

Evaluation of E-Learning Web-Portals

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ABSTRACT

Provides a comparative evaluation of the websites/web portals of four universities namely Amity University, Mumbai University, Delhi University & Don Bosco University. In this study, the researchers have drafted 32 evaluation criteria out of the select criteria that have been developed and designed by some top Universities of the world. It is an amalgamation of various excellent evaluation criteria from the select Universities mentioned in this research article. The study revealed that private universities are far ahead in providing learning through online mode than Central Universities as the private universities mainly focus on learning and training of students only due to the stiff competition among the peers.

Keywords: Web portals, e-learning, virtual learning environment, open and distance learning

1. INTRODUCTION

Portals are the sites that act as an entrance to other sites on the internet; it brings information from various sources in coherent, united and logical way. Users obtain information on education, news, weather or stock by beginning their sessions on portals. Portals are some of the most visited sites on the internet. They also provide standard-based means to aggregate information for campus developers and information providers to offer applications and information to end users via an array of platforms including mobile. In order to know more about the users for improving software design, service offerings, etc., portals generate repeated use of their services. It is a common goal for portals to develop a loyal user base that visits the site frequently and spend sufficient time per visit¹. Portals may be of many types, depending on the subject area, industry, market or trend². Here the focus is on one of the most important and significant portals in perspective of education and that is e-learning portal.

An e-learning portal is a website that offers users and organisations a consolidated access to a wide range of learning and training resources from multiple sources. A learning portal more than just a web site containing links to online courses, upcoming classes, job aids, and links to web sites, programs, etc. It may also include a rating system, search functionality, bookmarking ability, and more³. E-learning portals provide access to a wide range of learning material from various sources. It serves as a main entrance point to avail an extensive range of services offered by an organisation in a specific field of interest. Learning portals offer services such as search engine, e-mail, links to other related sites and personalised content, etc. With these services they also

provide facilities such as members list, free downloads, chat, etc. Learning portals offer e-learning courses where one can find information related to the courses offered, mode of teaching and learning, duration of the course, fee structure and certification. Such information remains specific to the related websites only. E-learning portals list e-learning courses offered by the providers. Learners can search, according to their interests, the course they want to join and the best learning providers available through the portal. E-learning portals have their own benefits and weaknesses. Sometimes the information related to the provider is much more elaborative and in case of a particular service provider, we may not get information about other providers. Also the information may not be found in detail, but from a wide range of options, we can compare and go for the best. Learning portals are easily accessible from any part of the world provided we have an internet connection and are flexible enough to be accessed at our own schedule round the clock.

2. STATEMENT OF PROBLEM

There is a lack of full-fledged e-learning web based portals in Indian Universities. Here is the need to evaluate some of the select well known e-learning portals of universities, which provides free access to professionals, teachers and students.

It will also make the student and research community aware about e-learning portals in higher education and what changes are to be brought to take such initiatives to make valuable sources easily available. This evaluation helps to bring what shortcomings that are there in the select e-learning portals and what should be done to overcome the same in future.

3. OBJECTIVES

The aim of the study undertaken is to look at the already designed e-learning web based portals and services they offer, their flaws and drawbacks, efficiency of the system, platform of design and development and the policies they follow.

The study under purview is formulated and carried out on the following laid down objectives:

- (a) Evaluate the select e-learning web based portals of select universities so as to ascertain various pros and cons in their design and development
- (b) Find out the technological infrastructure used in the existing e-learning web based portals
- (c) Understand the shortcomings in the designed e-learning web based portals of the select universities that already exist from various subject fields
- (d) Provide necessary suggestions to facilitate, extend and improve the quality of online education.

4. SCOPE AND LIMITATIONS

The investigators firstly chose the oldest top ranking twenty universities in India, having adequate infrastructure to support e-learning system and substantial faculty, which are offering education in the field of knowledge; among those twenty universities the investigators selected eight universities which provide e-learning in various subject fields in India. The universities have been selected on the basis of online delivery of learning and these are the only universities that apply most of the online learning objects and online methods of delivery of education and learning. These are the top universities which provide full fledged e-learning courses in Library and Information Science and Management fields.

The list is as follows:

- (a) Amity University
- (b) University of Delhi
- (c) Don Bosco University
- (d) Indira Gandhi National Open University
- (e) Kashmir University
- (f) Mumbai University
- (g) Symbiosis International University
- (h) The Global Open University

Among these only 4 were choosed for study:

- (a) Amity University
- (b) Mumbai University
- (c) University of Delhi
- (d) Don Bosco University

5. LITERATURE REVIEW

In present days, our societies are slowly becoming knowledge-centric and pushing people to learn more

things in order for their day-to-day survival⁴. In line with the societies' trend, majority of the organisations are completely becoming knowledge driven and hence, knowledge solutions must be crisp, quick and should be available readily at a handy distance. E-learning portals play an important role in providing such solutions. In perspective of education e-learning has ability to allow the students to control the learning process by offering them an immediate, action oriented, practical learning experience⁵. The author feels it for sure that conventional learning will be replaced by e-learning in the forcible future. With web based learning, communication among learners from remote places are enhanced, knowledge being acquired and transferred among the learners, the ability to conduct an open discussion is enhanced and students can learn according to their own schedule. All these facilities create the creative abilities that cannot be seen in conventional learning. According to author, the most important for the learning process, besides the above said points, is the flexibility and it can be best seen in e-learning⁶. E-learning attempts to automate education, replace a paid instructor, and develop self-paced learning, but for this purpose, an efficient management support and IT platform is needed. Key to success is the ability to reduce the cycle time for learning and to adapt 'content size and style' of learning to the respective user and their learning environment. E-learning is ideal for global corporations with people in multiple time zones; there is no need to coordinate travel and delivery schedules. According to the author, Internet-based training can reduce costs, with housing and travel costs accounting for the majority of the savings.

In search of better, more cost effective ways to deliver instruction and training, universities and corporations have expanded their use of e-learning⁷. Estimates suggest that the amount of money U.S. companies spent on the IT-based delivery of training grew from \$3 billion in 1999 to \$11 billion in 2003. In addition, the worldwide market for e-learning was projected to be more than \$18 billion by the end of 2005 with some organisations projecting that over half of their training and education will be delivered electronically over the next five years. This suggests the role and greater potential of e-learning in the promotion and enhancement of learning.

Rising costs, shrinking budgets, and an increasing need for distance education are causing educational institutions to re-examine the way that education is delivered. In response to this changing environment, e-learning is being implemented more and more frequently in higher education, creating new and exciting opportunities for both educational institutions and students⁸. Globally, the demand for post secondary education is increasing and these reasons have favoured the growth of the higher education e-learning industry. With the limited capacity of existing classrooms at academic institutions and the prohibitive cost of building new facilities, e-learning is an attractive alternative.

The complexion of higher education sector has undergone a sea change in the last two decades. Internationally, a majority of the institutions offering higher education is making strenuous efforts to revise its academic orientations and the course delivery strategies in the light of the interplay of these global changes and emerging challenges. With the advent of the Internet technology, integration of the Information technology (IT) tools into higher education stream has become an easy task⁹. In this context, online learning mode has emerged as a major higher education option before the global student community and as a consequence, virtual universities are built directly on the computer networks to offer online education.

Further highlighting the impact of e-learning, Tutunea, Rus & Toader¹⁰ says that e-learning has developed as an alternative to traditional education because the globalisation of the online environmental communication has influenced all sectors of human activity and education as a personal and professional training has undergone the same trends.

In 2001, North Umbria University rolled out an institution wide adoption of the Blackboard Virtual Learning Environment (VLE) and within few years, there was over 90% take up by academic staff with 32000+ students attached to live sites and now this e-learning platform (eLP) has become the integral part to e-learning of virtually all their students¹¹. The university had recognised that e-learning is not simply making use of a VLE but covers a broader spectrum of information and communication technologies (ICT).

The success of the e-learning is better analysed by the stakeholder matrix in which the responsibility for the success of e-learning is dependent on various stakeholders' viz. students, instructors, content providers, technology providers, employers and accreditation bodies¹². Each stakeholder group has an important role towards the common goal of enhancing the overall learning experience. Students and Instructors should provide feedback to improve future experiences, and communicate the learning possibilities that e-learning creates. Institutions should provide the technical infrastructure and support while as Content and Technology Providers should provide high quality, interoperable solutions that consider learning principles.

Education has become a commodity in which people seek to invest for their own personal gain, to ensure equality of opportunity and as a route to a better life. As a result, providers of Higher Education are finding themselves competing more than ever for students, funding, research, and recognition within the wider society. During the last decade and through the development of virtual education i.e. distance methods of delivery and new communication methods, higher education has become internationalised; providers are able to export themselves and as a result competition has been extended beyond national boundaries. Following this extension, various

opines of authors have been listed as under:

Institutions of higher education are increasingly embracing online education and the number of students enrolled in distance programs are on the rapid rise¹³. The higher education survey by the author indicated that there will be enormous growth in online certification and recertification programs, associate and master's degrees, and blended learning. It further revealed an interest in wireless technologies, simulations, digital libraries and reusable content objects among the students, scholars and professors. According to author, the explosion in online learning will bring increased attention to workshops, courses and degree programs in how to moderate or mentor within online learning. The study provided a glimpse of the pedagogical as well as technological possibilities.

Due to the vast cultural and social diversity in India, it is difficult to change the social background of students, parents and their economical conditions. Government is providing elementary and primary education at no or negligible cost. There are enough schools, teachers and facilities for students and teachers, but still there is a great variation in the quality of education due to the social background of students, parents, different standards of teaching and teachers training programs¹⁴. Therefore in the author's point of view, the only options left for India is to provide uniform or standardise teaching, for high quality education throughout India there must be some nationwide network, which provides equal quality education to all students, including the students from the rural areas and villages. The solution to this is Web-Based Learning resources or methods.

The number of new Virtual Learning Environments (VLEs) is increasing and they have been advertised as being a solution for remote and cross-border education. This is extremely important when the tasks cannot be practiced in real life¹⁵. The authors found VLEs feasible for higher education. A good feature of VLEs is that students can themselves control the speed of studying. The VLE students appreciated this feature. However, authors suggest that VLEs must be used with caution. VLEs must add something special to the course or the subject. In order to get good learning results with a VLE, they need to be designed well and the needs of the user group must be considered thoroughly.

6. EVALUATION OF VARIOUS SELECT E-LEARNING PORTALS

The list of the select four universities for investigation which provide e-learning in various subject fields in India are as follows:

- (a) Amity University
- (b) Mumbai University
- (c) University of Delhi
- (d) Don Bosco University

6.1. Amity University Online¹⁶

Amity University was established in 2002 and it is one of the country’s biggest education providers which established its online learning through Amity Centre for e-learning to give individuals and organisations the competitive edge. It has started its online end-term examination twice in a year and online contact program through interactive live virtual classes from anywhere in the world. All the classes are archived for those who missed the live classes. All the assignments are to be submitted online and there are no hard copies to be submitted. Students can interact with faculty and peers through email and can also change over from regular distance learning program to e-learning and vice-versa. Amity University is trying to eliminate the barriers of time and distance creating universal, learning-on-demand opportunities for people, companies and countries. It provides faster learning at reduced costs, increased access to learning resources, and clear accountability for all participants in the learning process with its e-learning program. It does not provide newsletter, latest news and events, user’s count, A/V conferencing and web 2.0 items in Fig. 1.

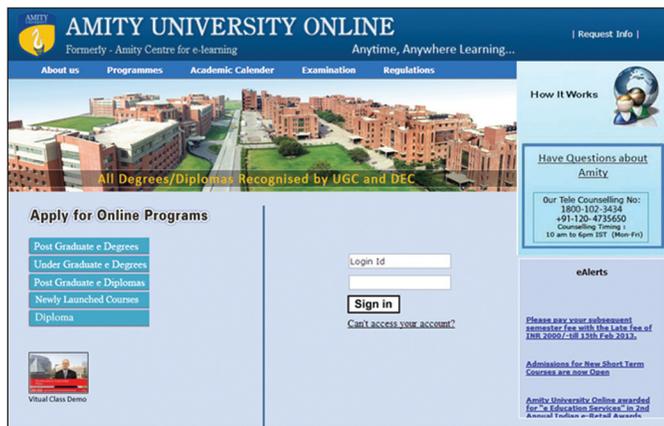


Figure 1. Amity university online.

6.2. Mumbai University DLLE¹⁷

Mumbai University started its Department of Life Long Learning and Education (DLLE) in 1994 and from 2003; it started its first batch of e-learning programme. In the recent years, the University has designed and introduced many new short term and certificate courses in management, electronics and accounting. All the admission formalities are to be completed online along with the payment of fee, submission of application forms and a person can have live chat with the counselor in case of any queries or clarifications regarding the course structure and methods of delivery of learning and teaching. The software used is an open source Joomla with clear learning objects and the portal is updated frequently with Interoperability compliance standards. However, no content or study material, newsletter, user’s count, support and web 2.0 items are provided which is a major short comings of the portal in Fig. 2.

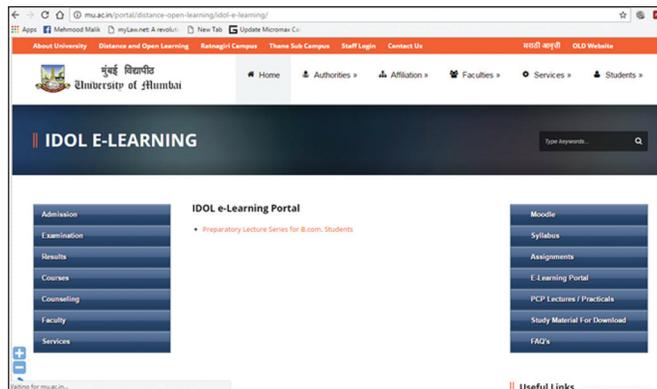


Figure 2. Mumbai university DLLE.

6.3. University of Delhi Virtual Learning Environment¹⁸

University of Delhi established its Virtual Learning Environment in the year 2007. It is providing education in various open courses online. It also provides open educational resources on various subject fields like sciences, humanities and social sciences. The University is covered in National Mission on Education through Information and Communication Technology (NME-ICT) project. The university is trying to incorporate web 2.0 items in the online learning web-portal like podcasts. The downloadable content on various subject fields in portable document format is also given along with the video lectures.

A clear, complete course overview or details is provided in Fig. 3. All the sources of information are scholarly without personal opinions or bias. The website is updated frequently and follows International interoperability standards. Course architecture permits experts to add content, activities and assessments to extend learning opportunities. Objectives are matched to content requirements and to the grade and skill levels of the intended audience. But some items like newsletter, news and events, user’s count, support, content references or A/V conferencing are missing in its web portal. However, podcasts in the web 2.0 items are available for use.



Figure 3. University of delhi VLE.

6.4 Don Bosco University¹⁹

This university was established on 29th March 2008 in Assam. The University aims to mould intellectually competent, morally upright socially committed and

spiritually inspired persons at the service of India and the world of today and tomorrow, by imparting holistic and personalised education. It offers courses from the fields of Library and Information Science, management and engineering.

It provides videos, discussion related opportunities through discussion boards and online counseling for students and learners. It provides online content and reading material like articles, news and e-books store. Using a state-of-art virtual classroom platform, DBU global students attend classes over the internet, interacting with teachers and experts of the finest institutions of the nation and fellow students placed across the globe. However, it does not provide any content or study material, newsletter, news and events, user's count, additional references, graphics, site search and web 2.0 items in Fig. 4.



Figure 4. Don bosco university e-learning.

Investigators developed evaluation criteria to evaluate web-portals of the select universities by adopting website evaluation criteria's developed and used by some of the top Universities. This evaluation criterion is an amalgamation of various excellent evaluation criteria's adopted by:

- The University of the Aegean²⁰
- University of Illinois²¹
- Xavier University Library²², and
- National Health Service Education for Scotland²³

The criterion devised is formulated on the following categories of evaluation listed as follows and show the Table 1:

- Accuracy
- Objectivity
- Up to date (currency)
- Audience
- Content/study material
- Study material
- Newsletter
- News and events
- Software
- Accessibility

- Coverage
- Usability
- Functionality
- Reliability
- Effectiveness
- Suitability
- Responsiveness
- Clarity
- User's count
- Support
- Standards compliance
- Stability
- Additional references
- Graphics
- Multimedia
- Web 2.0 items
- A/V conferencing
- Style
- Site search engine
- Credibility
- Technical properties
- First impression
- Quality

On the basis of the evaluation of the websites/web portals under study, it can be stated that all the e-learning systems are accurate. The objectivity of all the portals is to the point and free of bias with frequent updation of the information. Government universities like Mumbai University and University of Delhi have audience which mainly consists of students, in-service candidates and elderly learners, while as the private universities mainly focus on the learning and training of students only.

Out of the four university web-portals evaluated, two universities do not provide study material for download which includes Mumbai University and Don Bosco University. All university e-learning portals have designed on the platform of open source softwares like Joomla, Drupal and PHP etc. Learning objects of all the portals are appropriate and well defined for the scope and aims to cover.

None of the government universities have provided a clear and complete overview of the courses, while as a clear and complete course details are provided by the private university e-learning portals. However, the private universities do not permit the tutors to add content, activities or assessments on their own which in turn hampers the extension of learning opportunities.

Apart from the missing additional references by the select universities Web 2.0 items are missing in almost

Table 1. Evaluation of various select e-learning web-portals

	Criteria list of Universities			
	Amity University	Mumbai University	University of Delhi	Don Bosco University
Accuracy	Yes	Yes	Yes	Yes
Objectivity	To the point and free of bias	To the point and free of bias	To the point and free of bias	To the point and free of bias
Up to Date (currency)	Updated weekly	Updated frequently	Updated weekly	Updated frequently
Audience	Students	In-service and elderly learners	In-service learners	Students
Content/ Study Material	Yes	No	Yes	No
Newsletter	No	No	No	No
News and Events	Yes	Yes	No	No
Software	Asp.net	Joomla	Word Press	Drupal
Accessibility	Only to registered members	Only to registered members	Only to registered members	Only to registered members
Coverage	Management	Management	Management	Lib. & Info. Science
Usability	Learning Objects are appropriate for the scope it aims to cover	Learning Objects are appropriate for the scope it aims to cover	Learning Objects are appropriate for the scope it aims to cover	Learning Objects are appropriate for the scope it aims to cover
Functionality	A clear, complete course overview or details is not provided	A clear, complete course overview or details is not provided	A clear, complete course overview or details is provided	A clear, complete course overview or details is provided
Reliability	All the sources of information are scholarly without personal opinions	All the sources of information are scholarly without personal opinions	All the sources of information are scholarly without personal opinions	All the sources of information are scholarly without personal opinions
Effectiveness	Objectives are matched to content requirements and to the grade and skill levels of the intended audience	Objectives are matched to content requirements and to the grade and skill levels of the intended audience	Objectives are matched to content requirements and to the grade and skill levels of the intended audience	Objectives are matched to content requirements and to the grade and skill levels of the intended audience
Suitability	Course architecture permits tutors to add content, activities and assessments to extend learning opportunities	Course architecture does not permit tutors to add content, activities and assessments to extend learning opportunities	Course architecture permits experts to add content, activities and assessments to extend learning opportunities	Course architecture does not permit tutors to add content, activities and assessments to extend learning opportunities
Responsive-ness	Good response and normal web accessibility	Average response and normal web accessibility	Average response and good web accessibility	Good response and normal web accessibility
Clarity	Content and learning activities are clearly aligned with learning outcomes	Learning activities are clearly aligned with learning outcomes	Content and learning activities are clearly aligned with learning outcomes	Content and learning activities are not clearly aligned with learning outcomes
Users Count	No	No	No	No
Support	Yes	No	No	Yes
Standards Compliance	The course is constructed in compliance with technical interoperability standards at a minimum	The course is constructed in compliance with technical interoperability standards at a minimum	The course is constructed in compliance with technical interoperability standards at a minimum	The course is constructed in compliance with technical interoperability standards and SCORM 1.2 or IMS Content Packaging 1.1.2 compliant at a minimum
Stability	Procedure of acquiring username and Password and access control	Procedure of acquiring username and Password and access control	Procedure of acquiring username and password, correct transaction, encrypting messages, and access control	Procedure of acquiring username and password, correct transaction, encrypting messages and access control

Criteria list of Universities				
	Amity University	Mumbai University	University of Delhi	Don Bosco University
Additional Content/References	Yes	Yes	No	No
Graphics	Yes	Yes	Yes	No
Media (mp4, mp3, pdf, txt, gif)	Yes	Yes	Yes	Yes
Web 2.0 Items	Nil	Nil	Podcast	Nil
A/V conferencing	No	Yes	No	Yes
Style	Design is clear, dynamic and provides appropriate instructions for navigation and interaction	Design is clear, consistent and provides appropriate instructions for navigation and interaction	Design is clear, consistent and provides appropriate instructions for navigation and interaction	Design is clear, consistent and provides appropriate instructions for navigation and interaction
Site Search Engine	No	Yes	Yes	No
Credibility	Free of grammatical, spelling, or typographical errors	Free of grammatical, spelling, or typographical errors	Free of grammatical, spelling, or typographical errors	Free of grammatical, spelling, or typographical errors
Technical Properties	Information on the website is available in a format that require special viewers and plug-ins	Information on the website is available in a format that does not require special viewers and plug-ins	Information on the website is available in a format that does not require special viewers and plug-ins	Information on the website is available in a format that does not require special viewers and plug-ins
First Impression	Balance between textual and visual elements	Aesthetic and well organized	Balance between textual and visual elements	Aesthetic and well organized
Quality	Accepted Expressive Language and good quality	Expressive and Interpretable Data	Accepted Expressive Language and good quality	Accepted Expressive Language

all the universities except University of Delhi. Audio/video conferencing is also missing in Amity University and University of Delhi.

Information on the websites/web portals is available in a format that requires special viewers and plug-ins except in Mumbai University, University of Delhi and Don Bosco University.

7. CONCLUSIONS

The future prospect of the web portal involves contributing content and learning to various academic institutions using membership options. It will also take into the consideration that many more academic prospects could be attached to the web portal that will help the learners to find multiple learning options in a single interface easily using the web portal to help them in increasing their knowledge about their topics of interest.

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