

Virtual Classroom Pedagogy: New Tendency in Higher Education Institutions

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Abstract

The buzzword “virtual” means a simulation of real thing. Virtual Classroom is a simulated classroom via Internet, which provides a convenient communication of web enabled professional environment for learners just like traditional face-to-face classroom. It is derived from Industrial and Systems Engineering and from the concept of "virtual reality". Today's and tomorrow's generation fully adequate with "virtual" classrooms, "virtual" libraries, “virtual” organizations, "virtual" learning environment for all kinds of domain. It is a “virtual” knowledge sharing hub so it is called as a “virtual” universities. This will mainly incorporate with technology participation and contribution in academics (education) and non-academics (industry) for e-teaching/e-learning and e-training/e-development. Its significant opportunities are growing and expanding rapidly. This paper will explore the pedagogy and faculty fraternity who are teaching and facilitating on-line classes through a virtual classroom. This interface proposed a new and promising tendency. At the same time the affordance of the internet media offer many opportunities to improve the quality in higher education institutions.

Keywords: Virtual Classroom, Pedagogy, Education, e-Teaching, e-Learning.

1. Introduction

The ever-increasing popularity and accessibility of the Internet, it is only natural way that the higher education community should want to make use of this tremendous reusable resource. Use of the Internet and Web are leading to significant changes in education system. Effective exploitation of these changes requires adequate attention to understanding the technology, the educational processes and issues, impacts of faculty fraternity and student's characteristics, etc. Use of Internet is increasing, a traditional classroom has shifted to e (electronic)-Learning or m (mobile)-Learning. While advancements in information communication technology / tools were easily adapted to learning pedagogy, this is introduction of the personal computer and the development of the Internet that would create the drastic transformation in higher education. Learning by Doing (LBD) method computers can be easily communicating with faculty and fellow classmates via interactive CBT (computer based tutorials). Since student won't be in a classroom with faculty and classmates, he/she will need to be capable of independent learning. Instructor will provide him with a syllabus, course documents, and required web readings. The interaction between the faculty and the student will happen via e-mail, discussion board, forums etc. Since the class doesn't meet in a physical space at a scheduled time, the student will have to learn independently. The growing popularity of e-Learning has introduced new taxonomy to education, as Virtual Classroom, where student will be present with faculty and fellow learners in a classroom. They will not be present physically in the classroom but connected to the classroom via Internet. Virtual classroom aims to simulate the experience of attending a class over the World Wide Web. So everyone is able to see other participants virtually. It is best for those who are self-motivated.

A virtual classroom allows learners to attend a class from anywhere in the professional web world and aims to provides an on-line learning experience that is similar to a real classroom. When students are attending or participating their university/college for under-graduate or post-graduate programmes, they have to follow a schedule or time-table for respective subject lectures, which is a traditional and essential thing. Student must arrive on time, and when he/she enters into the classroom, he/she finds a fixed classroom with faculty, fellow learners, a blackboard or whiteboard, LCD projector, optionally a television screen with audio and video facility. Likewise, a Virtual Classroom is a scheduled, on-line, experts may demonstrate training sessions where faculty and learners interact together using computers linked to a network such as the Internet. In the traditional classroom, faculty and fellow learners present with the students, when many participants present in virtual classroom. They can talk with each other as in the traditional classroom via chat. Similarly presenter uses whiteboard, gives notes/web resources, and gives presentation as given in traditional one. The fig. 1 shows pictorial idea of virtual classroom and fig.2 show concept diagram of virtual classroom.

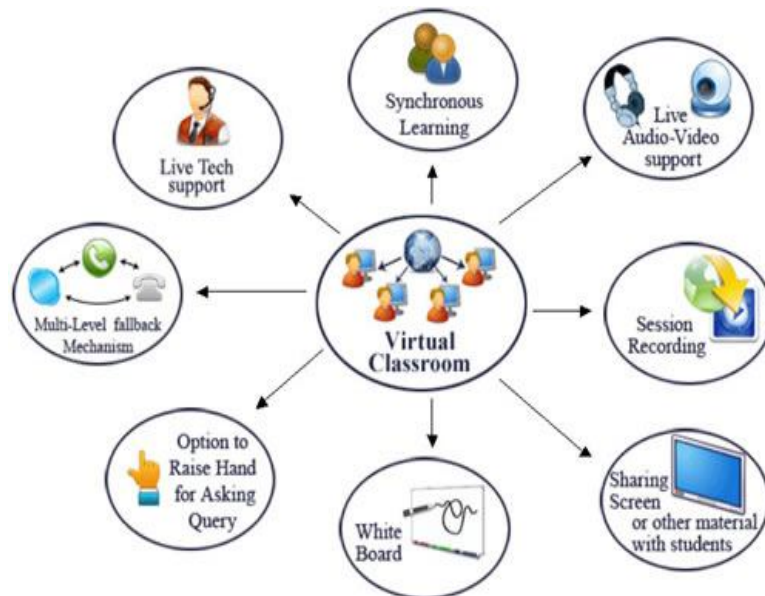


Figure 1: Pictorial idea of virtual classroom.

Virtual classroom can be visualized as a classroom where a lecture or session is conducted using Internet.

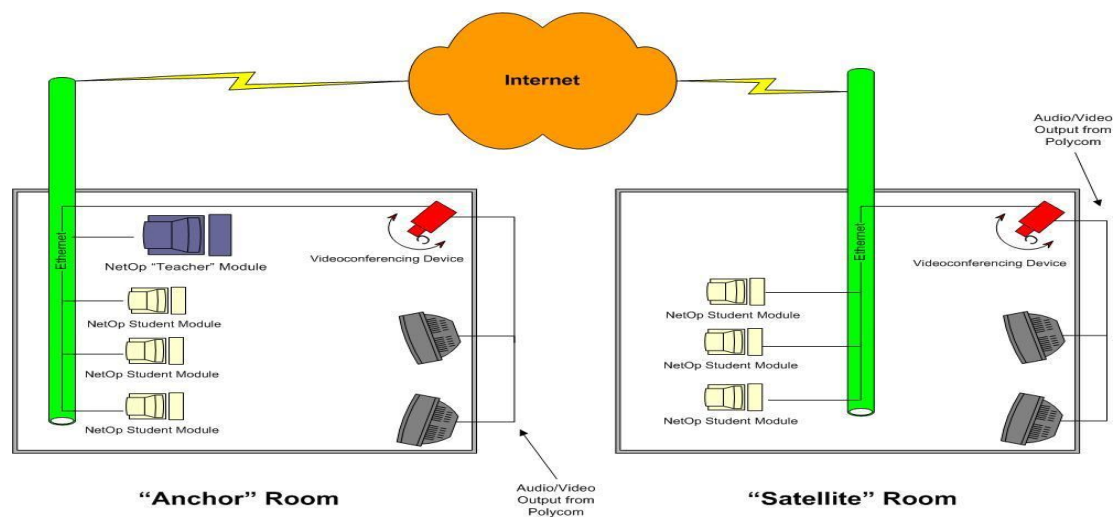


Figure 2: Concept diagram of virtual classroom.

2. Literature Survey

Our professional society is changing or migrated. A new paradigm of education is developed, one that integrated with the technology of computers/laptops/tablets/smart-

phones and the Internet in education. Today we do not learn only from books. We have many technological tools and tutorials are available for us. The use of computers, and especially the Internet, acknowledges a new virtual world of potential. With the technology user interface, education can surpass the physical boundaries of the classroom and provide students to their opportunities and experiences more.

The study of survey and composition of this paper illustrates many existing virtual classrooms with its supported technologies are involved. This is helped us lot of knowing and un-knowing features of virtual classroom. HP[1], IBM Lotus[2], Elluminate Live[3], Sanako[4], Maxwell[5], Blackboard virtual classrooms [6] are universal virtual classrooms used in academics and industry. In India IIT-Bombay offering virtual education with certification through A-View [7] software developed and distributed by Amrita Vishwa Vidyapeetham, Coimbatore. This project is under taken and sponsored by Ministry of Human Resource Development (MHRD), Govt. of India. Each virtual classroom has noticed some special features of them that are listed below with some snapshots.

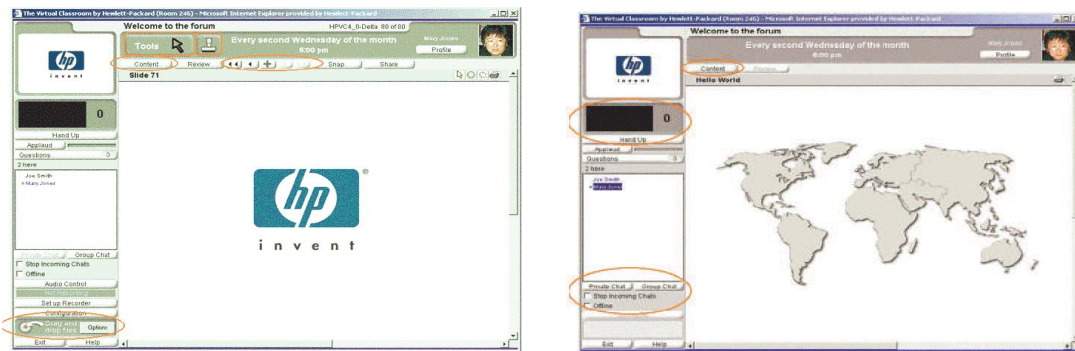


Figure 3: HP Virtual classroom Presenter and Participant Interface.

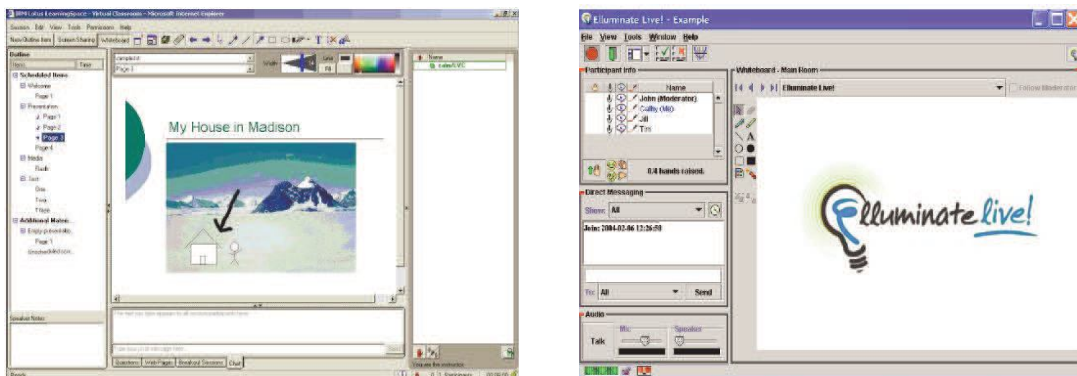


Figure 4: IBM Virtual Classroom Presenter Interface and Elluminate Live Virtual Classroom Interface.



Figure 5: IIT-Bombay: Virtual Classroom Interface through A-View.

3. Advantages of Virtual Classroom

The following are some of the advantages of Virtual classroom over traditional classroom model:

- Removal of geographical barriers (anywhere learning).
- Deliver engaging classes live and recorded.
- Multiple teacher and student interaction through live video and chat sessions.
- Content can be displayed across multiple consoles enabling a rich user view-experience.
- Quicker to organize.
- One to one communication.

The concept of virtual classroom is getting very popular. Since its initiation and allows learners to participate sessions from anywhere in the professional web world, it is very useful for distant learners and peoples who cannot meet face-to-face interaction, because of lack of time and availability. It has lots of advantages and some disadvantages.

4. Limitations of Virtual Classroom

The following are some of the limitations of Virtual classroom over Traditional classroom:

- Faculty and students need to become familiar with technologies and tools.
- Time dependency for Live Sessions.
- Infrastructure for the participants PC/Laptop needs to be well prepared and configured.
- Hardware/Software compatibility and configurations settings must be made.

5. Conclusion

Due to the ever growing availability of broadband Internet connectivity, minimum hardware costs and evolution of Internet and its web technologies, on-line education is

a reusable resource that has potential to overcome the difficulties of traditional educational system to include every student in educational process. It can be established to enable higher education institutions in rural and remote areas, and particularly small scale institutions with insufficient faculty, to overcome issues of distance and resourcing which might otherwise limit the breadth and quality of the curriculum offered by appropriate university to their affiliated students studying in a particular institution.

This is anticipated, the virtual classroom will be used for conducting web seminars. A presenter (faculty) will conduct a session for participants (students), which will attend the session from, anywhere in the world. When a session is started, presenter can conduct seminars for participants in the session. As a presenter can add new users to session, he/she can create agenda for the session that will give an outline about the session, faculty can add various resources (i.e. files or web links) to the session, faculty can show power point presentation to participants, also faculty can use white board, and answer participant's doubts using chat facility.

In academics who wish to deliver computer science virtual education online require a new set of technical skills and an appreciation of the technicalities of virtual classrooms in order to implement new pedagogy successfully. It is hoped that by sharing of experiences and knowledge gained through teaching introductory programming through a virtual classroom interface. The other academics presented with a similar task in the future may deliver more effective educational experiences to student's community.

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