

“A Study of Advantages and Challenges to Online Learning”

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Abstract

Education providers, especially in the higher education domain are getting progressively informed of the progressive effect of science and technology such as the difficulties in assigning time for learning modules in the conventional up close and personal interactions because of the increasing requirement for improved distance learning for Corporate engagements like Internships or Projects, the need to perform more diligently because of the competitive environment in higher education and students being in different courses as well as even in different combinations because of specialization. They are in this way adjusting rapidly to the Change and are moving to give a wide scope of alternatives for their commitment. The increasingly adaptable modes of delivery that are available for students especially in University courses give different scope and routes to those looking for opportunities to improve their education opportunities. Further, with the appearance of the COVID 19 Pandemic today, we have been pushed rapidly into the Digital learning mode but with a few hindrances. Some of them are requirement for acceptable equipment and programming at the two finishes, great web speeds, simpler intelligence in the meeting, more clear correspondence and moment input. A large portion of these boundaries may not be experienced by those taking part in these equivalent units by means of up close and personal or mixed enrolment modes and hence present another sort of student to consider in the arranging and usage of learning exercises on the web. The hindrances to interest show up especially apparent in bunch work exercises. The online condition likewise presents difficulties for some scholastic staff to progressively require more significant levels of innovative competency and capability on their customary scholarly outstanding task at hand. This paper gives an itemized viewpoint and basic appraisal on a portion of the difficulties looked by understudies and workforce just as the ramifications of an undeniably online conveyance system for training. Prof Col Venkat Raman is Adjunct Faculty at AIMS Mumbai and Dr Ravi Limaye has an Independent Consulting Venture

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I. Introduction

E-learning refers to the use of the Internet and associated technology services to deliver a wide range of solutions that assist in enhancing one's knowledge and ability. In another broader view, e-learning is defined as the delivery of information for purposes of education or knowledge management using electronic media, such as the Internet, Intranets, Extranets, computers, interactive TVs, and external data devices such as hard disks.

KEY WORDS

- (a) e-learning
- (b) Technology awareness
- (c) Online platforms
- (d) Web learning platforms
- (e) Security
- (f) Connectivity
- (g) Collaborative interaction
- (h) Social learning

II. Literature Review

Snyder (1971) created the term "the hidden curriculum" to describe how students come to a decision on what is important in a course of study based on the manner in which assessment of their learning is done. While Joughin (2010) has made it known that the generalization of this study may be limited, other researchers (Bloxham & Boyd, 2007; Gibbs & Simpson, 2004-2005) continue to find value and adaptation in the theory. In online learning, where there is no face-to-face interaction, teachers find it challenging to convey their intentions accurately and provide suitable feedback in order to help students achieve the learning objectives. Oliver, Hill, Glazer, and Sharma (2003) note that the complex nature of Web-based approaches makes it difficult to quite a few observational and participative assessments" (p. 256). Oncu and Cakir (2011) observe in a similar manner that informal assessment may be quite a challenge for online teachers because of the absence of face-to-face

contact. Beebe, Vonderwell, and Boboc (2010) also are of the same opinion in their study of the assessment concerns of teachers who converted their face-to-face courses into an online environment. They identified five areas of concern among the teachers: (1) managing time (2) responsiveness and initiative among students (3) structure of the online platform (4) delivery of complex content; and (5) ability to assess in an informal manner.

The continuum of events on the use of technology in learning and education

The term e-learning was first heard in October 1999 at a CBT Systems Seminar in Los Angeles. The origin of this new term coincides back to a much earlier time in the history of new systems in learning. In order that e-learning emerge as a new and exciting instrument of learning, its basic structure had to be found and incorporated as an inseparable part of our lives. This occurred in the same manner as the advent of reading and writing, the entry of the profession of teaching, the invention of the printing technology, and in due course, the rapid advancement of electronic technology. As a result, we can observe that behind this relatively new notion, there are several developments in the form of revolutions and inventions in learning and teaching that paved the way to e-learning. So, let us now take a look at the most deciding moments of development in e-learning.

Distance learning is not new as some of us may believe. Many may not be aware that it was used back in the 1840s when Isaac Pitman introduced the language of shorthand an abbreviated symbolic writing method used widely by stenographers around the world until recently. It was initiated in Great Britain and then became popular in Europe and other countries of the world.

In the USA, the first basic online courses were conducted by the Department of Medicine in the University of Alberta. From 1968 until 1980, when it ceased to exist, the University used the IBM 1500 network to conduct at least seventeen types of sessions to nearly 20,000 students. The technology enabled educators to supply course material, assess documents and even conduct assessments.

The world's first fully remote community College – Coastline Community College, was also established in 1976. It consisted of a few “campuses” which were actually virtual communities. However, its focus was on self-directed learning. This is the first College to offer a fully online degree.

The concept of “learning management systems “ (LMS) as a part of L&D appeared towards the end of the 1990s. One of the pioneers in the business of learning is an American company Blackboard that provides learning on various platforms like the desktop, the mobile, as also a plethora of communication, commerce software, and related services to clients such as education providers, corporations, and government organizations. Currently, its software and services are used by more than 20,000 schools and organizations in 125 countries. In the USA alone, 75% of the colleges and universities use Blackboard LMS.

E learning became highly prevalent and popular in the first decade of this century as it became the most widely used instrument for training of new employees or in order to up-skill them. Since the year 2010, e-learning has been taken over and extensively used by social media such as YouTube, Twitter, iTunes, Skype, etc. The last few years have seen a surge in the development of online learning and added many interesting and useful techniques in this area. A great variety of new terminology has also emerged in order to represent the fast evolving society of online educational – like mobile learning, gamification, localization, and social e-learning to name just a few.

The reasons for Distance learning becoming popular and gaining in importance are manifold. Two of these are primarily convenience and flexibility in the conduct of learning. As the number of users of internet and mobiles, it is easy to access web based learning programs anywhere and anytime. The affordability is also a major advantage in the access of lifelong education. So also is scalability of participants in allowing rapid progress as a business. It is now possible for an entire community of a large number of students to join up for a distance learning program provided there is adequate infrastructure at both ends. It is also possible to update students on any changes in the program schedule or curriculum in real time so that there is no wastage of time. All these factors contribute in accelerating the development of distance education using technology.

Advantages of e-learning

(a) No Boundaries, No Restrictions

Time is one of the key challenges that both learners and teachers face in learning, along with locational restrictions. As regards face-to-face learning, the location restricts participation to a group of learners who have the ability to participate in the zone of influence, and in course of time, it restricts the learners to those who are able to attend at a specific time. On the other hand, e-learning allows learners to participate without the restriction of time and space due to advantages inherent in the learning infrastructure

(b) More enjoyable

In distance education, it is possible to create and design a course in order to make it interactive and enjoyable through the use of various technologies like multimedia and more recently, using gamification software. This enhances not only the engagement factor in the learning but also the utility and viability of the subject material prepared.

(c) Cost Effective

This affects both learners and teachers, however we all agree that in the traditional modes of learning, we had to spend an enormous amount of money to procure learning material, which then had to be disposed off as most of the learning would become obsolete in time. Also, updating content is virtually free and extremely simple as it only involves editing the document and replacing the old content with new.

(d) It Just Fits

Today, with the proliferation of technologies being used by corporations all over the world in order to improve the quality of remote learning, we have reached a stage where we cannot do without the internet and its associated features in the area of learning too. Moreover, due to the expansion of business across borders and become truly global, the need for working with and training people of different cultures in Multinationals has become inevitable

(e) Flexibility

One of the key advantages of remote learning is that there is enormous flexibility afforded in scheduling sessions as the working hours are not strictly fixed like in an office. In addition, it offers inherent flexibility in allotting timings for different sessions / topics according to each one's convenience

(f) No travel

Another big advantage in remote learning is that students and teachers don't have to travel to school / college as the sessions are held using computers and the internet.

(g) Getting experts to talk to students

In the course of teaching subjects, often there is a need to enhance certain aspects of the concepts taught by the subject expert. This is done by calling an expert from the Industry to add value and give the latest on the topic to students. In such a case, there is often a tedious administrative process of arranging for the lecture in the College in a special classroom with all teaching aids, as also arranging for tea and snack, maybe even lunch and even to and fro transport. Added to all this is the time spent by the expert in travelling from his / her place of work to the College to address the students. And in today's Corporate world, time is the most expensive commodity. All this can be bypassed using the remote teaching aids and setting up a virtual lecture for the students which the Industry expert can do even from the comfort of his home on a weekend. The added benefit is that the session can be recorded and replayed for the benefit of students who couldn't attend the sessions as also students who attended can have a relook to improve their understanding of the session.

Challenges to Online learning

(a) Need for an efficient Management System: Administration should make available efficient management tools for running the programs used by administrators, instructors, and students. If online course materials are provided online, there is a need for a friendly interface and supporting tools to ensure that it works smoothly. In addition, the provision of an online student service center can help students to find references, suitable courses, and answers to general questions.

(b) Useful software to develop Course material: There is a lot of effort for a teacher in terms of time and ability in developing content for a course. Today, with the help of computer software, it is possible to design course content from tailor made templates with much less effort and time. It can also be used to design innovative courses as these tools afford a great deal of flexibility. This can also be extended to preparing databases of questions as well as in the conduct of examinations

(c) Monitoring and guiding tools: As it is not possible for a teacher to manually check the progress or guide each and every student in an online program, this has been made possible using intelligent software that can track each and every student's progress and give helpful hints to them during the course like chat bots. There are analytical tools to gauge the learning capability of students through their real time answers to objective questions during the course of the program.

(d) Auto reply and FAQs summarizing software: Since it is a waste of effort for the teacher to reply to queries that are asked by multiple candidates (common doubts), there is a solution to this in the form of replies to FAQs (frequently asked Questions) which can be displayed in the form of slides at the end of the session. Also, if there is a software that can retrieve all questions at the end of the session and put them to the teacher in a phased manner it can solve the problem of replying to multiple emails from students at a later stage.

(e) Assessment of students during examinations: Ensuring that students do not use unfair practices during online exams when they are not monitored is one of the biggest challenges in the education system. To overcome this, there are tools like "chat room participation monitor, to track whether students have devoted time only to answering the paper by themselves or have involved themselves in a discussion with others. Also, it is

possible to take random photos of the site where students are taking their exams using sophisticated surveillance software.

(f) **Random question generator:** Some distance-learning programs are able to generate different questions for each individual student from a pool of questions having similar difficulty. This ensures that all students get different question sets and the chances of using unfair means is greatly reduced.

(g) **Student information privacy:** It is imperative that for the sake of unbiased assessment, personal particulars of a student (except for the roll or identification number) should be hidden from the assessor and this can be achieved with ease by the use of coding the answer sheets to protect their identity.

(h) **High speed internet and connectivity:** For online learning platforms using audio / video modes, there is a need for uninterrupted high speed broadband communication as well as excellent connectivity in terms of data transmission facilities as well as high fidelity and security of communication.

(i) **Ability to scale up services:** To cater to increasing number of users and high demand, the broadband services need to be scalable and capable of directing higher demand to remote servers including cloud based servers to ensure demand for services are met in time and with high quality audio and video regardless of the number of users.

Concerns that need to be addressed

(a) **Skills are difficult to learn:** We cannot deny the fact that, no matter having several advantages, there are bound to be disadvantages. And one of the key disadvantages of online learning is its inability to transfer practical skills quickly and easily. It is possible to transfer information regarding a skill like art or carpentry using documents like a power point or a video. However transfer of the actual skill or experience in achieving that skill like asking the learner to try it out in front of the teacher or the teacher showing the technique to everyone face to face cannot be replicated.

(b) **Isolation:** The experience of online learning though flexible, easy to access and convenient has one great drawback. That is the feeling of loneliness or isolation experienced by the learner as he or she is not with other learners but all by himself / herself and so cannot converse or share any experiences with others on the course. Questions can be asked but there is a lag and sometimes it may not get noticed. There is a need to include tools in online learning that can engage the audience more effectively like use of emoticons, frequent interaction between the teacher and his audience and feedback during the session itself which must be addressed quickly.

(c) **Negative effects on health:** Due to constant use of computer and being exposed to the screen, there are bound to be negative effects on eyes, hand and leg muscles, neck muscles and the spine. In addition, prolonged exposure to the computer can result in headache and mental stress. Therefore, one must make learners aware of these risks and take adequate measures to alleviate these by providing breaks and having anti-glare monitors and well postured chairs

Role of the Institute

In order to ensure the progression of e-learning, Institutes must encourage both students and faculty to learn and adapt to online learning and teaching methods in a phased but continuous manner. This can be done by providing the necessary infrastructure, the right environment and continuous encouragement. It should be ensured that all facilities should be provided to students and teachers both in the form of training and necessary devices and high speed internet at both ends to ensure smooth uninterrupted communication. Continuous feedback should be given to the teachers as they need to build confidence and adapt to the new teaching style. They also need to become computer and internet savvy to be able to use the technology effectively. Colleges that adapt faster to this mode of learning are usually the ones that are preferred by brighter students and forge ahead as the preferred Institution even for foreign students.

The persona of a teacher is largely influential in ensuring the success or failure of this initiative in Institutions. This is because of the strong influence that a teacher has on his or her students by way of consciously or unconsciously guiding the students during their interactions. It is for the teacher to initially gain confidence in the system and then introduce it to the students who then believe what their teacher tells them. It should be noted here that some Institutions in their enthusiasm to introduce the system in a hurried manner sometimes do not take teachers into confidence or do not train the teachers on the new system adequately. This results in lack of confidence on the part of teachers on the system which has a cascading effect on the students. It is therefore imperative for the Management to take the teachers into confidence and train them in order to ensure success of the change.

Summing up

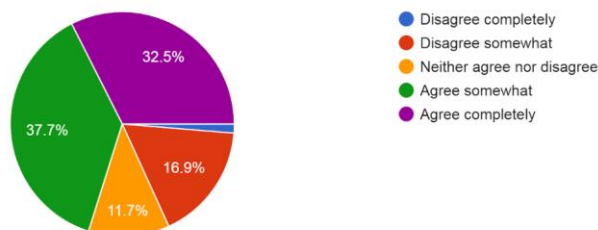
Research on e-learning involves several associated areas such as Academia, learning content, technology and the Industry together with their concerns as well as socio cultural factors that are connected to these primary

areas. Understanding these issues and their inter dependence correctly can play a vital role in improving the e-learning systems of today and taking action on the challenges that they bring forth. Many important issues have been discussed here including the advantages, challenges and concerns in e-learning as also the role played by the Institutions, the teachers and students in ensuring that this change is met with confidence and preparation so that it can ensure success even when things go wrong. We must keep exploring at better techniques and innovation together with real time studies in order to constantly scale up the existing ability in e-learning technologies. The research was also primarily aimed at understanding the perspective from the user, namely the student’s point of view so that steps could be taken to ensure that it was both effective and efficient

III. Research Methodology

The Research undertaken has been both Descriptive through secondary data from the Academia and Industry as well as Exploratory through a Primary Survey using a Questionnaire.

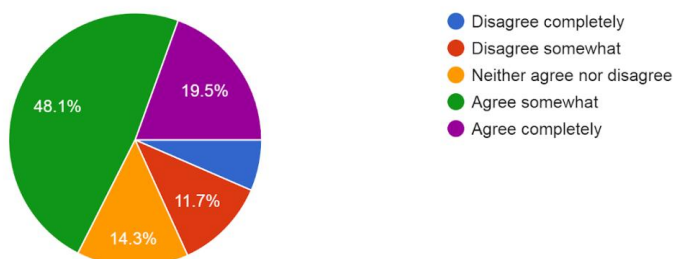
I am able to easily access the Internet as needed for my studies
77 responses



Analysis and interpretation

Majority agreed, hence this is a positive response as regards accessibility to the Internet

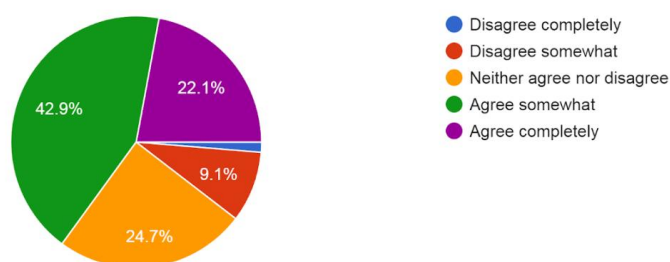
I am comfortable communicating electronically.
77 responses



Analysis and interpretation

Majority agreed here too, hence a positive response to comfort in communicating electronically

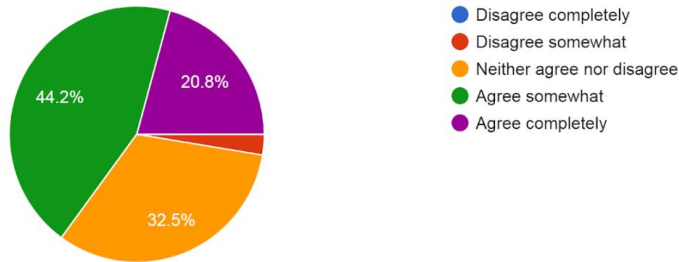
In my studies, I am self-disciplined and find it easy to set aside reading and homework time.
77 responses



Analysis and interpretation

Once again, we can see clearly a positive response towards students being able to set aside time easily for studies and homework

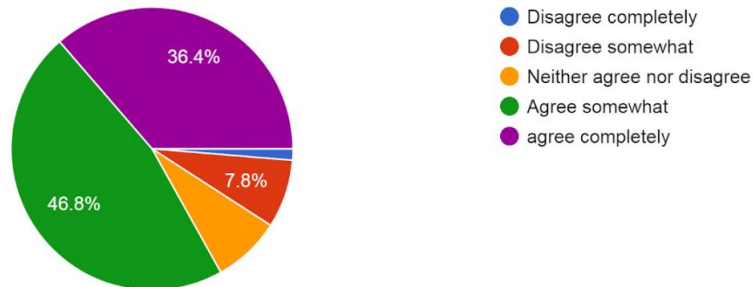
I like a lot of interaction with my instructors and/or teaching assistants
77 responses



Analysis and interpretation

Here we can see that students are very keen to interact with their teachers / assistants, hence are more in favour of face to face learning

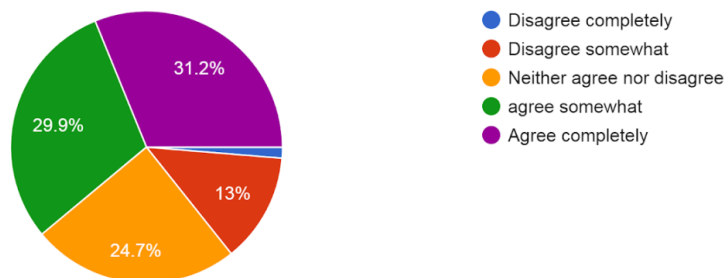
I possess sufficient computer keyboarding skills for doing online work
77 responses



Analysis and interpretation

An overwhelming majority of students today are computer savvy so this is not a problem area in online learning

I can ask my teacher questions and receive a quick response during Internet activities outside of class.
77 responses

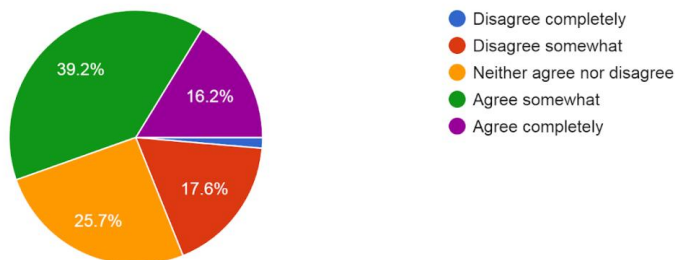


Analysis and interpretation

Here opinion was somewhat divided on getting quick responses or feedback during online sessions

I am motivated by the material in an Internet activity outside of class.

74 responses

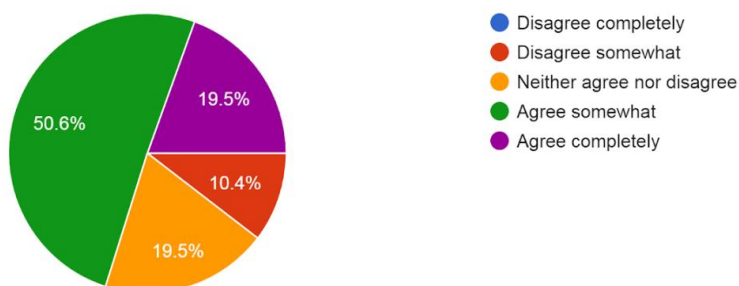


Analysis and interpretation

Here too, opinion is divided on being motivated by the material in online sessions, so its not yet in favour.

I can discuss with other students during Internet activities outside of class

77 responses

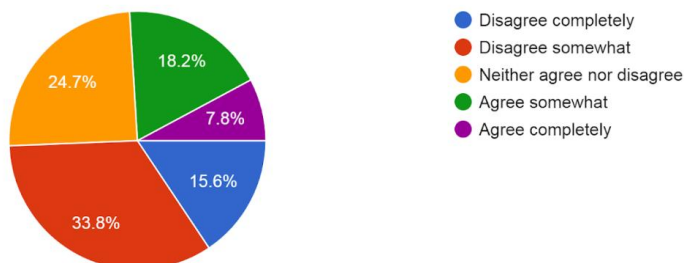


Analysis and interpretation

Here, the majority of students were in agreement that they could continue discussion among themselves even in an online class.

I believe that learning on the Internet outside of class is more motivating than a regular course

77 responses

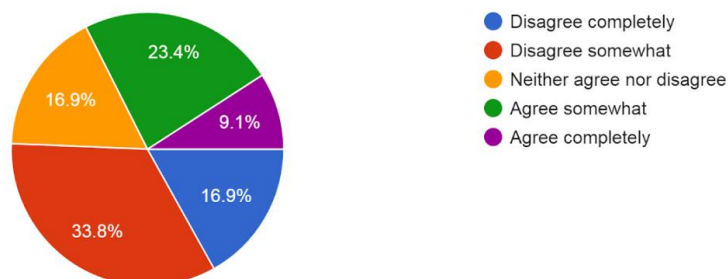


Analysis and interpretation

Here , there was a clear majority of students who believed that online learning is not as motivating as face to face learning in a class.

I believe a complete course can be given by the Internet without difficulty

77 responses

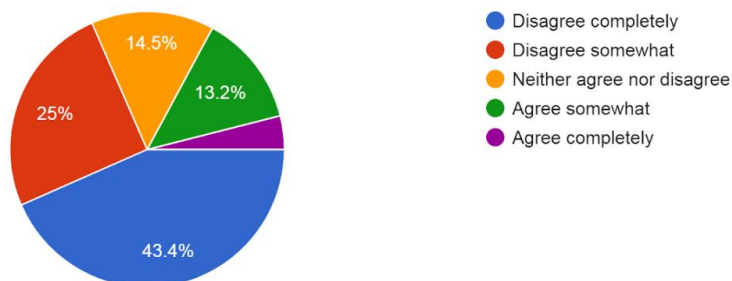


Analysis and interpretation

Here opinion was divided but the greater number of students felt that it was not possible to give a complete course on the internet without difficulty

Learning is the same in class and at home on the Internet

76 responses



Analysis and interpretation

Here, the overwhelming majority of students felt that learning on the internet is definitely not the same as learning in a conventional classroom

IV. Findings

1. Access to the internet is not much of a problem for students.
2. Most students were comfortable communicating electronically
3. Most students also indicated that they were able to set aside time easily for studies
4. Most students prefer interacting with their teachers in the face to face version of learning.
5. There is no issue on computer skills for students and most of them are internet savvy.
6. Students are not happy with slow response to feedback in online learning.
7. Students are not motivated adequately by material shared on online learning platforms.
8. Most students felt that they could communicate with one another with ease during online sessions.
9. Majority of the students were of the opinion that online learning is not as motivating as face to face learning
10. Opinion was divided over whether a complete course could be successfully given using an online platform which shows lack of confidence among students towards online platforms.
11. Most of the students were of the view that online learning is definitely not the same as face to face learning which indicates that this process of transformation from offline to online model is slow and will face inertia

V. Conclusion

This paper is an attempt to conduct an in-depth study and bring out the advantages and challenges of e-learning as it is something that we need to adapt to sooner or later. We have discussed why e-Learning is important, followed by relevant definitions quoting some pioneers in the field. Through this paper, we are trying to focus on various issues and challenges in implementing E-learning system. E-learning is a very broad area of research in terms of education system. Modern e-learning platforms are required to be equipped with intelligence,

i.e., an intelligent web. Applications can work intelligently with the efficient use of Human-Computer interaction (HCI) and intelligence. Different Artificial Intelligence (AI) based tools & techniques (such as, rough sets, fuzzy sets, neural networks, machine learning etc) can be integrated with the e-learning applications to support intelligence. . To make e-learning system to more interactive for learner, researchers need to take decisions at every level of learning cycle. A Decision Support System (DSS) is an interactive information system that provides models, data manipulation tools and information. DSS helps to make decisions in semi-structured and unstructured situation. By offering such approach, education system could play much better for student centric operation towards positive improvement of his performance.

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