

E-LEARNING: THE NEW LEARNING LANDSCAPE- A GATEWAY TO OPENESS AND LEARNING IN TODAY'S WORLD

P.V.Raj Kumar

*Assistant University Librarian
University Library
Anna University
Chennai 600 025
India
pvr@annauniv.edu*

ABSTRACT

'Odd!' he repeated. 'The men who have advanced the theory of gravitation can practically be named on one hand! Aristotle, Galileo, Newton, Einstein, Hoyle – and now Colossus! This is NEW, Charles! Colossus has gone on where Hoyle left off over thirty years ago!' fisher banged his fist on the desk, snatched up the roll of paper and waved it at Forbin. 'New! Do you hear? Do you realize what it means?'

D.F. Jones, Colossus: The Forbin Project

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1.0 INTRODUCTION

Scientific discovery is the crossroads of two of our culture's great mystiques: the mystique of creativity and the mystique of scientific understanding. For practicing scientists, the mystique of scientific understanding diminishes but the mystique of creativity – if anything – grows more pronounced. By attempting to build models and programs directed at the process of discovery, researchers are assailing this mystery with the tools of a constructive science; they are attempting to make programs which make discoveries.

Learning itself is a highly complex human process and we are, moreover, at the early stages of understanding how it will adapt to e-learning. The structures and procedures surrounding education, particularly in universities can be very conservative. This is often for good reason because change brings risks and risks can threaten quality. The two most important things in university business are quality of research and quality of learning and therefore universities are essentially about independence and creativity of thought. It is also possible to avoid innovation by hiding behind protestations of quality.

A barrier of an entirely different kind is the high cost of, and protectiveness accorded to, learning content. It is notoriously difficult to persuade academics to use learning content in their programmes that has been developed elsewhere. This is another paradox, as they generally have no resistance to using textbooks written by others. The digital revolution now offers the potential of content development in a different paradigm from the book; smaller chunks of learning content that can be individually packaged and identified with metadata through the facilitation of the semantic web and standards such as those promoted by IMS. These kinds of learning object repositories have been predicted for some time but have not yet taken hold. There is an embryonic market in these products but it is not yet clear when market conditions will be right both from the supply and the consumer side.

In the past, one could see the frontiers looming within the library domain, which offered enticing opportunities for research, development and structural change. Now that we have crossed the digital library frontier, the next frontier is not seen within the library domain at all, but beyond in the learning domain where the digital library should combine with e-learning activities to effect structural activities to effect structural change and quality improvement. Over that frontier would lie learning, which has the characteristics are not necessarily to do with distance learning, although they could be. They are not an alternative to good quality interaction with tutors, but an enrichment of it.

2.0 MISSION CRITICAL

E-Learning is unquestionably the 'mission critical' in education systems the world over, and is likely to remain so for the foreseeable future. There are many reasons for it being so much in vogue, not least the globalization of commerce and citizenship, and the

burgeoning of information and knowledge available on the Internet. The recognition that today's economies need to be knowledge based, which in turn require a workforce and consumer body that are characterized by flexibility, independence in learning and information and communications technologies competence, may be an even more compelling reason for governments to be as proactive as they are. As a means to increase access to learning – anytime and anywhere – the ensuing interest in e-Learning is nothing short of phenomenal, with the result that authoritative

Texts are in growing demand. No one could claim to offer a text that would be definitive in such a fast-moving environment but we offer e-Learning: *Concepts and practice* as an all-around but sophisticated entrée to the power and potential of e-Learning, and the main approaches to delivering it.

E-Learning will optimize teaching and learning for academic researches, trainers and educators, World Wide Web (WWW) developers, resource content managers and those who have a general interest in E-Learning.

If learning and learners have experienced major changes since Bloom's day, it is inevitable that schoolteachers, university lecturers and private sector trainers have been facing equally major changes in the way they approach their work. Tutors today are required to go beyond selecting a textbook for their students. Now they must regularly evaluate new resources; searching, selecting, evaluating, planning for, implementing and managing them in order to promote best practice in learning, e-Learning for many is the 'mission critical' and must be explored, first and foremost, from a learning perspective. An exploration of the state of the art of e-Learning is essentially, therefore, an examination of the most advanced features of information and communications technology that can support, create and deliver an educational experience. At its best, e-Learning offers new opportunities for both the educator and the learner to enrich their teaching and learning experiences.

2.1 NEED TO HAVE E-LEARNING

Arguably this is a question that does not need to be asked! So many of our day – to – day activities are not routinely technology-based, for example electronic access to cash or shopping, that for a large majority if not all of us techno-familiarity is a necessity. Many people, however, remain on the

other side of 'digital divide', isolated by such factors as socio-economic circumstances, disability or simply a lack of interest, perhaps through personal choice or other cultural influence. Electronic purchasing and information searching is all around us, and becoming more and more pervasive. For example, the word 'Google' has become an everyday verb used to describe electronic searching, regardless or whether Google itself is the search engine being used (see *Webster's New Millennium Dictionary, 2005*). Such is the pervasiveness of technology-based activities across society.

Whether it is learning in schools, universities or the workplace, appropriately designed e-Learning approaches to any aspect of a target curriculum can provide significant opportunities for learners to create and acquire knowledge for themselves. The world wide e-Learning industry is estimated to be worth 38 billion crores according to conservative estimates. Developments in internet and multimedia technologies are the basis that enables e-Learning, with content technologies and services being identified as the three key sectors of the e-Learning industry.

3.0 A FRAMEWORK OF PRACTICE

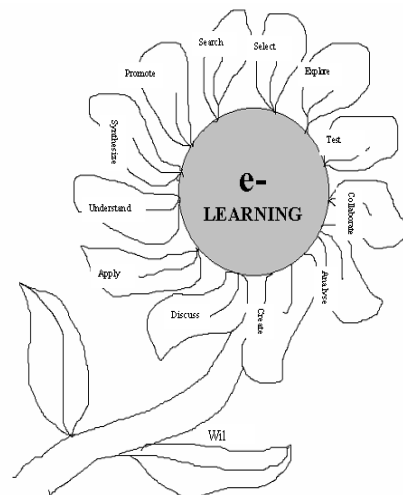


Figure 1: A flower petal framework (non-hierarchical) for e-learning practices and skills.

E-Learning requires different type's of engagement, categorized in the framework of key practices of skills illustrated in the petals of the e-learning 'flower' in figure above. Note that the radial nature of the flower petals imply that there is no hierarchy in this framework. In any one instance, the practical activity undertaken by the learner may involve only

one or perhaps several of the actions or skills denoted in the figure. While it might be possible to suggest levels of complexity to associate with the elements of this framework, it is likely that such a consideration will be irrelevant. It will be the actual context and the learner's needs and aspirations that will determine which practice or skill is appropriate.

3.1 TECHNOLOGY

Many technologies can be, and are used in e-Learning

- Screen Last – digital recording of computer Screen output / Screen capture – for audio narration.
- E-portfolios – Collection of electronic evidence usually on the web
- PDA'A – Personal Digital Assistants are hand held computers
- MP3 players – with multimedia capabilities
- Web based teaching materials – C B T or Electronic learning
- Hypermedia – graphics, audio, video, plain text interwine as non-linear medium of information.
- Multimedia – CD – ROMs – text, audio, graphic animation, video interactivity
- Web sites and web 2.0 communities – sono networking sites wikis and folk sonomics.
- Discussion boards – internet forum for web application.
- Collaborative Softwares – computer supported collaborative work
- E-mail electronic mail
- Blogs – on line diary written in chronological order
- Wiki – software to locate collaborative web sides
- Text chat – computer – mediated communication
- Educational animation – for fostering learning
- Simulations – animation of some real thing
- Games – structured or semi-structured activity.
- Virtual class rooms
- E-Learning: The endless road to knowledge rich learning and development?

3.2 BENEFITS OF E-LEARNING

Computer-based educational approaches, and specifically e-Learning, have the potential to impact

positively on the entire spectrum of education, and it is worth pausing to consider the nature of this impact through the following questions:

- Who is to be given the opportunity to be an e-Learner?
- What is to be e-Learned?
- How will learners engage with e-Learning?
- Where and when will learners engage with e-Learning?

These queries ultimately lead to

- Flexibility
- Convenience
- Cost effective
- Instantancom correction mechanism
- Greater adaptability
- Independent of spatial distance
- Contributing to an evolution in the way students learn
- Enriching and extending the learning experience of students
- Providing powerful tools for learners to exploit the World Wide Web.

It is imperative to discuss even the drawback of this new to revolution in learning. The disadvantage of E-Learning may include:

- Lack of face to face interaction with a teacher
- Not a substitute for class room teaching
- Feeling of isolation
- Causes time in collaborative feed back
- Most often expensive
- Time often expensive

3.3 E-LEARNING – AN EDUCATIONAL REVOLUTION

Computer-based learning in its various generations has acted to open up the world of knowledge to everyone and its most powerful variant, online e-Learning, has become a catalyst that has enabled huge changes in what is learned and who is able to learn it. It is essential for the economic prosperity of the individual and society, and for the social cohesion that sustains it, to have the facility to acquire knowledge when it is needed and in a form that meets the purpose for which it was sought.

Education systems are evolving to cope with or exploit massive changes in a number of key areas including:

- Access to more knowledge than ever before;
- New learning skills for the twenty-first century;
- He maximizing of learning opportunities through e-Learning;
- The emergence of a society of lifelong learners;
- A recognition of the interests and needs of the 'internet generation';
- The implications of globalization for cultural diversity;
- Greater inclusivity in education through e-Learning.

Increasingly powerful computers, combined with the development of the World Wide Web, have meant that much more information is much more accessible than ever before. Indeed, it is at our very fingertips as the personal computer acts as a portal to the connected world. e-Learning has the potential to offer, at any time and place, richer resources than most traditional methods of delivering learning and teaching.

The increased ease of selection and dissemination of multimedia material allows online resources to surpass, at least in quantity, local collection previously available to learners. Faster connections not only translate into more accessible materials but also allow access to a wider and richer content. As bandwidth increases, audio-video streaming and video-conferencing will create increasing opportunities for linking learner with experts in an online discourse that is supported by feedback and remote interactivity.

E-Learning environment goes beyond issues of ease of use and actually moves access and information into the student's domain. This is a fundamental change in the ownership of the information itself – a key step in personalized knowledge creation.

3.4 THE ROLE OF LIBRARIES IN E-LEARNING

In the academic world, distance learning is an expanding reality. E-learning can be used as a supplement or support for traditional learning methods in Universities (on line learning materials, electronic tutorials). E learning course and seminars can well be integrated and bundled in Virtual Universities and also elements of e learning can be integrated in traditional distance learning institutions.

The proliferations of distance learning programs require great effort of libraries, to follow and assist the increasing number of remote users with suitable resources and services. The mission is facilitated by the evolution of libraries towards a digital environment.

The role of the library in distance learning has its ground on two different arguments.

- the first is that distance learners must be given the same services and opportunities as the ones offered to traditional learners, and this includes also full library support (ACRL)
- the second reason is a more general remark on the nature of distance learning: the role of digital resources is much more relevant in distance learning than in traditional face to face education.

3.5 FUTURE OF E-LEARNING

The future of e learning involves integration of human processes technology and knowledge management. E-learning practitioners should be sensitive to the human factors in learning as the intensity of individual learning differs. The challenge is in finding models that will actually improve learning, bridge the knowledge gap in the learner and address his individual needs.

3.6 E-LEARNING SOFTWARE PLATFORMS

Below a list of some of the e-Learning platforms that are available:

- A Tutor
- Caroline
- Dokeos
- KEWL
- Moodle
- Sakai Project
- ANGEL Learning
- Author Wave
- Black Board
- Captivate
- Tooling University
- First Class
- Knowledge Forum
- Web C T
- X Mind
- Tutor Vista

4.0 EPILOGUE:

E-LEARNING – ENDLESS DEVELOPMENT?

By deriving its underpinning theories from such notable scholars as Plato, Rousseau, Skinner, Dewey Vygotsky and Piaget, to name but a few, e-Learning is arguably eclipsing their impacts as the most dynamic development in education ever.

Even with several decades already behind us, there seems no end to the innovation and development that stretches into the future for e-Learning. For now and the foreseeable future, e-Learning remains ‘mission critical’. It has emerged as an unparalleled explosion of innovations, creating opportunities for enriched experiences in traditional education and for enhancing the breadth of opportunity and content for lifelong learning. The scope for e-Learning’s future development is so wide it is with some trepidation that I attempt to paint a picture of the future.

John Dewey argued, soon after the turn of the twentieth century (1916) that learning is a building process. I believe that education as a whole should be considered in the same light. There is much to construct and much to learn, and I believe that education will ultimately adopt and adapt to a communal constructivist approach, an approach that will be comprehensively facilitated by e-Learning.

As a result, the world of all dimensions will become highly connected global village where diffusion of innovation is very fast and human life is highly sophisticated.

If there are no insurmountable physical and design boundaries for information and communication technologies, then we could work towards a future in which every citizen of the world is enabled to contribute to global communal learning through the widest possible access to high-quality “anywhere, any-time” e-learning.

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