The Academic
International Journal of Multidisciplinary Research

An Online Peer Reviewed / Refereed Journal
Volume 4 | Issue 10 | October 2026
ISSN: 2583-973X (Online), SJIF IF(2026): 5.6
Website: www.theacademic.in

# Effectiveness of Smart Classroom on Students Learning

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**DOI : https://doi.org/ 10.5281/zenodo.24394570**

**ARTICLE DETAILS**

**Research Paper**

**Received:** 26-10-2026

**Accepted:** 01-11-2026

**Published:** 20-11-2026

**Keywords:**

*Smart class, Technology, Academic Achievement*

**ABSTRACT**

A smart classroom system uses students' imaginations to help them comprehend a subject's benefits and drawbacks so they will remember it for a very long time. The performance of the students improved in linked subjects; Pupils find education enjoyable; whereas their application, comprehension, and memory skills improved. Their involvement rose as well. It simplifies complex topics and abstract ideas for easy comprehension. With the help of audiovisual aids, students can learn challenging material in an engaging way by using the smart classroom method. The present study aims to find out the effectiveness of smart classroom on students learning.

## Introduction:

We have benefited from technology in all spheres of life, including education and communication. These days, computers are a major part of our schooling. Through, smart classrooms, pupils learn more effectively when a topic is presented visually. Thus, the the urge to use smart classrooms is becoming more and more. In Smart Classrooms, teacher uses videos and slideshows to improve instruction. Visualization aids helps in improved learning for students. Even if not every student will grasp a teacher's teaching style, they can all learn through intelligent classes. This is evident in the case of movies; students retain the teachings from movies more vividly than those taught in the classroom. This kind of instruction generates interest of the students. By involving the students completely throughout the learning process, this type of instruction helps to keep their attention and focus. From the perspective of the instructor, the introduction of this digital initiative-which is so user-friendly and

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practical for the present world, allows teachers to rapidly analyze and assess the learning that students have accomplished in their classes. In a school, smart classrooms are incredibly helpful for the teaching-learningprocess.

**Rational of the study:**

A technology based A technology based learning approach called "smart classroom" is put forth as a way to help pupils become more capable. This approach to teaching and learning helps teachers to create interesting lessons while also making the educational system more visually appealing and participatory. Numerous researches show that interactive whiteboards have showed positive advantages. According to Walker (2003), Effective integration in the classroom could be facilitated, by using interactive whiteboards. One of the benefits of interactive whiteboards to promote successful learning is their responsiveness, which arouse students' attention and presents a visual (Hall & Higgins,2005).In math and science classes,students used interactive whiteboards to foster positive thinking, according to Wall, Higgins, and Smith (2005).According to Elliot (2003), teacher-student interaction may be achieved with this technology. Students are also able to identify difficulties in this setting and find solutions for them.

(Chang and Lee, 2010) states that the smart Classroom has become a preferred type of classroom because of its integration of so many types of media And IT technologies. Since the advent of new media technologies for educational purposes, the idea of a "smart classroom" has been present in the educational community. The overhead projector, which projected images or text onto a screen by placing it under a lens, was likely the first piece of technology ever used in a classroom. The idea of "built pedagogy" was proposed as away to address the recent technological advancement in the classroom (Bautista & Borges, 2013).The built technology takes into consideration the design of the smart classroom both economically and architecturally to create a new learning environment. Aparna Pancholi (2015) States that the students taught through smart class have scored better achievement than subject taught through traditional method. Jaechoon and Heniseok (2015), on their study "a study on effectiveness of Smart classrooms through interaction analysis" proved smart classrooms was more positive on education rather than traditional classroom and also concluded that smart classroom and also concluded that smart classroom was more students oriented

In light of the fact that some studies suggested smart schools as a way to improve students' academic perfor mance and capabilities in the Information and Communication Technology (ICT) era (Taleb & Hassanzadeh , 2015), several nations started outfitting schools with the necessary infrastructure to support this transition t o smart classrooms.

**Objectives of the study**:

1) To study and compare the academic achievement of students when taught through smart classroom teaching and conventional teaching.
2) To study the interest of student towards smart classroom learning.

**Methodology of the study:**

The study is conducted on two sample secondary schools of Jorhat district which were selected randomly. The main intention of conducting this study is to know and compare the academic achievement of students when taught through smart classroom teaching and conventional teaching, and to study the change in interactive style between teacher and student in a smart classroom. Stratified random sampling technique is used for choosing the samples. To meet the 1st objective, 20 students (boys and girls) in the 9th grade from two secondary schools were selected as a sample. Students were divided into two groups at random, with ten individuals in each group. Group B served as the control group and taught in a conventional classroom, whereas Group A was the experimental group that used smart classroom technology. For meeting the 2nd objective, 30 students were chosen at random from two schools in Jorhat, Assam.

**Tools Used**:

For meeting the two objectives two tools were used by the investigators. These tools were self developed. For developing the tools the investigator consulted with a few experts in this field.For meeting the 1st objective, the investigator have followed two types of test comprised of two levels –pre test level and post test level. To meet the 2 nd objective, an interview was conducted. a questionnaire consisting of 10 questions containing “yes or no” were developed for collecting data to study the interest of the students towards learning mathematics.

**Procedure of data collection:**

For the present study, the investigators collected data personally from students of the sample schools through self-developed tools. The 1 st tool was administered on two groups.i.e control group and experimental group of students of a sample secondary school. And item wise response from teachers and students were collected and that response for the items considered as data for analysis.Two tests was supervised here i.e. pre-test and post-test. Pre-test was supervised without any instruction. But the post test that was conducted into instruction but the other conditions was remained constant as before, for Group-A smart classroom and for Group-B conventional classroom in learning. For pre-test and post-test same test

item were used, same total marks, same total no of question and same duration of time. The second tool was administered on selected students of the sample schools to get meaningful data.

**Procedure of analysis of data:**

After obtaining the data from the participants, the investigators used both qualitative and quantitative methods for analysis and interpretation. The collected data are tabulated and classified in the meaningful way for better interpretation. Simple statistics i.e. percentage and t-test were used for quantitative descriptition of the data.

Table-1.1

Statistical Analysis of Difference of Mean Score (t-test) of pre-test and post-test scores of Academic Achievement of 9th standard students in Group-A and Group-B

| Test | Group | Total students | Mean | S.D | t-value |
|---|---|---|---|---|---|
| Pre test | A | 10 | 12.4 | 1.63 | 0.56 |
| | B | 10 | 12 | 1.33 | |
| Post test | A | 10 | 17 | 1.73 | 5.046 |
| | B | 10 | 13.4 | 1.45 | |

To meet the objective 1, i.e to study and compare the academic achievement of students when taught through smart classroom, the investigator adopted two equivalent groups randomly selected from class 9 students of a sample secondary school. Group A is treated as experimental group and Group B is treated as control group. The content based questionnaire was administered on both the groups before teaching them the topic. In pre test the groups were taught by the teachers in the conventional classroom. After teaching has done content based questionnaire was administered among the students in both the groups. After evaluating the response of students against each questionnaire, the result of the study is presented in table 1.1.In pre-test the calculated “t” value is less than the table value 2.10 in 0.05 level of significance. Therefore the value is not significant difference in their achievement between control group and experimental group of students.

In post test, from the table 1.1, it is found that the calculated "t" value 5.046 is more than the table value 2.10 in 0.05 level of significance.Therefore, it is concluded that there is significant difference between control group and experimental group of students of secondary school. So, the researchers concluded that there is a difference of post-test scores of Academic Achievement of 9th standard students in Group-A and Group-B.

**Table-1.2**

Table indicating the interest of secondary school students towards smart classroom learning

| Status of the interest | Response in percentage |
|---|---|
| Positive | 70% |
| Negative | 30% |

To meet the second objective .i.e to study the interest of secondary school students towards smart classroom learning ,table-1.2 indicates that positive interest and negative interest of school student in percentage.The same table shows that positive interest towards smart classroom is 70% and negative interest towards smart classroom learning is 30%.Therefore,it is concluded that most of the students have positive interest towards smart classroom learning.

**Major findings of the study:**

- In the pretest, it is observed that there exist no significant difference between control group and experimental group of students of secondary school by using conventional method of learning.
- In the post-test, it is observed that academic achievement of students is more when taught through smart classroom teaching than conventional teaching.
- The positive interest of secondary school students for smart classroom learning is 70% and negative interest towards smart classroom learning is 30%.It is observed that interest of students towards smart classroom learning is satisfactory.

**Educational Implication**s:

- The curriculum should be framed keeping in view the application of smart classes of teaching.
- Teachers should use maximum instrument of multimedia in the class room.

- Government should provide grants for teaching aids like multi- media projector, Computer etc.

**Conclusion:**

Classrooms are witnessing a digital revolution thanks to smart classes. Teaching and learning has indeed become very interesting and effective. The use of visual aids is replacing the traditional chalk and board method. It has become simpler to educate using modern technologies, such as the smart classroom. For the teachers to connect the material to the students, who are quite open to it. This approach uses the students' imaginations to help them comprehend the material in all of its advantages and disadvantages so that it sticks in their minds for a very long time.

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