

Evolution of a New Learning Ecology: From E to M-Learning

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ABSTRACT

The paper focuses on a new 'learning ecology' that is evolving and the challenges that educators must confront. It looks at e-learning as not just another add-on, but a technology that is transforming our educational institutions. How teaching and learning is conceptualized and experienced to generate a determined community of inquiry that integrates social, cognitive, and teaching presence in a manner that will take full advantage of the distinctive assets of e-learning is discussed. Likewise, the possibility of mobile learning is put forward.

Keywords: Learning Ecology, E-Learning, Mobile Learning, Higher-Order Learning, Always on-Always Available

1. INTRODUCTION

A technological revolution is currently stirring higher education. The prevailing issue nowadays is not access to more information, but rather making sense of the quantity of material students are exposed to. It has become almost insurmountable to meaningfully assimilate all the information in any given subject area[1,2]. Thus, because of this information explosion, and the accompanying advances in communications, new approaches are required. The goal is to give students the abilities and strategies necessary to deal with this overwhelming enormity of information. To attain this goal, educators recognized that the only long-term solution was to change the educational environment so that students would not only learn, but where they would learn to learn. E-learning has become the protagonist for this change[3-7].

The development of e-learning is depicted as explosive, unprecedented, and disruptive. Broadly defined, e-learning is networked, on-line learning that takes place in a formal context and utilizes a range of multimedia technologies. It is an open system riveted on the power of the Internet, thus, the teaching and learning process is exposed to enormous amounts of information. The exposure is extremely appealing to teachers and learners. Yet, there must also be limiting and stabilizing influences if e-learning is to maintain a sense of community and purpose, not to mention sustainability.

Embodying a new "learning ecology", e-learning is not just another add-on, but a technology that is transforming our educational institutions and how teaching and learning is conceptualized and experienced. For the 21st century educator, the challenge is to generate a determined community of inquiry that integrates social, cognitive, and teaching presence in a manner that will take full advantage of the distinctive assets of e-learning - those interactive properties that take learning beyond classrooms and information assimilation. These properties of e-learning have the capacity not only to create a community of inquiry that is independent of time and space but also achieve a

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previously unimaginable blend of interactive and reflective nature that stimulates and facilitates a level of higher-order learning[8-11].

Technology in general and e-learning in particular, is a mechanism for community creativity and cognitive independence. However, e-learning's flexible, versatile, and multidimensional interactivity is founded in a focused and very engaged personal and public search for significance and knowledge. Such a common agenda builds a feasible community of inquiry and the means for individuals to accumulate substantial knowledge. An indispensable factor to form a functional community of inquiry is commitment and clarity of purpose. Even as all the technology may be available to afford the prospect of a relevant, responsive and engaging community, this does not immediately occur.

To realize the possibilities of e-learning as an open but cohesive system, it is essential to rethink pedagogy. Education is about ideas not facts. Lecturing is essentially about imparting information neither about encouraging critical thinking nor understanding ideas. Access to information is not an issue. E-learning's transformative power and capacity to add value is not based upon access but better ways to process, make sense of, and recreate information. This interactive and constructive potential of e-learning is a stark contrast to the passive-information-transfer approaches of conventional education. While e-learning can support and enhance current practices, such as lecturing, the real impact will be to generate new approaches that realize and seize e-learning's interactive capabilities. For e-learning to have a significant status in education it must prove that it is not just a medium of convenience to access content but rather a venue for educational experiences to be founded on communities of inquiry. A community where individual experiences are ideas are conveyed, discussed, and recognized within the context of societal knowledge, norms and values.

2. THE EDUCATIONAL SETTING

In an educational milieu, it is the teacher who shows the way to delineate goals, set the limits of the inquiry, and provide the presence to regulate interaction and monitor progress. Nevertheless, there is also a huge deal of unscripted interaction in an e-learning experience that allows creativity and serendipity. While functional communities have a common purpose, it must also tolerate new meaning and understandings that recognize the uncertainty of knowledge to emerge. Learners also have the potential, through the power of their ideas, or through delegation, to provide teaching presence. Ironically, in a community of inquiry, the spotlight is on the individual assuming responsibility to construct wisdom through the stimulation and dynamic of the group.

The future is for those who are prepared to take control and accountability for their learning; those who have attained the critical thinking and learning abilities required to deal with the "too much information age". It is for those who have skill to control their learning and create knowledge; those who are keen to take action of their learning and who are equipped to configure change and not be its fatality. The direction of education is towards e-learning and a vision based on a profound understanding of its potential. Educational institutions cannot afford to ignore the technologies that are revolutionizing society to serve business purposes and personal interests. Why would education be resistant from this?

The future of higher education begins to see a decreasing reliance on lecture halls and an increase in the integration of on-line discussion groups. There will be more simulations of the real life experiences that enable learners to manage and comprehend their decisions. E-learning must be assembled in such a way that learners can fully engross themselves in the practice. However, this is not achieved with a uni-directional flow of in-

formation, regardless of whether it is to or from the individual. It is in the interaction that an extraordinary environment of learning is shaped and where value is collaboratively constructed. It is a domain where the teacher leads, monitors, and directs the dynamic interactions as they unfold, often as expected, resulting in amazingly varied learning outcomes. Likewise, it is where learners can re-direct proceedings to their own specific goals. This is the ideal condition of managing and taking responsibility for one's learning, when the uniqueness of e-learning is thus established.

The swelling demand for both education and training program is directly linked and attributed to rapid changes in technology, markets, and business processes that all entail relentless learning and retraining. With population increasing steadily into the 21st century and fifty percent of the world's population less than twenty years old, there is, expectedly a steady growth in student numbers, coupled with the escalating figures of adults enrolling in formal educational programs on a part-time basis. Likewise, there are more adults returning to school be it on compensated or uncompensated sabbaticals or in response to compulsory or voluntary occupational changes. These conditions result to rising enrollment rates and even as most of this demand is being met by traditional campus-based program, an emergent proportion of courses are currently being delivered via the Internet.

There are various reasons for this current climb in enrolment in e-learning courses. For one, several students pursue e-learning courses for the same reasons that have always motivated distance education students - educational programs that are more accessible and that can be time shifted to meet the constraints of busy adult learners. Secondly and an even stronger motivator is the growing evidence that certain kinds of e-learning courses can be delivered more cost effectively than classroom-based instruction. Brandon Hall asserts that "e-learning saves thirty to sixty percent in

costs over traditional classroom instruction" but while he presented few details to support the claim, there is a growing sense that is economically attractive, if only because it significantly reduces the costs of travel, accommodation, and teachers, which account for over fifty percent of the cost of classroom instruction.

Educators, trainers, and students are currently being offered viable alternatives to classroom-based instruction in almost every discipline. Although classroom instruction will not completely disappear, both education and training will be increasingly structured to utilize costly classroom instruction for highly intensive interaction that is only possible in face-to-face contexts. A greater volume of information transmission and routine dialogue will be supported both asynchronously and synchronously via the Internet, providing much convenience and accessibility to students and instructors as well. Consequently, the increased demand from lifelong learners and rapidly changing workplaces will combine with increased sophistication and opportunity of Internet-based education, to drive the volume of e-learning.

The focus of e-learning has often been on providing more choices to accommodate differences in learning styles and attitudes coupled with a pursuit to increase the pace of learning. While there is modest definitive evidence that computer-assisted instruction actually reduces student learning time, a continuing progress in the capacity of technology to significantly improve a host of educational processes is however expected.

The time required to craft and manage e-learning courses is another major concern for educators. The accurate calculation of the cost of developing and effectively delivering e-learning is complex nevertheless there is no reservation that the cost of quality education, delivered in any format, is significant. Sophisticated authoring packages and Web-based learning-management systems are considerably reducing the time requirements de-

manded by the precursors of computer-assisted learning. However, a major impediment to widespread adoption of e-learning is the time commitment necessary to produce original internet-based education program. A solution that is foreseen is the setting up of a materials reservoir that will facilitate the access and more effective use of learning materials by larger numbers of teachers.

The production of educational resources and the rapid and cost-effective distribution of these resources to both learners and teachers are essential developments that guarantee to change the mode and speed by which e-learning courses are created. These educational resources are self-determined, digitized learning activities that may be easily combined by educators into learning modules and courses. Not as huge as pre-packaged courses, which tend to threaten instructors who want to tailor their courses to the unique needs of their students and to their own interests and competencies but enough to serve as self-contained learning activities, these learning objects, of appropriate level and dimension, enables adoption by a large number of educators. They also often contain assessment activities to measure learning outcomes. The future of course development will consist of customizing internationalized sets of educational resources to best meet the distinct localized needs of all students and teachers. However, without a system of effective distribution, peer review, and revision, instructor-constructed resources often perish on local servers. Repositories for educational resources are being created to surmount this challenge, so that the creation and distribution of such, is a major factor in increasing the rate by which internet-based education is produced and delivered.

3. PRACTICAL OPTIONS

Education is on the verge of an explosion of media types accessible on the Internet. Educators will consequently be afforded the opportunity to choose

the communication format that suitably meets their application needs, rather than that which is readily available. This will enable them to opt for video, audio, animated, or text-based interaction. Notwithstanding the fact that the extensive debate regarding the impact of the medium of delivery on educational attainment is yet unresolved, the effect of the Internet on all facets of our culture including education has been significantly felt. The Internet has essentially altered the economics, practice and processes of most socially constructed institutions and it is unlikely that education will be immune from this disruptive technology.

A tremendous variety of ways by which information can be obtained from the Internet is currently being experienced. Mobile devices, for example, have encouraged an interest in m-learning – the crossroads of mobile computing and e-learning. M-learning endows an “always on-always available” facility to retrieve information, compute and communicate thus, be applicable in learning activities “anytime, anywhere”. This will be particularly functional for the mobile worker, the commuter, or anyone who operates from multiple workplaces.

While the accessibility of the Internet and its promise of quality education ‘anytime-anywhere’ is significantly beneficial to the educational process, the real value relates not to ease of acquisition or manipulation of information or educational programming but rather to its power to allow the social creation of new knowledge and its validation and enrichment by participants around the world and across temporal space. The value-added is quality. This is the distinctive asset of e-learning and where it is transforming how educators approach teaching and learning. It is where e-learning has the best potential to enhance the quality of educational outcomes. The social world of thinking, learning, and doing has worked out with the Internet-based media in exceptional ways and has considerably altered the nature of communica-

tions in educational contexts for teachers and learners alike.

The use of virtual reality simulations, virtual laboratories, and immersive learning environments will allow students to actively engage in complex learning scenarios via the Internet. The ensuing response to e-learning will hence effect an expansion in the array of formats and types of learning activities available to teachers and students. Nevertheless, Marshall McLuhan remarked that "each form of transport not only carries, but translates and transforms the sender, the receiver and the message" thus stressing the need for research in measuring and evaluating these transformations. Such thorough and insightful researches will guarantee that not only variety but value is as well added to internet-based education.

4. CONCLUSIONS

Technological improvement of human processes provided by the Internet has directly affected various features of teaching and learning. Foremost is the capacity to find, store, and manipulate information. Education being grounded in the systematic organization, growth and exploitation of information to generate knowledge will certainly use tools that boost the effectiveness of knowledge management process. Likewise, the accessibility of the Internet, with its potential of providing quality education "anytime, anywhere" is also a significant value added to the educational experience. Still, the true boon of the Internet for education relates not to ease of acquisition and manipulation of information nor increase access to educational programs of acquisition but rather its capacity to support the social construction of new knowledge and its validation and enhancement by participants across temporal space. The real value-added is quality. Access is a given; the issue and challenge is to complement access with quality.

The social context of teaching and learning has

adapted to the internet-based media in distinctive ways and has extremely changed the nature of communications in the educational environment. It is not argued that internet-based interaction, in any of its formats - from synchronous to asynchronous or from video to text-based discussion - presents the better way to support education. The contention is that no single approach, including the pre-internet standard of campus-based education, affords educational excellence. The Internet's value-added is providing quality resources for independent study as well as the capacity for interactive learning. This is the distinguishing property of e-learning and where it is changing how educators approach teaching and learning. The educator's toolkit has been augmented and the sensible choice of internet-based tools will significantly enhance both distance and campus-based education.

The task of unearthing an innovation that is e-learning and its potentials has just begun. Individuals who are inclined to view things in a different way will discover that the medium itself - the "e" factor, will change what is seen and consequently, direct the path into this uncharted terrain. As educators come across new potentials, and students demand more than just information or content, e-learning will be utilized in very diverse and exciting ways. Evidently, innovative perspectives and practices shall emerge while a new community of learning develops. While e-learning represents a new "learning ecology", consciousness to educational ideals must persist.

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