



QUALITY LEARNING IN HIGHER EDUCATION WITH THE HELP OF MODERN SMART CLASSROOM APPROACH

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ABSTRACT:

Educational Technology is the application of scientific knowledge in educational field to solve educational problems, improve the quality of teaching and learning, and to satisfy the need of pupils. Through the application of ET, many positive changes occur in present day educational context. Smart classroom is a bright example of application of ET. It enhances students' motive to learning. As the result, it increases students' interest in study and enhances their bright future. Hence the popularity of Smart classroom is increasing rapidly. Smart classroom uses modern technologies i.e. Instructional Materials, 3D animated modules, Videos, Projectors, DVD's, PPT's etc. Smart classroom concept was first time launched by EDUCOMP in 2004. Smart classroom works as an umbrella for using different technologies together. At present, in WB are 235 smart classrooms in the state and around 123 of those are run by private groups. Albert Einstein told that – "I never teach my pupils, I only provide the conditions in which they can learn." In occurrence of smart classroom the learning atmosphere set up of this kind. The study based on primary data and presented in quantitative method. Present paper focuses on the quality learning through modern smart classroom approach in higher education. The purposes of this present study to review the effectiveness of smart classroom in quality learning and academic achievement. It is found that smart classroom improves students' academic achievement comparatively more than traditional classroom.

KEYWORDS:

HIGHER EDUCATION, QUALITY LEARNING, SMART CLASSROOM.

INTRODUCTION-

A smart classroom is generally equipped with a number of multimedia components with the aim of enhancing teaching. IN present day context, Quality education is very much essential for students. Every part of higher education I has been affected by technology .smart classroom focuses on the development of pupil's potentialities. Technology based classroom affects better in teaching learning process than traditional classrooms." Day by day the uses of ET (Educational Technology) are spreading very quickly. It improves the quality of teaching and learning and satisfy the needs of the students. It becomes a essential feature of present education system. In contemporary time period pupils were instruct by Guru's in a Gurukula system, but increase of time, technology has used in modern educational system. Uses of traditional chalk & talk teaching methods gradually reduce and this place is replaced by innovative science and technology. This new techniques of instruction have been initiated in 21st century, which is most multifaceted contribution of science, known as "Smart Classroom". Smart classroom are that classroom which is augmented with the technological gadgets for superior study and instruct. Now is the era of smart classrooms which makes learning interesting and

attractive through the use of digital equipment like the VCD or DVD players or laptop and computer, fitted to a projector. To provide appropriate content to the students based on their understanding levels, smart classroom is very helpful for quality education.

Smart class upgrades teacher's efficiency and output in class. **Baker (2010)** said the benefit of ICT can be used in Higher Educational Institutions for better teaching and learning. As the technology and infrastructure provides better opportunity for HEI to move a step forward and making the classroom away from traditional to the smart classrooms. **Hadhrami (2017)** stated that learning analytics is not new article, it developed in many areas of the educational fields, it will assist the teacher to use technology and improve the skills in teaching and learning to provide the different activities that required for students requirement in their studies. Through a project, EVICAB reported that modern technology and e-learning hold up the compatibility of higher education agendas; upgrade the superiority of higher education.

In India the need of smart classroom is increasing in higher education. But it is much lesser in West Bengal. For expanding role of global competition and workforce, collaboration extends to corporate – university partnership, globalization of higher education, understanding the challenges in education, innovations, quality teaching learning and other issues use of

educational technology is very important in post graduation studies of colleges and Universities in West Bengal. The aims of this present study to know the advantages, disadvantages of smart classroom in higher education and effectiveness in quality learning and achievements.

OBJECTIVES OF THE STUDY:

The objectives of the study are

- To explain the concept of smart classroom approach.
- To show the basic themes and types of smart classroom.
- To explore the advantages of smart classroom in the context of higher education.
- To measure the effectiveness of smart classroom in quality learning at higher education level.

METHODOLOGY:

This study has also been conducted through mixed approach of research. Both quantitative and qualitative approach were followed. In this study researcher used different journals, book, and online article for qualitative work. On the other hand researcher used survey method and collecting first hand data for quantitative work.

CONCEPT MODEL OF SMART CLASSROOM-

Quality education is an essential requisite on today's competitive environment. Technology has affected us in every aspect of life. The smart classes are the modernized method of education in present day which provide quality education to students by providing quality education by helping them in better concept formation, concept elaboration, improvement in reading skills academic achievement. Through the process of smart classroom learning, learners activate and build background knowledge, process information, transform their learning in product that shows what they know, and reflect on their learning.

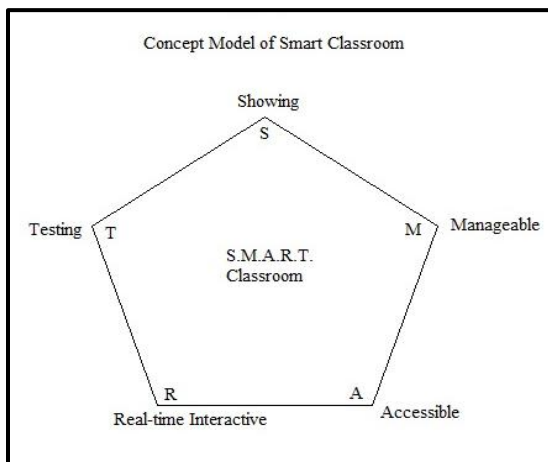


FIGURE:1: SMART CLASSROOM CONCEPT MODEL

-V.K. Maheshwari

Smart classes are electronically augmented speech coliseums and classrooms. These rooms generate latest chances in instruct and learning through the amalgamation of computer, interactive media and webbing mechanization. It is highly technological concept where learning resources present by technical processes. It conceivably abstracted as Showing(S), Manageable(M,) Accessible(A), Real-time Interactive(R) and Testing(T) which bynames "S.M.A.R.T."

SHOWING: This type of feature shows the teaching facts of the classrooms, exhibiting the teaching matter by the digital equipment. So that classroom can competently control pupils' diverted mind altogether.

MANAGEABLE: This type of dimension shows the management system of this classroom.

ACCESSIBLE: Accessibility is one type of features that presents indulgence of the resources and their dispensation.

REAL-TIME INTERACTIVE: It represents the capacity to carry the instructional interaction.

TESTING: Testing feature shows recognition of the actual abode i.e. air, temperature, smells etc. that may impact on cognitive movement.

MAIN THEMES IN THE SMART CLASSROOM CONCEPT:

The concepts of smart classrooms in terms of pedagogical setting and arrangement should be considered during the designing. The design transforms learning spaces into modern smart classrooms. There are seven basic concepts of a smart classroom: adaptability, comfort, connectivity, multiplicity, openness, personalization and safety/security. Smart Classroom aims at combining entrepreneurial pedagogy, collaborative teaching and the latest technological teaching tools to create a modern and effective education service environment in education setting. There are three main themes in the SMART Classroom concept:

1. Smart Pedagogy,
2. Smart Teaching Solutions.
3. Smart Learning Space

SMART PEDAGOGY is based on entrepreneurial pedagogy and methodologies. Smart Classroom project aims at fostering the application of these methodologies in institution setting and hereby provide more interactive alternatives to traditional teaching. This theme of the project results a handbook for teachers on applying fresh teaching methods into practise, tools for teachers' self-reflection and evaluation and training programme for teachers.

The second theme of the Smart Classroom concept is called Smart Teaching Solutions and it deals with variety of practical teaching tools and materials for teachers including teaching games and simulations. Smart Teaching Materials include for example exercises and examples that teachers can apply to their courses.

Smart Teaching Spaces cover both physical and virtual teaching spaces in the institution setting. The Smart Teaching Spaces concept defines the essential furniture and technical specifications of ideal physical classrooms and the most important features of virtual learning platforms. Also facilities and functions for lecture halls and collaborative teaching spaces will be defined in this package. The Smart Teaching Spaces as a whole brings flexibility to learning and makes the learning ubiquitous.

ADVANTAGES OF SMART CLASSROOM-

Smart classes are conducted by a teacher using a viewing screen that is attached to the projector. Students will assimilate the audio-visual information that is projected on the screen and learn about the topic. It is so easier to remember something and helpful to us if it is taught audio-visually. As it is technology enhanced classrooms, a student can reach their actual field of study to view anything into the room instead to go to outside which makes learning so amazing through the uses of digital equipments like the VCD or DVD players, Laptop or Computer, Projector etc. This kind of presentation and uses of technologically based classrooms it has some advantages and some disadvantages. Smart classrooms are the classroom where technology is being used for the purpose of teaching and learning. Smart classrooms make use of computers, projectors and even smartphones for this purposes. They are conducted by a trained teacher using a multimedia screen, which brings visuals rather than the traditional chalk and blackboard method. The concept of smart classrooms is booming up in India and helping students to learn better. However no teaching methods are completely foolproof, it has it's own disadvantages as well. Today we are discussing some of the Advantages and disadvantages of smart classrooms. These are-

- **Another important aspect of Internet:** based education is that It helps synchronization of all the study materials to every gadget. This helps in reducing taking notes. Students just need to download their study materials to their gadgets. It can save time and effort.
- **Use of internet to clarify doubt** Internet-based education also helps to connect students and teachers 24*7 making it easy for students to ask their doubts and clarify it regardless of the time.
- **Make learning easy:** Smart classrooms utilize visuals for teaching. Sometimes students can even interact with the visuals using advanced technologies like Virtual reality. Visual-based learning process found way effective than the traditional learning method. In this way, students can learn easily. Smart classrooms also make to reduce distractions and keep students engaged in the learning process.
- **Advantage for absentees:** Digital study materials can be downloaded and watched at any time or place. This benefits the absentees, even if they

miss their classes they can download it and study themselves at their convenient time.

- **Flexibility in learning:** A lot can happen over a smart board. Children can study in different forms of media. They get illustrations via photos, maps, graphs, regular and animated videos. Different minds have different preferences so they learn according to it.
- **Advanced teaching and learning experience:** Advanced technology not only enhances the learning experience but also gives an interesting platform to the teachers. Information is easy to grab with visual effects and dynamic perspective.
- **Connects well with more interaction:** Smart classes provide an interactive atmosphere which results in more transparency between teachers and students. This helps in establishing a connection, so that students can easily express through touching, writing and drawing.
- **Access to online resources:** The best part of smart classes is that, here everything is synchronized. Essential gadgets and projectors are synchronized among themselves and they all are again connected to internet. So, at every step, availability of solutions is high with the help of web.
- **Environment friendly:** Emphasizing more on e-learning, we not only get dynamic information but also are stepping towards green learning. Here, everybody is compatible with notebooks and tablets. Hence, the use of paper is almost negligible. Phenomenon like writing with pen or pencil, photocopying and printouts are rarely seen.
- **Upgraded integration:** Various technologies can be integrated for a better learning experience. For instance, microscopes, document cameras, video cameras can be integrated with the white boards. And mics and speakers are integrated with satellite for live classes.

EQUIPMENTS:

The typical list of amenities in "Smart Classrooms" on higher education looks like:

- Mac Book or PC/Laptop
- Projector
- Large wall screen or TV
- Microphone
- Lighting Controls
- Speakers
- Document Camera
- Interactive White Board
- Wireless presentation pointer

- Digital camera
- Graphic Tablets
- Big Interactive LED/LCD panels
- Multimedia Pens
- Printer
- Internet

SMART CLASSROOMS CAN BE CLASSIFIED AS FOLLOWS:

- Basic Type Smart Classroom:** This kind of classrooms included basic equipment i.e. computers, projector, DVD etc.
- Intermediate Type Smart Classroom:** This type of classification is one step forward than basic type smart classroom.
- Advanced Type Smart Classrooms:** This is the most developed Smart Classrooms, having all the gadgets of both previous two types of smart classroom but their features are very advanced, because of using latest machinery.

RESEARCH QUESTION:

TO MEASURE THE EFFECTIVENESS OF SMART CLASSROOM IN QUALITY LEARNING AT HIGHER EDUCATION LEVEL.

- Is there any significant difference between the t-scores of control group on pre-test and post-test with respect to traditional and smart classroom?

DATA COLLECTION:

Data collected for the test of 30 pupils from University of Kalyani, Education Department has contemplated. Forming two groups, in each has 15 students. Group "A" students has been taught along conventional order in normal classroom whereas Group "B" students has been taught along digital based Classroom.

PROCEDURE OF THE STUDY:

Two tests has been supervised here i.e. pre-test & post-test. Pre- test has been supervised without any stipulation. But the second test namely Post-test that is conducted into two stipulation but the other conditions are remain same as previous, for Group-A is conventional classroom and for Group-B is Digital equipment based advanced classroom.

Exploration and Elucidation:

TABLE 1: FOLLOWING TABLE SHOWS THAT THE STUDENTS OF GROUP-A AND GROUP-B'S MEANS PRE-TEST SCORES OF LEARNING.

Groups	Group-A	Group-B
Mean	15.5	5.55
Variance	18.2	2.12
t-value	1.005	

From the above **table 1**, the findings is almost the same and the mean score of pre-test was not significant, this

value is lesser than tabulated value at 0.01 & 0.05 significant level.

TABLE 2: FOLLOWING TABLE SHOWS THAT THE STUDENTS OF GROUP-A AND GROUP-B'S MEANS POST-TEST SCORES OF LEARNING.

Groups	Group-A	Group-B
Mean	26.3	4.85
Variance	30.8	3.34
t-value	2.75	

From the above table-2, the findings has play a great role and the mean score of post-test is significant, this t-value of this test is 2.75 which is greater than the tabulated value at 0.01 & 0.05 significant level.

CONCLUSION:

When we followed same instructions for both two groups there has no significant difference between the learning of University of Kalyani, Education students. But, when the instruction changed for two groups and they are taught in different classrooms the significant has changed. Here in second method for 'Group-A' we allocates conventional classroom and for 'Group-B' we allocates Smart Classroom found significant difference.

A smart classroom expanded the engrossment of the students in their studies. Not only they going through interests but also this method gives them enjoyable learning by the digital equipments. Although in the universe, everything has so many good and bad effects. As a result we found numerous benefit and a little drawbacks in the smart classroom, still be contemplated superior for the pupils. Although there has some drawbacks we cannot disregard the benefits. May have these disadvantages solved in near future except of the cost involved, it may reduces. Furthermore, the new creations of the field of computer science and mechanization would surely construct teaching and learning drawn plentiful.

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