-service science teachers may be organize to train them with the skill of using smart board in schools in accordance to improve their attitudes.
3. It may also be noted that science and technology are growing rapidly that is becoming harder for school teachers to keep pace with the change. In this regards positive attitude towards smart classroom is very helpful to equip with latest content and they will be able to keep pace with time.

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