



Smart classroom

Mirza Mahefooz Baig

Assistant Professor, Marathwada College of Education, Aurangabad. Maharashtra, India

Abstract

A smart classroom is a digital classroom which uses digital teaching methods like videos and audio to attract their students and keep them engaged. A smart classroom can be considered as a virtual classroom. A Smart Classroom duplicates the capabilities found in a real classroom. Smart Classrooms have characteristics like Adaptive learning, collaborative learning, etc. Smart classroom follow principle of connectivity; multiplicity; security, etc. As everything have pros and cons, smart classroom do have advantages and disadvantages. Moreover smart class can be future of Education.

Keywords: Smart classroom, digital natives

Introduction

Education is necessary for one and all, School/educational institution are the formal educational hub. In educational institution, classroom is the place where curriculum is transacted. Since time immemorial, teacher does the work of teaching and to make teaching effective various activities/demonstrations with the support of n-number of teaching aid is undertaken. What we talked in previous sentence is the tradition method of teaching; today we are in the age of Information and Communication Technology, also our society is knowledge society as we are thirsty of knowledge and we try to quench our thirst of knowledge. In this millennium, the students are Digital Natives; they are well informed than the teacher before they enter the classroom. Here comes the smart classroom for teacher's rescue.

A smart classroom is a digital classroom which is an advanced form of a school that follows different ways of teaching to improve efficiency. Such a classroom uses digital teaching methods like videos and audio to attract their students and keep them engaged. They can also provide some advanced technical methods like using virtual reality for experimenting. These techniques help the students understand the concepts very well and learn about how they can be applied to our daily lives. A smart classroom has many benefits, so it has gained so much fame in the recent past.

Definition

1. A smart classroom is an EdTech-upgraded classroom that enhances the teaching and learning process for both the teachers and the students by inculcating audio, video,

animations, images, multimedia etc. This increases the engagement factor and leads to better-performing students. This approach has been doing wonders, primarily when students can barely concentrate in an online setup—smart class technology helps students engage better.

2. Smart classroom is technology-enhanced classrooms that foster opportunities for teaching and learning by integrating learning technology, such as computers, specialized software, audience response technology, assistive listening devices, networking, and audio/visual capabilities.
3. A smart classroom can be considered as a virtual classroom. A Smart Classroom duplicates the capabilities found in a real classroom.

A Smart classroom provides

- Students and teachers use their computers to go to a virtual meeting place instead of a classroom.
- A list of students is recorded.

Lecture

Teachers can choose from a variety of synchronous technologies including:

- Slide presentation
- Audio and video conferencing
- Application sharing
- Shared whiteboard

Interaction with students: Students can indicate when they want to speak by virtually raising their hand. Teachers can let

students speak through audio and video conferencing. Teachers and students can use instant messaging and chat Teachers can present questions to students. Students can work together in groups.

Characteristics of Smart Classrooms

- Adaptive learning
- Collaborative learning
- Computing devices
- Performance-based assessments
- Student-centric
- Students take responsibility of their learning
- Multimedia enabled audio-visual classrooms

Principles inherent in Smart class room

Principle of Adaptability

Smart classroom is based on the principle of adaptability, as it is as per the needs of teacher and student.

Principle of Connectivity

The concept of connectivity has a twofold character. On one hand it is required that the learning space has a good network connectivity, both local and global, to use to the most the potential of mobile devices. On the other hand, beyond digital connectivity there exists social and informational connectivity.

Principle of Comfort

A smart classroom is a place arranged to comfortably do various activities –reading, watching videos, playing, listening to music and audios, writing, talking, debating, experimentation, and so on.

Principle of Multiplicity

This principle refers to smart classrooms having features which enable the use of various types of resources and stimuli.

Principle of Personalization

Smart classrooms allow students and teachers to personalize their environment according to their likes and needs.

Principle of Safety / Security

Security systems are taken into account when conceptualizing and designing smart classrooms.

The Layout of Smart Classroom

The Smart Classroom is physically built in a separate room of Pervasive Computing Lab in which several video cameras, microphone arrays are installed in it to sense human's gesture, motion and utterance. According to the characteristic of invisibility in pervasive computing environment, it deliberately removed all the computers out of sight. Two wall-sized projector displays are mounted on two vertically crossed walls. According to their purposes, they are called "Media Board" and "Student Board" separately. The Media Board is used for lecturer's use as a blackboard, on which prepared electronic courseware and lecturers' annotation are displayed. The Student Board is used for displaying the status and information of remote students, who are part of the class via Internet. The classroom is divided into two areas, complying with the real world classroom's model. One is the teaching area, where

is close to the two boards and usually dominated by lecturer. The other is the audience area, where is the place for local students. Complying with the philosophy of Natural and Augmented. Natural means obeying real-world model of classroom as much as possible to provide lecturer and students the feeling of reality and familiarity, which leads to the existence of local students. Augmented means trying to extend is the reason for remote student.

Components of Smart Class Room

- Smart Board
- Smart LED TV High
- Short throw Projector
- Video Conferencing Equipments
- Laptop with Internet connection
- Document Camera/ Visulaizer
- Podium
- Video Conferencing – High Definition and Screen

Advantages and Disadvantages of Smart class room

Online information can be easily accessible for teachers.

Instead of reading out facts from a textbook, a teacher gets the freedom to share exciting data from the internet in the form of videos, audios, statistics, etc. The teachers also have a massive platform to teach effectively and solve any conceptual doubts reasonably and practically.

An advanced learning experience for the students

Letting technology get introduced to education is an excellent way of increasing learning efficiency in students of any age group. They can visualize what they are studying to get a clearer idea. Innovative classes in schools are a great initiative that many institutes take up. This helps the students to replace long, boring paragraphs of data with images, videos, graphs, charts, tables, etc., which is so much more helpful. This helps the students remember such tricky information for a longer time since visions are stored in your mind better than words.

Interaction and healthier bond formations

Since students are willing to study appropriately with the help of this new equipment, they are interested in knowing more and questioning the concepts that bring doubts. These doubts are asked to their teacher, and this is how the interaction level in the class increases. As the students ask more questions to their teachers, the teachers understand their students' true potential and grasping power. This can help in bringing evident improvements in their behavior and make them brighter and sharper.

Eco-friendly and not time-consuming

Smart education provides an eco-friendly environment since the students do not need to use any books or pens to make notes. They are more focused on the presentation, and making notes and maintaining books is not necessary. Constantly being under the pressure of writing down everything taught in the class can be very time-consuming and tedious. This is why a digital classroom is preferred since no time is wasted in noting everything down.

Disadvantages of Smart class room

Lack of face to face interaction:

With social media platforms, students might have come closer to each other by using various apps and sites but, at the same time, they have gone far from each other when it comes to face to face interaction which is apparently affecting their real life social skills.

Can foster more cheating in class and on assignments

This will happen if the teacher give up hope on adjusting his students' attitudes and only give them subjective assignments that require no thought or perspective.

Inappropriate data

With internet connectivity available 24X7, students are exposed to some sites and links which are inappropriate for them.

Students do not have equal access to technological resources

There may be students who do not have iPads or cameras or even the textbooks for class.

The Cyberbullying Trap

Cyber bullying has become a real and in our face problem among young people today. This harassment has no end, which includes the class room.

Technology can be a distraction

One of the major drawbacks of having technology in classrooms is the distraction which comes complimentary with it. With so many tempting social media platforms like snap chat, Instagram, facebook, twitter and tumblr, it's not hard for the students to divert from what is happening in the class and misuse the opportunity given to them. Limited internet access for students living in rural areas

Smart Class as future of Education

We are growing digitally and when we are able to tackle the problem of internet access for remote places, smart classrooms can certainly be the future of education. Smart classrooms can also be incorporated while students are present in the classroom through augmented reality, artificial intelligence, and virtual reality.

It is fair to say that due to pandemic in recent past, both students and adults have become more and more technologically inclined. Students adapt quickly to new technologies, just as they will be expected to in the professional world. Cameras, remotes, and wireless devices are all common technologies that result in more engaged learning for students and adaptation to a variety of learning styles. In the near future, classrooms will too have to adapt accordingly and upgrade themselves to smart classroom. Then there is no looking back.

Conclusion

The Smart classroom provides the students as well as teacher to learn through a new technique and too in a different and interesting manner. A more interactive and collaborative way of learning has been introduced that has so many benefits. It is beneficial for teachers and students since teachers get an entire platform to pick information from and teach instead of just

being restricted to a book. Students get to pay more attention in class and find studying fun.

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