Virtual Classroom Information and Communication Technology

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Abstract

Learning is an ever continuing process. The classroom is the traditional place where most of the structured learning takes place. Circumstances in life arise when this model of learning may not be ideal or possible. Advances in information and communication technology, such as in computer hardware and software and the internet, makes possible an alternative effective, convenient and flexible teaching environment. This paper discusses features, benefits and challenges of the virtual classroom

Keywords: Virtualization, elearning, Web, Internet, Classroom, Multimedia.

Introduction

Classroom environment

A classroom can be said to be a learning space, usually a room, in which both children and adults learn. Classrooms are used in various learning institutions ranging from preschools to universities, and may also be found in other places where education or training is provided, such as corporations and religious and humanitarian organizations. The purpose of a classroom is to provide a learning environment that can bounce erupted by outside distractions. In the traditional model of classroom instruction, the teacher is typically the central focus of a lesson and the primary disseminator of information during the class period. The teacher explains the content and responds to questions while students look to the teacher for guidance and feedback.

In a flipped classroom, students are introduced to content at home and practice working through it at school. This is the reverse of the more common practice of introducing new content at school, then assigning homework and projects to be completed by the students independently at home.

The Virtual classroom

A virtual classroom is a teaching and learning environment where participants can interact, communicate, view and discuss presentations, and engage with learning resources while working in groups, all in an online setting. The medium is often through a video conferencing application that allows multiple users to be connected at the same time through the Internet, which allows users from virtually anywhere to participate. A virtual classroom is also known as a virtual learning environment (VLE).

The need for the Virtual classroom

Dynamics of life sometimes make learners and instructors not to be always in the same place at the same place for various reasons. Different work places for learners may not enable them to attend physical classes. Mobile workers do work in different places from time to time. Too many students make it difficult to bring them in one room. The dawn of the internet has made teacher learner interaction to be in cyberspace. Moreover, outbreak of infectious diseases like corona

virus has necessitated the concept of social distancing which discourages a number of people, including students, to be close to one another. In such situations, schools have been closed by government officials keeping learners apart. Virtual classrooms enable continuation of the learning processes in such circumstances.

Virtual classroom environment

The participants, of course, include one or multiple instructors and students. However, a virtual classroom does not always need an active instructor to supervise students as learners can proceed at their own pace, with the instructor only around to evaluate the students; sometimes there is no instructor at all. This type of virtual classroom is called an unsupervised virtual classroom. A supervised virtual classroom conforms more to a traditional classroom environment as there is at least one active instructor present and the lesson is carried out in real time at a specific time and date. Students' attendance is virtually through a video conferencing application. This facilitates students and teachers active interaction and participation in class.

A virtual classroom need both hardware and software just as a traditional classroom requires furniture, such as tables and chairs, and a board, white or black, for the participants to use.

A computer, tablet or any other terminal with sufficient memory and disk space are needed. A good compact disk and USB supported computer will enable input, output and storage of learning materials. Availability of internet and other web services are an essential component in the virtual classroom. Computer conferencing tools which include a camera and microphone should be supported. Here we can express written materials, graphics and videos to the people participating in the conferencing through internet that can be received by them using their computers. Then they can forward their responses and activities to sender of the communication materials or desired people in the conference through internet services or they can contribute to keep continuing the communication process or conversation with the people who want to participate in the conversation.

A variety of software options need to be considered in order to deliver virtual classroom services. Presentation tools such as PowerPoint give learners a chance to build artifacts and share them with the entire class. Teachers can hand out drawing, writing, and other tools that allow individuals and groups of learners to interact with the online whiteboard. Documents can be pulled up on the Whiteboard and annotated. Questions can be copied from the chat so that nobody forgets what needs to be answered.

Video play lists Effective online education is varied and interesting; presentations and discussions punctuated by relevant video and audio material adds to the excitement of a live class, not to mention to the value of the content being presented.

Virtual Classroom's screen sharing tool can provide the environment for teachers to show learners how to do something. Google Classroom for example allows students to post questions and receive answers from their teachers and fellow students.

Benefits of Virtual classroom

A virtual classroom brings with it many advantages too numerous to list down. Online learning technologies make it possible for learning to take place at any time, at any place, and at any pace that the learner desires. This is particularly important for adult students who may need to schedule their learning around work and parenting responsibilities. Virtual classrooms therefore provide a cheaper, conducive and flexible learning environment. The learning process becomes more interactive as its nature forces the student's attention. The student hence becomes an active participant in the learning process. The approach is learner centered accommodating their needs.. The use of multimedia in education makes learning to be an entertaining and a more realistic experience.

Challenges of Virtual classroom

Critics of virtual learning argue that even the virtual classroom space is full of distractions as students may find distractions in their physical vicinity and so tend to multitask and divide their attention without focusing on any one task at a time. In the case of supervised classes, the schedule may also be an issue to some students. Moreover, virtual classroom learning is limited by the technological capacity of the student; those with slower hardware or Internet speeds are at a disadvantage. The cost of internet services and long hours of load shedding in some countries makes virtual classroom a difficult experience.

Conclusion

As digital information continues to permeate educational processes, the potential benefits of implementing virtual classrooms are increasing. Social and distance barriers in the learning process are being narrowed. In order for the benefits to reach many participants, cheaper, fast and

readily available internet services are an essential ingredient in a virtual classroom. Although software systems cannot substitute for educators, they can help in providing the teaching resources available to the student. Given appropriate planning and preparation, virtual learning environments can contribute towards a more creative and productive educational experience.

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