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A Critical Analysis of E-Learning for Improving the Quality of Education

Taraq Hussain[1]
Lecturer in Govt. Degree College Poonch
India

Samina Naz Mirza[2]
Research scholar Jodhpur National University
India

Abstract: ***E-learning is the electronic learning which offers various tools and technological competence for the education. Facts dictated that there is phenomenal improvement in the process of education due to electronic learning.. In this research paper we provide a gravity of study and research elucidation for the concept of E-learning***

Keywords: E-learning, improvement, virtual campus, internet, e-resources.

I. INTRODUCTION

Today is the era of E-technology, where their students can learn their own by using various types of social sites like YouTube. The trend and technology change the process of education system in such a way, that knowledge wouldn't remain limited within the walls of education system. In order to improve the learning process either for teachers or for students, E-learning plays a vital role. But due to non-availability of technological equipments and skilled teachers the education through the e-learning remains major constraint.

II. OBJECTIVES OF THE STUDY

The examination focuses on four fundamental targets prompting conclusions:

1. Reviewing different learning advances and hypotheses.
2. Developing the virtual facilities.
3. Evaluating how understudies react to e-learning and the virtual facilities.
4. Analyzing the improvement procedure of e-learning.

The main target is concerned with learning hypotheses which help Internet training, e-learning or virtual instruction. The design is to hypothetically characterize how to make academically sound virtual grounds, which is adequate to understudies, of excellent and is focused around advanced innovation.

III. RESEARCH QUESTIONS

The primary objectives of the study were to come up with answers to the following questions and then implement them and test their feasibility. Certain research questions were charted to achieve particular research objectives.

Q. No1 What type of qualification is needed for virtual education?

Q. No 2 What technologies and techniques can be applied and utilized in virtual education?

Q. No 3. What technical resources are needed for virtual education?

Q. No.4 What laboratory work could be implemented in virtual education and how?

Q. No 5. How is it possible to provide instruction and tutoring in virtual education?

Q. No 6. To what extent do students escalate virtual education?

IV. Evaluation of Education

3.3.1 Questionnaires and surveys

Student feedback has been recognized as one of the most important factors in assessing teaching (Holmes and Brown 2000). This type of assessment is most often performed at the end of the course and frequently forms the basis for decisions about future improvements (Caulfield 2007). Constructively used feedback data can be beneficial for students in the form of an improved teaching and learning environment. It may also provide information for students when selecting course units or teachers.

Website statistics

In order to collect quantitative and qualitative data about learning materials that are on the virtual campus, the activities and actors can be defined. That procedure is known as visitor tracking (Barrett 2009), (Opentraker.net 2009). Technically, a visitor is any browser that accepts a "cookie". By this definition, a visitor is a human being and his/her actions are "human events" because only humans use browsers to navigate the Internet. If a "cookie" is not accepted, then the IP number can be used to track visitors. One visitor can make multiple visits to the site. A returning visitor is a visitor who revisits a site after a period of more than 24 hours. Most website statistic systems allow the retrieval of information about hits, files, sites, visits, pages or Kbytes. Hits represent the total number of requests made to the server during a given time period (month, day, hour etc). Files represent the total number of hits (requests) that actually resulted in something being sent back to the user.

By looking at the difference between hits and files, it is possible to get a rough indication of repeat visitors, as the greater the difference between the two, the more people is requesting pages that they have already cached (have viewed already). Sites are the number of unique IP addresses/hostnames that made requests to the server. Many users can appear to come from a single site, and they can also appear to come from many IP addresses so it should be used simply as a rough estimate as to the number of visitors to a server. Visits occur when some remote site makes a request for a page on a server for the first time. If the site makes a request to the server, and the length of time since the last request is greater than the specified time-out period (the default is 30 minutes), a new visit is started and counted, and the sequence is repeated. Since only pages will trigger a visit, remotes sites that link to graphic and other non-page URLs will not be counted in the visit totals, reducing the number of false visits. Pages are those URLs that would be considered the actual page being requested, and not all of the individual items that make it up (like graphics and audio clips). A Kilobyte (KB) is 1024 bytes (8192 bits). It is used to show the amount of data that was transferred between the server and the remote machine, based on the data obtained from the server log.

Internal and external quality assurance

Questionnaires, surveys and website statistical data can be defined as measures for internal quality assurance. Measures for external quality assurance may be available from standardized guidelines, prepared by the international organizations.

V. Development of E-Learning

Trends in e-learning are becoming very technology driven and are heavily dependent on ICT developments, including extended broadband access, wireless computing, and the coverage of digital devices (Nagy 2005).

The main problems that most educators face are:

» lack of resources with respect to both qualified teachers and equipment available for teaching,

» quality assurance procedures to improve the quality of academic education and the accreditation process,

» standardized guidelines, lack of updated teaching and learning materials.

Learning objects in virtual campus

Learning objects have been developed and implemented in the virtual campus.E-learning consists of interaction between a number of components, such as courses, assessments, teaching materials, study materials etc. These components have different characteristics.

Evaluation based on students' opinions

A total of 66 students of varying streams of the Govt. Degree college Poonch attended the course and provided their feedback. In general, the students' attitude towards virtual education revealed the following facts:

- The majority of students (67 percent) preferred traditional classroom learning to either virtual learning (30 percent) or blended learning (3 percent).
- Students in the initial stage of their studies (i.e., undergraduate) preferred traditional classroom lectures as the only learning method.
- Students in the advanced stage of their studies (i.e., postgraduate) found video lectures and virtual learning more useful.
- There was a minor difference in how the students evaluate the usefulness of the instructional materials. As might be expected, the traditional classroom students preferred live classroom lectures while the virtual students preferred e-book and video lectures and the blended class students found e-books and classroom lectures equally useful.
- According to the students, the most useful learning elements were animations, instructions in written format, learning materials in video format, exercises and queries on the web.
- The students want lecture handouts, virtual presentations (or videos), virtual laboratory work, virtual demonstrations and virtual exercises to be available on a virtual course.
- The students like to download video lectures to their PCs because they can be accessed multiple times and do not require Internet connection,
- The students who followed the video lectures evaluated their audio quality, video quality, presentation and pedagogical value as quite high.
- There were two types of problems, which prevented students from accessing the video lectures. These were either technical problems, such as a slow Internet connection, the lack of a Flash player or the age of their "laptop", or more general problems, such as not being familiar with the idea of video lectures or that watching the video lectures was a dull and repetitive process.
- The main reason given by students for following the video lectures was to revise and review course material.
- The main reason the students gave for not following the video lectures was simply that they preferred traditional lectures.
- Students would prefer live (i.e., face-to-face) communication or e- mailing with their educators and peers. Asynchronous communication (i.e., online forums) and synchronous communication (i.e., audio/ video conference) were the less favored options.
- A number of the students' answers (20 percent) stated that the availability of video lectures motivated them to skip traditional classroom lectures.

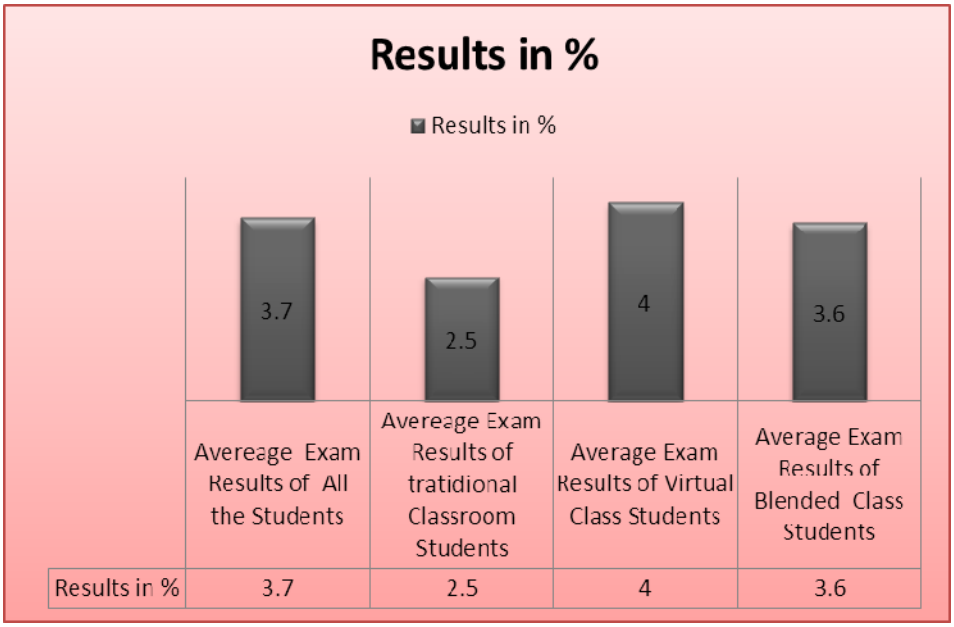
» The majority of the students (79 percent) agreed that the English language is suitable for virtual learning. Conversely, about 1/4 of students would like to get some help in their native language, e.g., through subtitles.

» The feedback revealed that virtual education was quite a new endeavor for the students. Less than half of the students (40 percent) had participated in virtual courses before.

» The web-login analysis showed that virtual users accessed learning material every weekday while the traditional classroom lectures were only available for a few hours per week.

Since the students who responded to the questionnaire were able to choose whether to be anonymous or not, only 44 percent identified themselves. It was thus possible to compare the preferred learning methods and the final results for this group. We divided these students into traditional classroom, virtual classroom and blended classroom students. Their final exam results appeared to be very similar, Figures 1.0 and Figure 1.1.

Figure 1.0. Comparing results of final examination. Spring, 2013



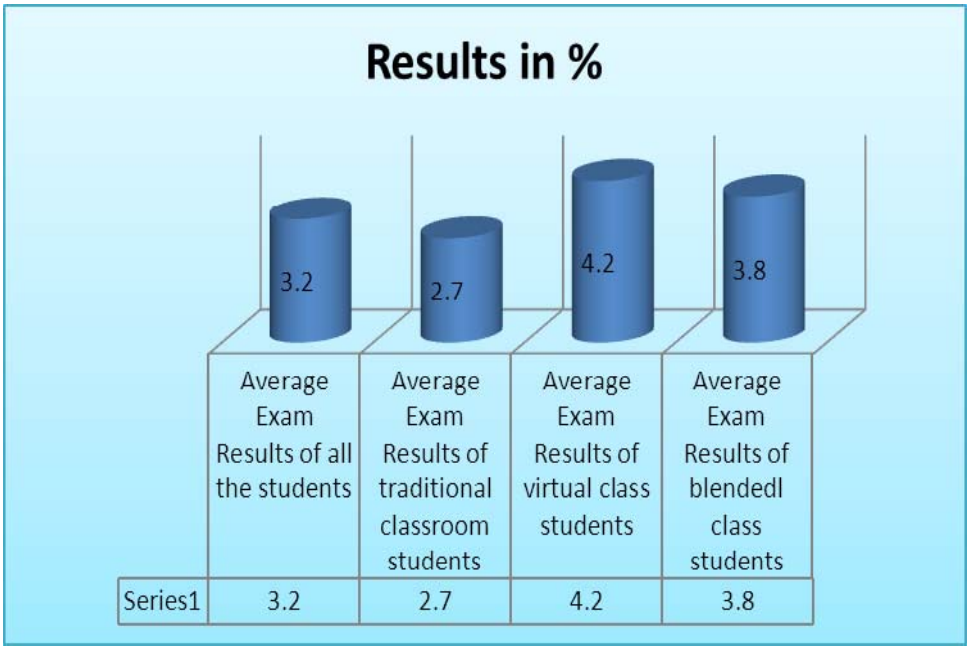


Fig. 1.1.Comparing results of final examination, Autumn 2013.

VI. DISCUSSION

- In this Research Paper observations from other publications are discussed and compared with experience obtained during this study. Also several related recommendations are provided.
- Despite the fact that engineering education has seen a massive transformation over the last few decades, it has been argued that the lecturer will continue to play a central role in online education, but his/her role will become one of a learning catalyst and knowledge navigator (Volery and Lord 2000).
- Many different studies about the future of education have been carried out. Felder and Silverman (1988) recommend teaching techniques for educators that address different learning methods, including e-learning nowadays, for example:
- Motivate learning, i.e., relate, as much as possible, the material being presented to what has come before and what is still to come in the same course, to material on other courses, and to the student's personal experience.
- Provide a balance of detailed information, i.e., facts, data, real experiments and their results, and abstract concepts, i.e., principles, theories, mathematical models.
- Maintain equilibrium between material that emphasizes practical problem-solving methods and material that emphasizes fundamental understanding.
- Provide explicit illustrations of intuitive patterns, i.e., logical inference, pattern recognition, generalization, and sensing patterns, i.e., observation of surroundings, empirical experimentation and attention to detail, and encourage all students to exercise both patterns.
- Follow a scientific methodology in presenting theoretical material.
- Provide concrete examples of the phenomena the theory describes or predicts; then develop the theory; show how the theory can be validated; and present applications.
- Use pictures, schematics, graphs, and simple sketches before, during and after the presentation of verbal material. Show films. Provide demonstrations and hands-on exercises.
- Use computer-assisted instruction.
- Do not fill every minute of class time lecturing and writing on the board. Provide intervals – however brief – for students to think about what they have been told.
- Provide opportunities for students to do something active besides transcribing notes. Small-group brainstorming activities that take no more than five minutes are extremely effective.
- Provide some open-ended problems and exercises that call for analysis and synthesis.
- Give students the option for cooperation on homework assignments to the greatest possible extent. Active learners generally learn best when they interact with others; if they cannot do that – they are deprived of their most effective learning tool.
- Applaud creative solutions; even incorrect ones.
- Talk to students about learning styles. Students may be reassured to find out that their academic difficulties may not all be due to personal inadequacies. Explaining to learners about learning styles may be an important step in helping them reshape their learning experience so that they can be successful.
- Educational experiments conducted by Mayer and his colleagues (Mayer 2005) on how people learn with the aid of various media revealed that people tend to learn much better from words and images that from words alone. This

finding leads to empirical support for learning with video lectures. Mayer assembled a series of educational principles, which are of use in developing video lectures. The list of 9 principles includes the findings that:

- People understand a multimedia explanation better when words are presented as verbal narration alone, rather than both verbally and as on-screen text.
- People learn better when information is presented in bite-size chunks.
- People learn better when information is presented using clear outlines and headings.
- People learn better when information is presented in a conventional style rather than a formal one.
- People learn better when on-screen text is presented near any corresponding images.
- People learn better when any extraneous information is removed.
- People learn better from animation and narration than animation with explanatory on-screen text.
- People learn better when animation and narration are synchronized rather than being asynchronous.
- The design of multimedia presentation can have different effects on people depending on their prior knowledge, visual literacy, and spatial aptitude.
- Producing good quality Internet teaching materials requires a production team. The resources and skills of the individual teacher are not sufficient for the production of good quality and interactive hypermedia material (Silius and Pohjolainen 2004). Whether or not e-learning can be noticeably successful and worth the investment will largely depend on the value and goals of the organization (Bartolic-Zlomislic and Bates, 2002). It is important to see virtual education as extended across the whole of the university system (Ma et al. 2000). Virtual education is not just a matter of flexible teaching and learning systems but includes administration, instructions, student recruitment, technology, research networks and library systems.
- Any future research in this field should concentrate on developing more advanced learning objects. Future learning objects should motivate students and provide them with the opportunity to test their individual knowledge, e.g., creating more intelligent and adaptable learning, such as Intelligent students' knowledge testing machine. Intelligent system for self-converting video lectures files. Intelligent video lectures.

VII. Conclusion

The purpose of this study was to develop the virtual campus, to find out how it is evaluated by students and educators and to define how it can be improved. Four different approaches were applied, i.e., theoretical, practical, evaluative and developmental. The main conclusions of this series of research are following:

- Learning theories support virtual education, e.g., by promoting more self-reliance among students, following principle of knowledge construction, applying different types and levels of learning.
- Modern technologies allow breaking the boundary of traditional classroom lecture and developing virtual education..
- Virtual education is suitable. It includes the system and methods, which allow immediately updating content.
- Exam results showed that students who study by following traditional classroom lectures and via the virtual campus achieve very similar results, i.e., learning outcomes.
- Students can learn in the virtual campus 24 hours, every day of the week, what is not possible in the traditional class. The virtual campus is accessible for all students independent of time, location or pace.
- Students and educators become more and more interested in the opportunities that virtual campus may offer.

» Students and educators have tools in order to access virtual campus.

» Virtual education supports learning of different students, i.e., with different learning styles, e.g., visual, audio, kinematic, and with different aims, e.g., degree, exchange, visiting students (also with health problems or disabilities).

» Users all over the world are accessing the campus. Virtual education is a global education. Web-statistics proves visits coming all over the world.

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