

Running head: SMART CLASSROOMS

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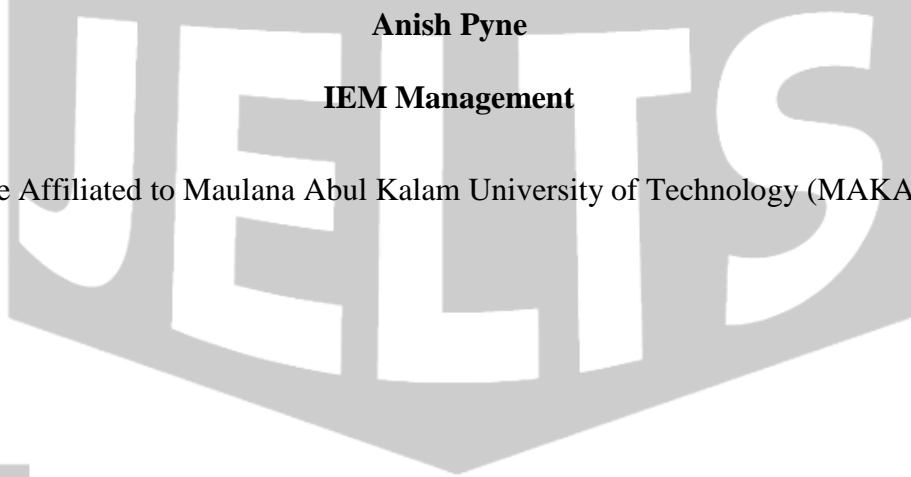
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**SMART CLASSROOMS AND E-LEARNING**

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**ABSTRACT**

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. Smart classroom allows students and teachers to personalize their environment according to their likes and needs.

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A learning system based on formalised teaching but with the help of electronic resources is known as E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times.

Learning is not how much one can cram up. It's rather the knowledge that remains after one forgets what he/she learned in schools. Thus we emphasize on learning the concepts with the help visuals and activities. To keep such view the smart learning was introduced. The Smart Learning approach provides learners of all ages and walks of life with a framework and a host of Smart Thinking Tools that motivate higher levels of understanding. Through the process learners activate and build background knowledge, process information, transform their learning into a product that shows what they know, and reflect on their learning. Structured talk and assessment as and for learning are carefully woven into the process to build a thoughtful context for learning and to advance the thinking of all learners.

**IMPACT AND PROGRESS EXPOUND**

A smart classroom is where the concept of blended learning is blooming. Smart classrooms are technologically enhanced that enable teaching and learning opportunities like never before. Learning is fun when subjects are interesting, and smart classes are doing exactly that by making the student's most boring subject palatable. Quality education has become essential in today's world as the skill set of every individual is updating as the years, in terms of technology, passes by. The competitive environment is cut-throat, and one needs to keep up. Technology has entered every aspect of our lives and preventing students and teachers to make the most of such developments is a crime. A smart classroom is a ramped-up mode of education which, instead of taking away from education or the attention span of students, adds opportunities to the existing traditional classroom setup. The opportunity to provide students with quality education by helping them understand concepts better, improve their reading and comprehension skills, and achieve academic excellence.

The traditional lecture-and-note-taking ritual has begun to lose its effectiveness. However, it is quite impossible to quit cold turkey, as books and notes are an integral part of learning in a classroom. It's thus the education system's responsibility to employ various technological opportunities for students' gains. It's emphasises blended learning, the traditional and novel methods of teaching, as a tool to learn basic and complex concepts for an enhanced academic foundation with the help of visuals and activities. With such a view in mind, smart learning was introduced to classrooms. The aforementioned new methods of teaching have been introduced to what is now known as a smart classroom.

E-learning refers to a learning system that we can obtain through the internet using an electronic device. We also call it online learning or online education. A learning system based on formalised teaching but with the help of electronic resources is known as E-learning. While teaching can be based in or out of the classrooms, the use of computers and the Internet forms the major component of E-learning. E-learning

can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times. Earlier, it was not accepted wholeheartedly as it was assumed that this system lacked the human element required in learning. However, with the rapid progress in technology and the advancement in learning systems, it is now embraced by the masses. The introduction of computers was the basis of this revolution and with the passage of time, as we get hooked to smartphones, tablets etc. Those devices now have an importance place in the classrooms for learning. Books are gradually getting replaced by electronic educational materials like optical discs or pen drives. Knowledge can also be shared via the Internet, which is accessible 24/7, anywhere, anytime.

E-learning, also referred to as online learning or electronic learning, is the acquisition of knowledge which takes place through electronic technologies and media. Typically, e-learning is conducted on the Internet, where students can access their learning materials online at any place and time. E-Learning most often takes place in the form of online courses, online degrees, or online programs.

## **FEATURES**

Smart Class includes Smart Learning Techniques, Smart classroom management, Smart Learning environment and Smart Learning Materials. Internet, projector and other multimedia devices are the main parts of smart classrooms.

### **1. Desktop or Laptop**

The use of familiar technology like desktop or laptop makes students feel more comfortable and confident. In a digital classroom a desktop or laptop acts as the central system that stores information and also essential for managing lessons. With the help of a projector the pre-loaded lessons can be maximized onto a big screen and can be taught with ease.

## **2. Document Camera**

A visualizer or document camera is a simple to use and flexible digital learning tool that allows teachers to project documents on large screens. This much sought after tool helps to display a wide variety of information ranging from a page in a book, a scientific diagram, a flower in all its glorious color or any other specimen and gives a clearer view to help students understand complex features.

## **3. Interactive Projector**

The interactive projector is a portable solution that helps convert any surface (existing projector screens, whiteboards, or wall surface) into an interactive surface. An interactive pen will come in handy to draw point or click just by touching the screen directly.

## **4. Graphic Tablets**

Tablets and e-readers are very popular with students. Amazon Kindle and other devices offer a built in dictionary, links to additional resources and more.

## **5. Educational Software**

There is lots of educational software that support major academic curriculum. This software also enables educators to streamline the student admission process, automate attendance, set exam schedules and many such activities.

## 6. Skype

Skype has revolutionized the world of video conferencing and it's "In the Classroom" program enables teachers to expand their curricula beyond classrooms. Skype also acts as a platform that allows students to interact with international speakers and educators. The fun "Mystery Skype," educational game involves two classrooms that must guess the location of their Skype partner by asking each other questions.

E-learning is being implemented today in various forms and through various tools emails, blogs, wikis, e-portfolios, animation, video links, specialized software, etc. We can create through these tools a learning situation spread over distance and location that is picturesquely termed as a virtual classroom.

### 1. Collaboration of Various Learning Tools

Mixed learning apparatuses enable you to oblige diverse adapting needs and inclinations. You can offer online students up close and personal guidance combined with online, preparing assets to improve the advantages. At times, an LMS (Learning Management System) may highlight video conferencing instruments. This enables you to offer the best you can from any place on the planet.

### 2. Strong Reporting With Customization

LMS reports give you a total picture of online student execution, commitment, and fulfillment evaluations. You can discover how well they are faring amid intelligent activities. View eLearning appraisal scores with the goal that you can suggest supplemental web-based preparing assets, and guarantee that they are getting the data they have to accomplish the ideal results.

### **3. Online Course Catalogs**

Your LMS needs to help online course lists. Ideally, with an implicit shopping basket choice, so online students can rapidly buy the substance or select an eLearning course with the snap of a catch. This, as well, ought to be completely adaptable. For instance, you can transfer your own logo, designs, text style, types, and catch styles.

### **4. Responsive Design Features**

Current students need access to eLearning courses anytime, anyplace. Subsequently, you need a LMS (Learning Management System) that can convey portable inviting substance immediately. That implies your LMS needs responsive structure highlights.

### **5. Natural User Interface**

A Learning Management System isn't of much esteem as you can't utilize the LMS highlights and capacities. That is why an LMS must be easy to use and instinctive. In a perfect world, it ought to have an assortment of dashboards that feature distinctive parts of your eLearning course.

### **6. Availability Features**

On the off chance of your planning to offer your eLearning courses to online students with exceptional requirements, you ought to consider availability highlights. For instance, include inscriptions and captions to suit online students who are hearing debilitated or sound portrayals for the individuals who are outwardly hindered. It's also quite smart to pick an LMS which will allow you to provide useful online assets to your students worldwide.

**FUTURE UPSHOT**

There is a huge scope of E-learning in India, especially for the Indian youths. E-learning has opened new avenues to education in India & has changed the dynamics of educational content. What seemed like a distant dream a few years back is India's future today .E-learning has surpassed challenges of reaching out to a varied audience, overcome the non-availability of adequately qualified teachers in rural India & making rich content available to an audience that was unreachable earlier. Today, with changing times, basic education is taught with a single computer in rural villages & has helped several children to get exposed to primary levels of education. Many of the universities and colleges are conducting their course online and also certificated will be provided online. The e-learning scenario in India is still growing and at an experimental stage. India's education policy has largely neglected the opportunity of benefiting from this technological revolution in education. E-learning is not only inexpensive, but also convenient. Yet there are huge digital divides which need to be bridged on an urgent basis. Indians however are more inclined to conventional methods of classroom training thus accepting e-learning is a major hindrance. Though, the corporate sector has imbibed e-learning in their business communication practices rather intelligently.

E-learning has become increasingly popular across the globe. The Internet users and its revolutionary changes that have happened in education have created a very fertile environment for e-learning to grow. The rapid increase in Internet connectivity in the last few years has been an important catalyst for the growth of e-learning. A robust Internet ecosystem, with a multitude of local and global players, will help online learning make further inroads.

The story is not limited to schools alone. Indian companies are adopting e-learning platforms at a rapid pace as continuous employee learning has become a strategic necessity. Leading companies



are adopting e-learning to support both short term courses and qualification-focused learning objectives among their employees.

With the number of Indian Internet users expected to reach 250 million the year, 2020 which would match the US and second only to China, India's potential as a huge market for e-learning is enormous. Additionally, a large number of new users are accessing the Internet for the first time from their smartphones, which is an ideal, personalized and commerce-enabled platform for e-learning adoption.

Fuelling this growth will be India's education system, already one of the largest in the world with a network of more than one million schools and 18,000 higher education institutions. More than half of the country's 1.2 billion population falls in the target market for education and related services. In the near future, universities will see more students accessing their coursework from outside the traditional campus and classroom.

E-learning brings unique advantages, the most prominent being the ability for online instructors to provide personalized attention to all students. This is especially critical for those students who cannot afford private face-to-face tutoring sessions or who live in rural areas where such help is not available. In a conventional set up, this is only possible when a highly skilled tutor offers one-to-one tutorials to a student. However, considering that most of the institutions have a classroom-based setup, such individualized attention becomes very difficult.

Another important advantage is that people living in smaller towns and cities can get access to the best possible learning resources from across the world, at a very affordable price. This helps create a level-playing field.

The developing wave of adaptive learning will also help students with various levels of intellectual capabilities to glean the best from the learning process at their own pace, without feeling left out.

Online tutoring will definitely pose a threat to conventional methods of teaching—while online learning can never look at completely replacing schools as schools offer much more than just academic opportunities within their campuses. However, private tuition centers which are typically managed by individual teachers will have to take a second look at their business model and adopt digital learning aids to sharpen their offerings.

School as well as college classrooms are now slowly inching towards advanced education, which rules out the most conventional method. Devices including document cameras and projectors make it possible for schools and colleges to implement instructions in smart classrooms.

- **Smart boards** – This is an interactive white board which allows the teacher to project an image from a laptop to the front of the room and the teacher can digitally draw on that image.
- **Digital Podium** – This advanced lecture stand is all-in-one smart classroom equipment features a Touch Monitor, Document Camera, Visualizer, Public Addressing (PA) System and Uninterrupted Power Supply.
- **Smart Class ICT** – The solution includes K-12 Digital content, assessment suite introduced on a most advanced offline or online LMS. The content can be strictly mapped as per school course and can be further localized as per requirement.

- **Visualizers** – Also known as document camera, this visual presenter is a real-time image capture devices that helps to display an object to a huge audience. The device can magnify and project the images of actual, three-dimensional (3D) objects as well as transparencies.

These educational products are highly beneficial for Teachers, Educators, Presenters, Trainers and Corporate Professionals.

### Smart Classroom Relevance to Grow

The recent market research report from Technavio predicts the smart classroom market in India to grow at a CAGR (Compound Annual Growth Rate) of more than 20% during the forecast period of 2016 to 2020.

As per the report, initiatives taken by the Indian government play a key role in popularizing smart ways of learning.

As per the report –

- With the exponential increase in use of everyday mobile devices in India, schools, colleges and other educational institutes might also implement bring your own device (BYOD) policies in the near future.
- To support their digital initiatives, teachers also require software to create e-learning content, which is likely to fuel the demand for learning products during the forecast period.
- The top players in the market include Microsoft, Oracle, Samsung, Dell, HCL Technologies, IBM, Lenovo, and more.

## CONCLUSION

This proposed design of the smart classroom will be evaluated by calculating the cohesion and coupling degrees as evaluation principles for service-oriented software design. In conclusion, the proposed smart classroom has a main vision to ease the implementation of learning activities within in-class and distance learning. It is evident that the aspect of smart classrooms is a positive move in the education system. It has in a great way facilitated the learning process through the utilization of the various media that allow better understanding since some aspects could be better understood using a certain media as opposed to the other.

Everyone has understanding, resources, and interests on which to build. Learning a topic does not begin from knowing nothing to learning that is based on entirely new information. The way of effective learning occurs when learners transport what they have learned to various and diverse new situations.

## KEYWORDS

Smart Classroom, acquisition, digital initiatives, E-Learning, visualizer, emphasize, specialized software.

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