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## Trends in ICT E-learning: Challenges and Expectations

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**Abstract:**

Online education can be a highly effective and alternative method of education, which requires constant learning and is constantly evolving. In India, the rapid emergence of ICT has given far reaching impetus to the e-learning market. Subsequently, the growing presence of internet and increasing broadband connectivity has given a further thrust to interactive online learning. The prospect of making education available to anyone, anytime, anywhere is becoming increasingly appealing to students, the corporate world and the populace at large.

It is necessary to consider both the advantages and disadvantages of online learning so you can be better prepared to face the challenges of working in this new environment and embrace the new opportunities that it has to offer.

e-learning can provide a model for students on how to become self directed independent learners, which may assist them to become 'life long learners' The role of the educator is predominant in the successful delivery of networked learning. There has to be a shift in focus from teacher-centred to learner-centred education, encouraging educators to provide courses which enable students to manage their own learning. Hence forth, this digital learning atmosphere has potential to change the dynamics of the classroom.

Our paper is based on a survey conducted for the students and faculty to study and determine whether our higher education system and stake holders are ready for initiating digital e-learning. The paper also discusses whether the need of the hour is traditional learning method, e- learning method or a blended approach to both.

**Keywords:** e-learning, on-line learning, technology, digital learning system, learner centered, higher education classroom, traditional face-to-face learning, blended learning

### 1. Introduction

In this era of information technology, the emergence of globalization of knowledge economy has resulted in digital online learning in higher education system.

E-learning could have potentially major effects on the way higher education is designed, implemented and delivered. Higher education institutions must determine the most suitable environments and courses for e-learning delivery. Though Indians have been traditionally inclined towards conventional classroom based academic programs, the Government of India has been actively supporting the e-learning drive to overcome the various challenges and to strengthen accessibility. Technological advancements have made it possible to deliver digitized education through contemporary platforms in 3G environment. Digital devices like tablets, iPads and mobile phones are foreseen to be the classrooms of the future. The prospect of making education available to anyone, anytime, anywhere is becoming increasingly appealing to students, the corporate world and the populace at large.

With online courses, students can take charge of their own learning. Anyone can choose from thousands of courses and further their learning, often for free. Online education modernizes the learning experience to fit the needs of the young generation. Courses like MOOCS (Massive Open Online Courses), MOODLE,

COURSERA ETC... give people access to skill building opportunities on demand, exactly when they need it. Aspiring professionals can now earn certificates from online courses offered by the world's top institutions.

It is necessary to consider both the advantages and disadvantages of online learning so you can be better prepared to face the challenges of working in this new environment. The following is a good listing of these strengths and weaknesses of online education.

### 2. Advantages

- Convenience: This convenience is in relation to study location, time, course duration, etc.

- No commuting/traveling time to a campus. Students can learn at their pace and study at her/his convenience. One can express oneself in writing rather than verbally. The learners can have virtual discussion rather instructor-led lecture. Also the course work and instructions can highly be customized with respect to the learner's choice.
- Student centered: They may actively engaged only in those parts of the contribution most relevant to their needs. The interactive learning environment may contribute to self-direction and critical thinking. Provides high level of dynamic interaction between the instructor and students as well as among the students themselves.
- Access to resources: It is easy to include guest experts or students from other institutions as well as access to resources and information around the world. Ideas and resources are shared, as each individual contributes to the course discussions and comments on classmates' work.
- Less Expensive: Generally these courses cost less than regular classroom academics. No travel and hostel costs. Class attendee can continue to work at his/her job while taking classes
- Technology: One can work on the course just about anywhere you have computer access. Online courses provide an opportunity to learn new technologies.
- Additional Benefits: The learners will work with classmates not only from all over the India, but could be around the world. No discrimination among students due to race, sex, sexual orientation, religion, nationality, age, dress, physical appearance, etc. Equal participation from all classmates and the most outgoing student will not monopolize the discussion. These courses are better for those people who are introverted as well as who learn through visual cues and require more time in understanding the material.

E-assessment has many advantages over traditional (paper-based) assessment. The advantages include:

- lower long-term costs
- instant feedback to students
- greater flexibility with respect to location and timing
- improved reliability (machine marking is much more reliable than human marking)
- improved impartiality (machine marking does not 'know' the students so does not favour nor make allowances for minor errors)
- greater storage efficiency - tens of thousands of answer scripts can be stored on a server compared to the physical space required for paper scripts
- enhanced question styles which incorporate interactivity and multimedia.

### 3. Disadvantages

#### 3.1. Limited Social Interaction

There is a limited opportunities to interact face-to-face with professors and other students. Especially in self-paced courses – difficult to develop relationships with classmates. Possibility of limited local networking opportunities. Most of the communication through e-mail, chat room or discussion groups, but no offline get-together. No personalized attention from instructor with regards to face-to-face interactions and feedbacks. No campus atmosphere to create social interaction

#### 3.2. Technology Cost and Scheduling

Students may be required to equip the necessary digital system and learn new or enhanced computer and troubleshooting skills. One must have high-speed Internet and adjust studying schedule around instructor's assignment due date...

##### 3.2.1. Problematic for Instructors

As software is getting more and more advanced, instructors are constantly trying to learn how to keep up. Traditional instructors believing in lectures and handouts may have tough time in adopting the system and software. Student must be self-motivated and disciplined to progress through his/her program in a timely manner.

### 4. Methodology

A questionnaire based survey was carried out, for students as well as educators. The survey focused on the perceptions of students and teachers about the acceptance of online learning, and how online education compared with face to face education. The survey was done among 100 students and 50 educators hailing from different streams.

The questionnaire for students was prepared on a three point scale and that for the faculty on a two point scale.

The questions for the students were grouped into three broad categories

- i. Attitude and Learning skills
- ii. Technological competencies
- iii. Preference with respect to time and work schedule.

The questions for faculty were broadly classified into two categories:

- i. Faculty competence, attitude and preparation.

- ii. System implementation and difficulties.

This questionnaire is to study and determine whether our higher education system and the stake holder are ready for initiating digital learning.

**5. Analysis of Student Response**

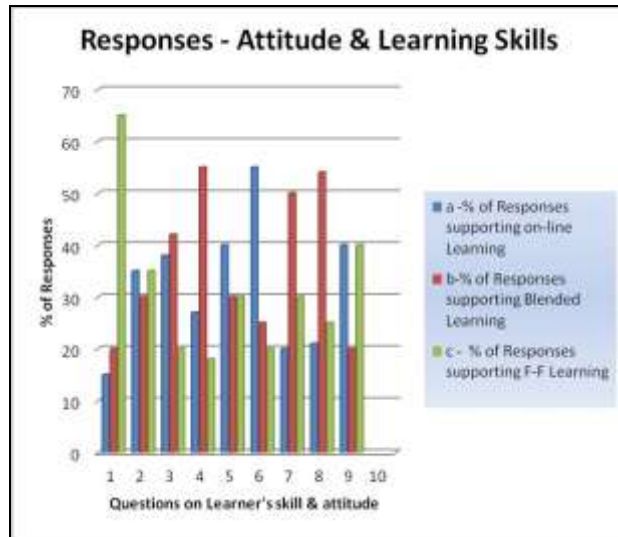


Figure 1

Overall analysis of responses relating to the learners skill and attitude, reveals that

- 32% Supports on-line learning
- 36% Supports Blended approach
- 31% supports Conventional classroom method

Overall analysis of responses relating technological competencies both with respect to the possession of the needed infrastructures and the intellectual capabilities

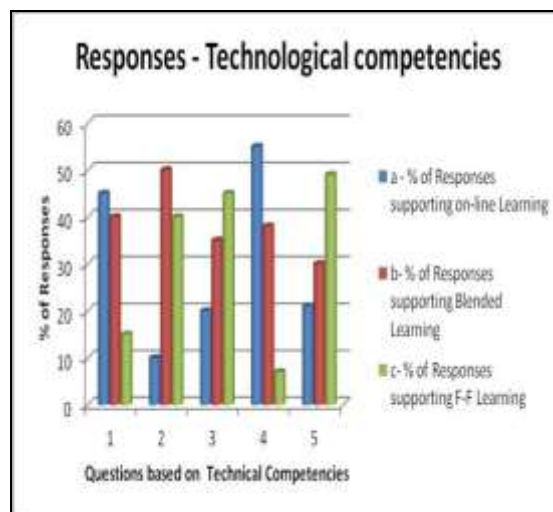


Figure 2

- 30% Supports on-line learning
- 39% Supports Blended approach
- 31% supports Conventional classroom method

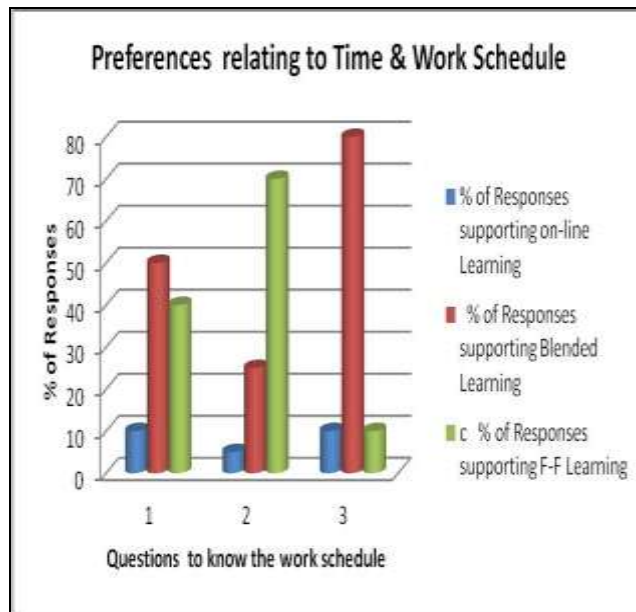


Figure 3

Overall analysis of responses relating to their preference with respect to time and work schedule

- 8 % Supports on-line learning
- 52 % Supports Blended approach
- 40% supports Conventional classroom method

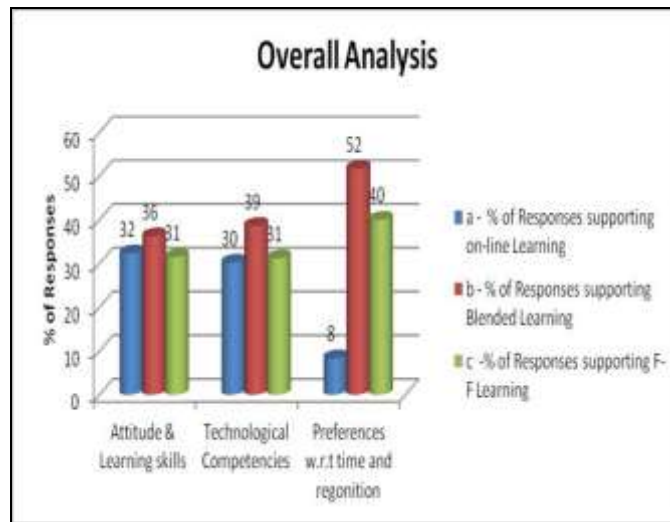


Figure 4

It is very clear from the above representation that the overall student response reveals that on the whole the learner’s choice goes towards the blended learning approach, where in the technology becomes a pillar of support for effective learning.



Figure 5

**6. Analysis of Faculty Response**

Questionnaire included different category questions to understand the new platform of education in comparison with the conventional system, to know the level of faculty training to be held, and the initial implementation requirements. The members though indicated the difficulties in ICT based teaching, they do agree to adopt the platform of ICT to enhance their teaching quality.

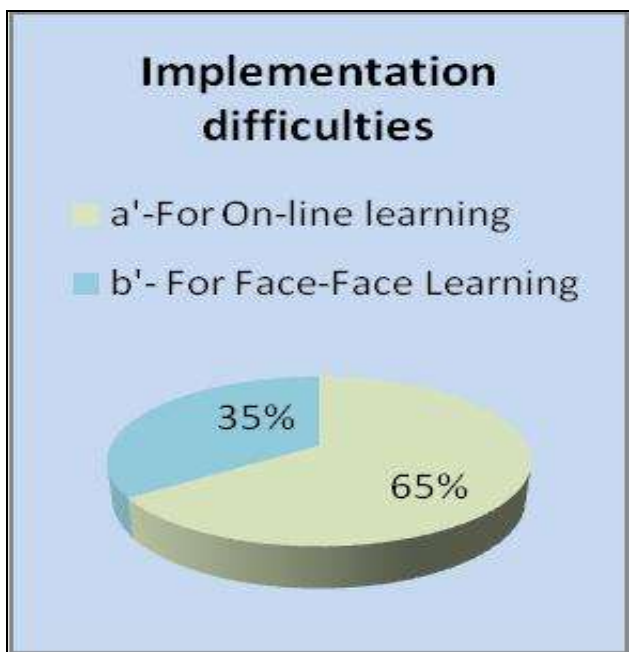


Figure 6

The analysis reveals outwardly that the faculty prefers face to face learning, but their concern lies in strengthening the technological support and enriching their technical skill. Most of them have been using ICT tools for the lecture delivery and are very much willing to learn new skills.

**7. Results and Conclusion**

The analysis indicates that the percentage of students and faculty supporting blended learning is higher compared to face to face learning or online learning, in all the categories.

Online method of education can be highly effective for the students who are matured, self-disciplined and motivated, well organized and having high degree of time management skills, but it is an inappropriate learning environment for more dependent learners who have difficulty in assuming responsibilities required by the online courses.

For lecturers, networked learning may cause changes in work patterns and even change their professional role, but in addition,

eLearning provides them with the opportunity to test students in real business situations and new methods to evaluate each student's learning. E-learning programmes represent a change in teaching style. The precise nature of the change is difficult to quantify, however allocation of sufficient time and resources, combined with managerial support, will help staff through the period of transition. Another impetus has been a shift in focus from teacher-centred to learner-centred education, encouraging educators to provide courses which enable students to manage their own learning.

At the advent of digital learning scenario, need of this hour is the urgency in preparing both the young learners and educators to be competent to use the latest technologies tools. Every member involved in the higher education must clearly understand the new teaching learning protocols and plan to what extent the new system has to be integrated to meet the needs of the higher education standards.

Generally, students have different perceptions about the acceptance of online learning. Some of the students are reluctant to enroll in online courses due to concerns about employers' acceptance of online education. They also have their doubts about whether the quality of online education is as good as face to face education

Students are concerned about the amount of time needed to devote to online work and the changes required to their working patterns. They need to adapt and reconstruct their approaches to time management. But the benefits of convenience, cost, technology, etc far outweigh these concerns.

E-learning can provide a model for students on how to become self directed independent learners, which may assist them to become 'lifelong learners'

So the bottom line is that it is the efforts any student puts into their education that eventually determines how much he/she will retain and how beneficial the overall experience is to his/her future career. The need of the hour is a blended approach to learning – a combination of traditional and e learning methods, for which ICT is a support mechanism.

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