

The Effect of Smart Class on Academic Achievement

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Abstract:- The study explores the effect of Smart class on the Academic Achievement of students. The sample consisted of 60 students (15 boys & 15 girls in each group) from two higher secondary schools of Bhilai city, Durg (C.G.). The samples were taken from class VIII students having academic achievement of 60% to 65% of scores in the formative assessments and first Summative assessment. An academic achievement test developed by both the subject teachers was used as data collection tool. The thirty students, fifteen boys and fifteen girls, from the first school formed the experimental group and same number of boys and girls from the second school was treated as control group. The experimental group was taught a topic from Science subject through smart class and the control group was taught the same topic through the traditional method of teaching. An achievement test was administered to both the groups after the completion of topic. Scores were analysed to find out which group fared better.

Key words: Smart Class, Academic Achievement, Achievement in Science, Traditional Method

I. Introduction:-

Education is the process of developing the capacities and potentials of the individual so as to prepare that individual to be successful in a specific society or culture. The concept of smart class serves not just as an interactive audio-visual aid, but also makes it easier to understand theoretical concepts in a livelier fashion. This study is in tandem with that conducted by Quashie (2009), Elharr (2010), Zittle (2004) and Rekha and Kumar (2009). The next-gen that feeds on technologies such as Facebook, whatsapp, Google, etc. demands a more interactive teaching learning process with a focus on 'why and how' than traditional method of focusing on 'what'. Similarly, the teachers also realise the potential of these digital classroom as "the charts, diagrams and props are replaced with beating hearts and animated stories" - something which is far more engaging to students. As Schroeder (2007) puts it, the Smart Class takes whole classroom instruction to another level because it potentially heightens students' emotions and encourages greater participation owing to students being able to directly interact with materials available on the interactive white board. The significant effect of Smart Class on the academic achievement of students in science can also be explained through the study by Hennessy et al. (2007) which states that a better understanding of science concepts stems from the fact that students evaluated and developed scientific ideas on their own during the course of the lesson through the use of the interactive capabilities of the IWB. But the real challenge is to strike a balance where the 'smart classes' do not remain the marketing tool or envisioned as a substitution of teacher. Instead, it should be seamlessly

incorporated in the education system where the teacher remains the epicentre and the digital content of the smart classes a method of providing a more multi-dimensional learning. Academic achievement has become an index of child's future in this highly competitive world. Academic achievement has been one of the most important goals of the educational process. It is also a major goal, which every individual is expected to perform in all cultures. Academic achievement is a key mechanism through which adolescents learn about their talents, abilities and competencies which are an important part of developing career aspirations.

II. Hypothesis:-

The hypotheses for the study were formulated as-

H₀ There exists no significant difference in the academic achievement of students of Smart Class and Traditional Class.

H₀₋₁ There exists no significant difference in the academic achievement of male students of Smart Class and Traditional Class.

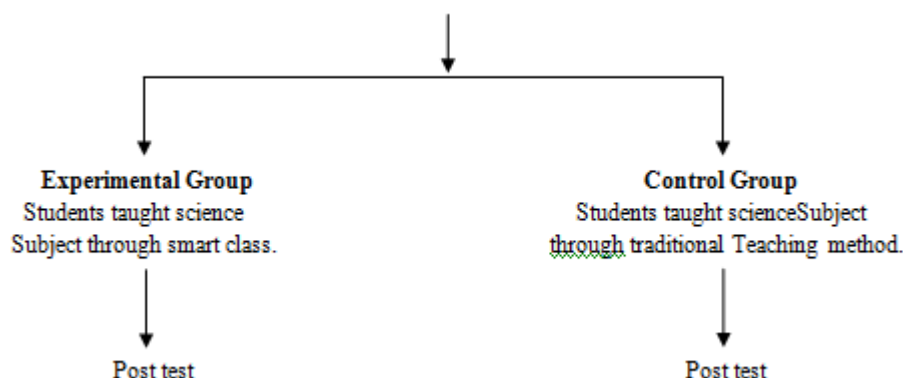
H₀₋₂ There exists no significant difference in the academic achievement of female students of Smart Class and Traditional Class.

III. Methodology:-

Sample:-

In the present study the samples are taken from class VIII students having academic achievement of 60% to 65% of scores. The sample consisted of two groups (15 boys & 15 girls in each group) - one experimental and the other control group.

Randomly assigned groups



PROCEDURE

In order to assess the effectiveness of the Smart Class in Eighth –grade Science class an experimental group of Class VIII students from M.G.M. Higher Secondary School, Bhilai, Durg (Dist.) was compared to a Controlled group of Class VIII students of the same School throughout a unit of study entitled *Microorganisms*.

30 male students and 30 female students with academic achievement in the range of 60%-65% scores were selected. The 15 male students and 15 female students thus selected, formed the Controlled group as they were taught the topic in the Traditional method. The Experimental group consisted of another 15 male students and 15 female students and they

were presented lessons using the interactive whiteboard, i.e., Smart Class. The teaching learning process was carried out for about seven days. Same topic '*Microorganisms*' was taught to both the groups by the same teacher. Immediately after the completion of the unit a post- test, i.e., Achievement test in Science, was conducted for testing the students' knowledge and understanding.

The test consisted of 20-items of Multiple Choice Questions, Fill in the Blanks and Name the following. In this way post-test scores were obtained on achievement test in Science, of both the groups

Analysis of data and interpretation:-

H_0 -There exist no significant difference in the academic achievement of students of Smart Class and Traditional Class.

Table-1

	No. of students	Mean	SD _p	SD _E	t VALUE
EXPERIMENTAL GROUP	30	13.57	3.12	0.81	4.42
CONTROL GROUP	30	10			
df = 58	p<0.05 Significance				

The 't' value obtained is 4.42 which is greater than table value 2.01

Hence the Hypothesis H_0 is rejected and significant at 0.05 level. Thus it can be interpreted that there is significant

difference in the academic achievement of students of Smart Class and Traditional Class.

H₀₋₁. There exist no significant difference in the academic achievement of male students of Smart Class and Traditional Class.

Table-2

	No. of students	Mean	SD _p	SD _E	t VALUE
EXPERIMENTAL GROUP	15	13.27	3.11	1.13	2.40
CONTROL GROUP	15	10.53			
df = 28	p<0.05 Significance				

The 't' value obtained is 2.40 which is greater than table value 2.05

Hence the Hypothesis H₀₋₁ is rejected and significant at 0.05 level. Thus it can be interpreted that there is significant

difference in the academic achievement of male students of Smart Class and Traditional Class.

H₀₋₂ There exists no significant difference in the academic achievement of female students of Smart Class and Traditional Class.

Table-3

	No. of students	Mean	SD _p	SD _E	t VALUE
EXPERIMENTAL GROUP	15	14.07	3.11	1.14	4.11
CONTROL GROUP	15	9.40			
df = 28	p<0.05 Significance				

The 't' value obtained is 4.11 which is greater than table value 2.05

Hence the Hypothesis H₀₋₂ is rejected and significant at 0.05 level. Thus it can be interpreted that there is significant difference in the academic achievement of female students of Smart Class and Traditional Class.

fact that the Interactive White Board gives equal opportunity for the students and they are motivated to be actively involved in the class. Another reason for the effectiveness on Academic Achievement in both male students and female students is that the Interactive White Board can accommodate different learning styles. The visual feast in the form of animations and videos glues the visual learners to the interactive white board while the class discussions and commentaries of video help the audio learners and touching and marking at the board suits the tactile learners.

IV. INTERPRETATION AND DISCUSSION

The techno-visionaries have prophesied that the digital education is the future where the students get personalised learning environment and instantaneous feedback. The study shows that there is significant effect of Smart Class on academic achievement. Students learn well from using technology and from doing hands-on activities. Interactive whiteboards promote active student engagement in the learning process and have been described as being one of the most revolutionary and powerful teaching techniques using technology. The effectiveness of the smart class irrespective of the gender of the students can stem from the

V. SUGGESTIONS

Teachers are the pivot of any class. Technology, methods and electronic and technical equipments are only for the assistance of the teacher. Whatever technology or method is applied, the success of all these are in the hand of teachers. A smart classroom not only enhances today's students' learning styles, but a thoughtfully constructed one can also make life easier for the instructor.

Based on the current study, a number of suggestions emerge:

- ❖ It is important to train teachers to use the technology properly for new pedagogical purposes.
- ❖ The educators must prioritize the student above the technology.
Technology is the means to an end, not the end itself.
- ❖ Training and support is critical for the success of smart classrooms and the eventual success of the students taught in those learning spaces.
- ❖ The educator must be patient and work toward achieving specific student outcomes.
- ❖ The educator needs to share what he or she has learned with other educators.
- ❖ It may be helpful to establish a database of lessons and instructional materials that integrate various technological elements.
- ❖ Adding smart classrooms in the school may help create continuity in the innovative methods of learning and instruction for most of the students.

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