A NOVEL APPROACH FOR INTRODUCING E-INTERACTIVE CLASSROOM

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ABSTRACT

In the current era the powerpoint presentations containing study slides has emerged vastly for the students or learner by the effective/efficient teachers The discussed topics is hugely used with the help of the cloud computing having its application in it. Interactive Classroom has always been a discussed in the huge crowd of the learners and educators. Here a face to face interaction is available along with quick process of teaching and good understandability between the two way process of teaching and learning. Our system aims at exploiting the potential of computer technology for improving the way we teach and learn. The objective of our research is to enable students within the campus to interact with the lecturer's computer, where lecture notes are available for projection.

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1. INTRODUCTION

By means of this project termed as '**Interactive Classroom'**, concepts of networking can be implemented for educational purposes using STANDARD JAVA API. It requires a computer Lab (any lab in college).It enables the lecturer to improve the organization of the course material, present lectures and give a means of simplifying extensive content. It monitors students' activities through receiving immediate feedback regarding how well they have learned the material in an interactive way. For students, the new system encourages them to participate and complete the coursework with more variety in learning experiences, such as:

(i) Answering questions directly

(ii) Taking quizzes

(iii) Downloading lecture files

(iv) Reviewing past lectures

The proposed system has high reliability, low cost and can be compatible to the existing system. It has also the advantages of being flexible, easy to use, and has the ability to run at any place within the campus where a networking connection is available. All we require is a server computer which will be handled by Faculty and several Client computers (one for each student as per availability). The subjects that are taught using power point slides and a projector can be implemented by this. All client computers will be connected to each other via a LAN Connection or Wi-Fi. It mainly consists of five modules:

1. Classroom Teaching
2. Monitoring
3. Tests and Exercises
4. Private Messages
5. Common Discussion Room

- speed
- automaticity
- capacity
- range
- provisionality
- interactivity

2. A CONSTRUCTIVISM --THEORETICAL PERSPECTIVES

Constructivism can be understood as a theory of learning: students construct knowledge in the process of learning through interaction with phenomenon, as they develop shared-meaning of a phenomenon via interactions within a social context (i.e. culture). Though the particulars of constructivist focused learning theory are often contested among Science Educators, it is generally agreed that students learn by making sense of phenomenon as they experience it, evaluate it's evidentiary merits, and attempt to make sense of it within a socially acceptable context in light of prior knowledge. Some constructivists stress the role of social interactions in this process, while others do not. Most constructivists agree learning occurs when individuals assimilate new information into existing mental models of the world, or construct – as a result of discrepant insights – new models that can accommodate both old and new insights gained from experience. All would agree the building of knowledge structures on the part of a student requires she or he be actively engaged in the process of learning. Students of large lectures, therefore, should not be regarded at automatons capable of learning by passive modes of oral dissemination of content, rather as individuals requiring the social and active construction of knowledge, as participants in a process that has as a goal the construction of knowledge as useful product. They include systematic factors, such as the relationship of the class to other courses, the identification of course objectives solely in terms of content, a general lack of teaching experience and training among content faculty, and the lack of incentives (as well as the presence of disincentives) to focusing on the improvement of one's teaching. A review of the limited research literature currently available identifies the following reasons given by teachers for the adoption of E-Interactive Learning:

- flexibility and versatility
- multimedia/multisensory presentation
- saving and printing work
- efficiency
- planning and saving lessons
- teaching ICT
- interactivity and participation

3. REQUIREMENTS FOR THE PROPOSED DEVELOPMENT OF INTERACTIVE CLASSROOM

The students are required to include the following software.MS DOS ,Windows for work Groups 3.11, MS ACCESS, Guide Reader, and Video for Windows.

486/4 100 MHz CPU

16 megabyte RAM

3.5”1.44 megabyte floppy drive

2.572 gigabyte hard drive

3 X CD-ROM drive

32 bit Sound blaster card

32 bit LAN card

17’’ SVGA monitor

Keyboard

Mouse

Automated Classroom Components

EtherNet LAN to connect instructor station (server) to student stations (clients)

Xerox LiveBoard, 67” projection monitor with VGA resolution of 640 x480 , with an Intel 486 DX/2 66 MHz CPU

LINK Video Networking System System to allow instructor to view student monitor displays on his screen, switch and display to Xerox LiveBoard or display on all monitors.

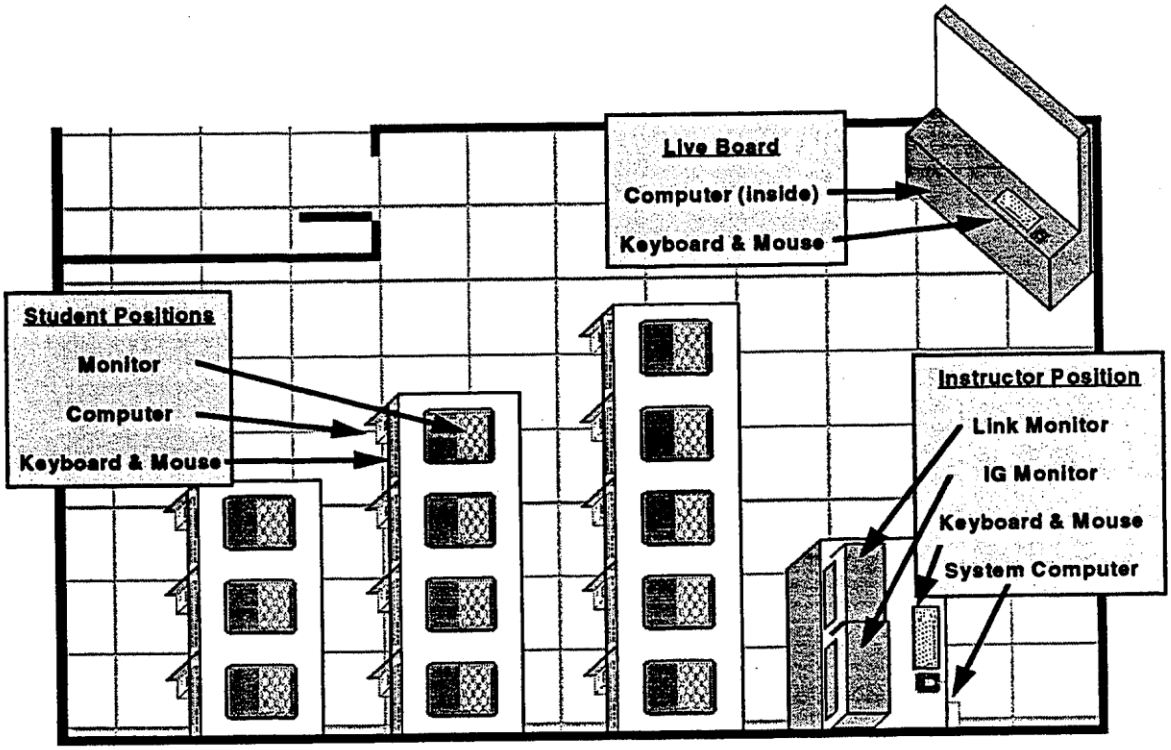

Figure 1. Automated classroom configuration

4. PROPOSED STEPS OF WORKING OF AN E-INTERACTIVE CLASSROOM

At first all the systems (Electronic Devices/laptop) present in the classroom has been assigned an individual User ID .

A dynamic database exists that holds and records the student's details, faculty details , subjects taught to them, ,assignments of each subject given to the students ,examinations they appear and marks scored in it.

When the faculty start to take the class he/she login to the system and the system is so designed he/she(faculty) can see the number of students who are logged in. In this way the faculty can take the attendance of the number students present for the particular lecture.

When the faculty opens the slide/any of his/her presentations , the respective should be visible to all the systems of the students, so that the student need not have to write any notes and the instructor/faculty/presentator would explain accordingly.

This would enhance the studying procedures of the students.

Now if the student has any query he/she can just put it on his electronic notepad and sent to the presenter/faculty.

The presenter would reply his query and along with this all the other students would receive both the query and its respective answer.

The most effective result of this process is that the faculty can take online test on objective qaueries and at the same time the students can see their result on the screen. The marks scored by the students will be fed automatically to the database.

Last but not the least the presenter can share their resources using the load resources facility that will be present in the presenter interface. The resources will be files of type (doc, rtf, pdf) or web links (URL).The participants can download these shared resources on their machines, also they can refer the given web links using their web browser.

5. OBSERVATIONS AND SIGNIFICANCE OF THE RESULTS OBTAINED

Today's time Interactive classrooms are playing a major role towards the growth and development of education. Now students take more interest in learning new things through new technologies rather then those conventional blackboards. The advantage of using these new technologies are:

1. Learning is more productive when the acquired knowledge occurs in an interactive environment.
2. Experimentally, it was found that students attending interactive lectures learn more than students attending a traditional one.
3. This is because students in an interactive environment do not spend the time in writing and copying the material from the board as the case in traditional classrooms; instead, they spend the time in thinking, understanding and asking questions.
4. New teaching methods, such as long-distance and virtual learning, where students are separated in space and/or time, become increasingly common in many universities and educational institutes

5. It has reported on the findings of many research studies, namely
   (i) Improved engagement
   (ii) Improved motivation and attendance
   (iii) Support for multiple learning styles and special needs students
   (iv) Improved review and retention
   (v) Improved teacher productivity

6. CONCLUSION

Beyond all this, however, we have found that a major detriment to successful implementation is a lack of familiarity with relevant science education literature, difficulties science faculty may have in interpreting the results of education research, and problems simply figuring out how to translate even practical techniques offered by other authors to their own teaching contexts. Thus, E-Learning can be defined an approach to facilitate and enhance learning by means of personal computers, CD-ROMs, and the Internet. It may be as simple as that teachers may simply post their material on Internet, students can read it online or can download it for further access. A virtual classroom enables to bring learners from around the world together online in highly interactive virtual classes while greatly reducing the travel, time, and expense of on-site teaching/training programs. It can be used as a solution for live delivery and interaction that addresses the entire process of creating and managing our teaching-learning process. It facilitates instructor and student in teaching-learning events, such as a seminar, online discussion or a live training for employees in company. As in traditional classroom, there are professor and fellow learners present with the student; we have 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/resources, gives presentation as given in traditional one. Thus, virtual classroom can be visualized as a classroom where a lecture or session is conducted over Internet or in classroom

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