E-Learning in the university: When will it really happen?

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Summary

eLearning has enormous potential in education, and there is an urgent need to take stock of the possibilities that it offers. Despite this urgency, research on eLearning is still in a nascent stage and there is a degree of conceptual confusion in the field that is difficult to tolerate. It is clear that there is a lot of ground left to cover and that many obstacles remain to be overcome before we implement a type of eLearning that both integrates innovative pedagogy and coheres with new trends in digital technologies.

This paper offers a critical examination of eLearning in the university setting. We focus on the following question: “Do our current ways of using educational technology allow us to achieve genuine eLearning in the university setting?” We analyse this question critically in two ways. In our first critical analysis, we underline the dissonance between the officially prescribed learning technologies and the way in which students use technology outside the classroom. In our second critical analysis, we examine the effectiveness of the technologies that are currently being used in this setting to encourage learning, collaboration, and the development of higher-order thought processes. We conclude with several recommendations for those who would like to engage critically with eLearning in the university setting.

Keywords: e-learning; higher education; social media; educational technologies

Introduction: The question of e-Learning in the university

In the contemporary university setting, there is currently a great deal of impassioned rhetoric about e-Learning on part of all concerned, including students, professors, and administrators. Some contend that the future of universities is intimately bound up with e-Learning, while others strongly resist it. Both sides have valid arguments. The reasons for resisting e-Learning are well known and can be summarized as follows: the lack of institutional and administrative support, a lack of student preparedness for online learning, a lack of technological competence on the part of professors, shortage of time, a need for technical support, and academic integrity concerns (Betts, 1998, Schifter, 2002; Oomen-Early & Murphy, 2008). Yet even if these arguments for resistance are justified, it remains the case that a new generation of students is demanding that new technology, including e-Learning technologies, be integrated into all courses, even traditional courses that are held in a classroom with a professor and students physically present.
Thus, despite the fact that some resist e-Learning, we are obliged to accept that there is no escaping it. The question of e-Learning is not merely a question that can be asked—it is a question that must be asked. There are forces behind e-Learning that are far more powerful than any of the ways in which e-Learning is being resisted by the university community. Thus, the question that we ask is not whether we should support the idea of e-Learning, but rather how e-Learning can best be integrated in the university setting.

Taking this assumption for granted, we focus, in this analysis, on the following question: “Do our current ways of using educational technology allow us to achieve genuine e-Learning in the university?” This question leads us to offer two critical analyses. In our first analysis, we explore some contemporary controversies surrounding e-Learning in the university setting. Our second analysis focuses squarely on the question of learning. We argue, among other things, that e-Learning will not guarantee improved learning unless certain important conditions are satisfied, and we embark on a reflective journey in order to outline these conditions.

**Critical analysis 1: Controversies over e-Learning in the university**

In this, our first critical analysis, we underline the incoherence between the e-Learning technologies currently adopted in the university and the ways in which our students actually use various technologies. In other words, we examine whether e-Learning is keeping its promise of delivering a more authentic education that will permit learners to develop higher-order thinking processes that will open new learning possibilities.

Our analysis is situated in the current context, which is defined, at least in part, by the spread of digital technologies throughout the developed world as well as by a global economic slowdown. Some years ago, we began to talk about NICT (New Information and Communication Technologies) and then simply about ICT (Information and Communication Technologies) since ICT no longer appeared quite as new as they once were. At the same time, technology became a focus of research and teaching in the university setting. In keeping with this technological evolution, the terms Web 1.0, 2.0, 3.0, and 4.0 were created as these information and communication technologies evolved and as we came to understand how they worked. In the last 10 years, ICT have gradually become referred to as ubiquitous technologies (Weiser, 1991; Weiser, Gold, Seely Brown, 1999). As Weiser states “The most profound technologies are those that disappear. They weave themselves into the fabric of everyday life until they are undistinguishable from it” (1991, p.94).

This definition is somewhat similar to what Joël de Rosnay refers to when he labels current technologies as “relational technologies” (RT) or technologies that change how human beings relate to each other (1995). The development of ubiquitous and relational technology implies that the computer, as we currently understand it, is gradually disappearing and is allowing people to interact with information and with others through various digital devices. In other words, individuals use a variety of technologies that enable them to access the informational “cloud” through which they can be in contact with one another. Very soon, we will be the first generation to explore a world that will be overlain by a pervasive technological universe. Unbeknownst to us, we are already living in this world, and this fact will be made clear once augmented reality technology takes flight in earnest.

As technology evolves at the brisk pace of business, universities adopt e-Learning technologies according to a slow pace—the pace of resistant institutions that are being forced to accept a
new paradigm. There are some exceptions to this tendency: several universities, which have spotted the profit potential of e-Learning (e.g. University of Phoenix) have embraced the idea of offering courses or even entire programs online. Most institutions, however, have been more cautious or resistant to the idea of e-Learning. Here, institutional adoption policies have played an important role in slowing growth and change. Some less-than-ideal course management systems (e.g. BlackBoard, Moodle, FirstClass, Adobe Connect, Lotus Notes) have been adopted because they have the potential to meet the universities’ modest goals.

Yet even within resistant settings, there is a great deal of innovation happening. Some professors, unafraid of taking risks and investing time, use technologies like Wikis and Podcasts to offer Blended Learning courses. These teachers believe that these technologies improve students’ active listening, offer a strong model to support writing and speaking, and facilitate student group work (Anzai, 2008). Yet, in contrast, other technologies that are supposedly merely “recreational” are forbidden—Facebook, Twitter, iPods and text messaging are all counted among this group.

Despite the fact that these technologies are used in important ways in students’ everyday lives, these technologies have yet to find their place at the university. Consider the following statistic: according to Facebook statistics, there are 400 million active users who spend over 500 billion minutes per month on Facebook. If a mere 10% of this time could be spent on learning or on helping others learn, Facebook would become much more profitable for society. This, of course, not only raises the question of how one should design learning for Facebook, but also of how this technology could be productively integrated into the university.

At this point in the argument, we are compelled to ask whether e-Learning is being used thoughtfully in our universities. Certainly, the bare fact that we use content management or learning management systems doesn’t constitute thoughtful use. In many cases, these systems are often mere receptacles that allow for the posting or download of documents. Beyond this, they are sometimes used for sending email, chatting, or monitoring discussion forums. For the last few years, online open-source learning management systems like Moodle have held out the promise of promoting collaboration amongst students. Yet, at the same time, we note that amongst our colleagues, Moodle is most often used to post .pdf, .doc, and .ppt documents. In addition, the rather rigid characteristics of this platform do not promote collaboration as much as one might hope.

The way in which we use these course management technologies is thus far removed from the way in which people use technologies in their everyday lives. A large proportion of interactions now take place in the cloud. Users interact with a variety of clickable objects which allow them to access and manage information, to interact with others, to participate in social networks—in short, to co-construct knowledge, to learn and work together.

Furthermore, one does not have to be a researcher to understand that a significant proportion of the population with access to digital technologies no longer learns in a traditional fashion. The new pattern of learning is far removed from the traditional model of “professor talks/student takes notes, memorizes them, and regurgitates them on the exam.” In a high-velocity environment in which emergent technologies are continually replacing each other—an environment which is subject to the critique that people are adopting technologies at the speed of advertising, without necessarily being critical of what they are consuming—information and contact with other people is available instantaneously.
All of this comes back to the question of accessibility—we wish to highlight the dissonance between the experience that the typical student has with technology on an everyday basis and the experience that is offered by e-Learning platforms in the university setting. A long time ago, John Dewey (1897) highlighted the importance of a high degree of continuity between the educational setting and the student’s experience in everyday life. One of the key problems that we see with systems like Moodle and FirstClass is that the technologies do not match the everyday technological ecologies of students who, when they are not at school, communicate and collaborate with their family and friends with tools like Skype, MSN, and Facebook. Today’s students have integrated these networking technologies in their daily lives; they now make up part of the fabric of everyday experience in terms of both work and play. Thus, the technologies that we use for e-Learning in the university setting are, in a significant sense, inaccessible, even if the university gives students access to them free of charge.

Critical analysis 2: Better ways of knowing and learning?

Our second critical perspective on e-Learning in the university addresses the question of the effectiveness of the technologies that are used for learning, collaboration, and the development of higher order thinking processes.

Since the beginning of the 20th century, advances in educational thought have led us to believe that innovative pedagogy requires authentic inquiry situations that promote long-lasting, durable learning. In the last twenty years, distributed cognition, collaborative learning, communities of practice (CoP), communities of learning (CL), and problem-based learning have all been popular. These concepts are supported by the ideas of educational theorists like Dewey, Piaget, Wenger and Von Glasersfeld, just to name a few.

Yet despite these theoretical advances, many of these theories are not being translated into practice. This is particularly true when we look at the congruence between the technology being employed and the pedagogy that is endorsed by the instructor. For example, consider the contrast between Lave and Wenger’s visions of communities of practice (e.g. tailors in Liberia) and the usual state of online learning communities in the university. Communities of practice are defined as “groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.” (Wenger, 2006). In contrast, online learning communities in the university are often instant communities—frequently, the instructor simply creates a web page and invites some students to chat about some topic.¹

The fact remains, however, that in the university, there is often no choice but to form instant communities. The nature of a university class is such that the community of practice, such as it is, is created instantly and often somewhat arbitrarily. One can criticize this aspect of university setting, but it is difficult to do anything about it and, in any case, the problem of lack of community isn’t entirely attributable to this anyway. In fact, the problem stems more from the

¹ Notably, the idea of instant communities also runs counter to some important visions of collaboration. Dewey, in The Public and its Problems (1927), made an important distinction between community and mere association. In Dewey’s view, association was a relatively weak concept, and virtually any agglomeration of people could be an association. In contrast, he felt that a community was something that went beyond the mere fact of associating with others. Dewey suggested that in order for a group to constitute a genuine community, its members had to be consciously working together towards a common goal. This is a very demanding criterion—perhaps too demanding, at least for instructors in the university setting. Still, it offers a useful standard against which to compare the weak, formless “communities” that are often formed in online learning settings.
fact that these groupings in university classes are frequently too weak and ill-defined, even once their instant nature is taken into account.

This problem is multifaceted, but as far as e-Learning is concerned, there are three interconnected factors that weaken class community: 1. The mediocre set of technological tools that are officially prescribed by the university. 2. The fact that instructors find themselves confronted by new learning technologies without having had time to reflect on how to implement them. 3. The ways in which e-Learning technologies are employed.

As far as the first factor is concerned, we must ask whether the officially prescribed technologies like WebCT, First Class, and Moodle really facilitate the kind of community that was hoped for by theorists like Lave and Wenger. This question is no sooner asked than answered due to the fact that these tools are offered to (and often imposed on) the university community due to their capacity for managing content as opposed to promoting community.

Granted, their capacity for promoting collaboration is also highlighted by their proponents. Yet the fact remains that the affordances of these systems stand in stark contrast to the kind of collaboration that is facilitated by social media like Facebook and Twitter. Still worse, instructors frequently use these prescribed tools to create “communities” in which students are forced to interact to get points—in these cases, one is reminded of Dewey’s (1900) famous distinction between “having something to say” and “having to say something” (p. 35).

We have already addressed the second factor to some extent earlier in the paper—students use a variety of innovative technologies on an everyday basis. The university would profit from using the strengths of these technologies in course design, but, at the same time, instructors are reluctant to employ these technologies or to permit them to be used. At the base of this reluctance, one finds the usual arguments: lack of administrative support, lack of technological competence, lack of time, questions about intellectual property, and the suspicion that these technologies will soon be made obsolete by the next wave of technological change. (Betts, 1998; Oomen-Early, & Murphy, 2009; Schifter, 2002).

There is a certain logic to this resistance—the university is a controlled learning environment with a specific set of goals, and it should not merely bend to the prevailing technological winds that buffet society at large. However, the lifelong learning paradigm that prevails nowadays will force universities to become more continuous with and responsive to technological change in society at large. People are learning together every day through technologies like blogs, social networks and wikis, and they will expect to continue learning in these ways in the classroom, at least to some extent.

The third factor moves beyond the question of which technologies should be used to the address the question of how these technologies are employed. In “The Gathering: An Ethical and Educational Criterion for Educational Technology,” Warnick and Waddington (2004) suggest that certain uses of educational technology (e.g. the online quizzes that are popular in Moodle) can create what amounts to a monochrome educational environment. Adopting a Heideggerian perspective, they suggest that educational technologies, if used carelessly, actually have the capacity to reduce the quality of students’ educational experiences.

According to Warnick and Waddington, the critical factor when deciding how to employ educational technologies is whether the students’ experiences are being enriched—in other words, whether they are being connected in meaningful ways to other people and to aspects of the world around them. In their view, educational technology can either impoverish or enrich
educational experiences and it is therefore vital that e-Learning technologies be thoughtfully chosen and employed.

In sum, since e-Learning is, as Cicco (2009) notes, “here to stay” in colleges and universities, further reflection is necessary on the conditions that can lead to effective e-Learning—in other words, we need to figure out how to deliver e-Learning that contributes to improving the educational experience of students. Yet despite the fact that, since the end of the 1990s, many studies have been conducted to gain a better understanding of e-Learning, there is still a great deal of work to do in order to understand how exactly e-Learning works in the university settings. Perhaps most importantly, there is a need to better understand the links between the technology and pedagogy.

In a first effort to identify the relationships between pedagogical models and models of ICT competencies, Davidson (2005, 2007) has asserted as a basic assumption the proposition that if such a relationship could be identified, it would necessarily be found in the choices that instructors make when they combine pedagogies and ICTs. In a study on the choice process of teacher training instructors that were integrating ICTs into their lessons, Davidson identified two tendencies.

The first pertained to classroom activities that were to be completed by individual students. In these activities, the instructors tended to aim at high-level cognitive activities like research, analysis, synthesis, and evaluation of digital documents. The second tendency concerned group activities—in these activities, the instructors tended to target lower level cognitive activities like comprehension and the application of knowledge. Yet the most important result was not the presence but the absence of a relationship: outside of these two patterns, there was relatively little reflection on why a particular ICT should be used. Instead, teacher training instructors used the technologies that were readily available or that they knew how to use.

These results highlight an important problem. In education, it is fairly common to reflect on the pedagogical aspects of an activity. In other words, instructors often ask the question, “Which pedagogy should I use to achieve a particular learning outcome?” Yet, when it is question of which technology to employ, the first reaction is often simply to use the technology that is familiar and commonly used, and this is often a technology that is prescribed by the university. In other words, the question, “What technology should I use to achieve a particular learning outcome?” is rarely asked.

We hold that this question demands significant reflection. In the last decade, events like the 911 terrorist attacks, the wars in Afghanistan and Iraq, the economic slowdown, and, most recently, the threat of an H1N1 pandemic, have changed the way people approach the world. More and more often, people need to engage in lifelong learning, whether it is for the purposes of getting a job, climbing the corporate ladder, or simply personal growth.

Today’s students are part of a group who have not only embraced the Internet, but who also carry around a variety of digital technologies in their pocket. This group could benefit profoundly from a new generation of e-Learning technologies that fits their new digital reality while at the same time being adapted to the requirements of institutional policies.

Certainly, there are several large-scale initiatives in this direction that have had some success—for example, consider the OLPC project of the MIT Media Lab in Massachusetts, which aimed at providing one rugged, low-cost, low-power, connected laptop for every child in developing countries. There are also a number of smaller-scale success stories. For example,
at the University of Ontario Institute of Technology (UOIT), all of the students registered for the Bachelors of Education program are required to buy a laptop in order to prepare them to understand information and communication technologies and to integrate these technologies in their future classrooms. In another example, a Japanese university experimented with having students in an English course produce Wikis and podcasts (Anzai, 2009).

According to this study, the Wikis and podcasts provided an important ubiquitous learning environment for students who were learning English—the students could interact with each other and with the whole world.

The time has come to admit that, with the advent of ICTs, the way in which people see the world has changed, and, in keeping with this, the clientele of the educational institutions has fundamentally changed (Fillion, Limayem, Laferrière, et Mantha, 2009). As suggested in a recent report by the Canadian Council on Learning (CCL), “societies which don’t take advantage of their potential may well be left behind”, (CCL, p. 5) and Canada has certainly fallen behind in e-Learning in the last 10 years. This lag is due to the slower-than-anticipated adoption of e-Learning technologies as well as to the fact that “Canada does not have a comprehensive and coherent approach to align e-Learning's vast potential with a clearly articulated and informed understanding of what it could or should accomplish.” (CCL, p. 7)

**Conclusion**

To conclude, it is clear that there is a lot of ground left to cover and that many obstacles remain to be overcome before we implement a type of e-Learning that both integrates innovative pedagogy and coheres with new trends in digital technologies. At the same time, e-Learning has enormous potential in education, and there is an urgent need to take stock of the possibilities that it offers. But despite this urgency, the research on e-Learning is still in a nascent stage and there is a level of conceptual confusion in the field that is difficult to tolerate.

We intend to take a step toward resolving this confusion by offering a summary of our preliminary ideas for making e-Learning more authentic and effective. Despite the fact that we have not presented formal arguments for the following ideas in the text, the two critical analyses that we have offered indicate that the following recommendations could open up interesting avenues for future research:

1. When possible, try to create classroom communities of practice that are both in person and online. In other words, when possible, avoid relying exclusively on technology to create community.

2. Do not think of technologies as being ends in themselves. Using technologies merely because they are supposedly innovative or because they are made available by the institution is unlikely to improve student learning.

3. As is also the case with face-to-face communities, online communities can neither be successfully maintained nor created without continual effort. A strong definition of community that emphasizes close cooperation toward common ends may be too radical and demanding for the contemporary context. Still, instructors would be well advised to make student communities work toward concrete goals and to facilitate the achievement of these goals.

4. E-Learning architectures like Moodle have the ability to reproduce the worst elements of traditional education. Isolating students in front of the computer and
forcing them to perform repetitive memory-recall tasks is a trap that instructors would be wise to avoid. When designing activities, it is essential to think up interesting, authentic problems and tasks that present high-level challenges.

5. Increase the use of rich and captivating simulations and begin integrating tried and tested video game elements in order to make the simulations more effective.

6. Embrace a conception of e-Learning which attempts to reduce the gap between educational institutions and everyday life. As was pointed out above, the e-Learning technologies that are currently offered to students are often present a sharp contrast with the technologies that they used in their everyday lives. This problem is often compounded by the fact that the e-Learning solutions used in universities are frequently less effective than the solutions that are available outside the university context.

If we offer up these recommendations, it is because, like many other commentators, we feel that information and communication technology is on the verge of a radical change. Very soon, these technologies will become much more organic—they will blend into our clothing and our lifeworld. Already, de Rosnay has given this shift the name of “relational technology” (RT). He uses the metaphor of a planetary brain for which we are the neurons. We will be a part of an enormous system, which will be stacked together with many other systems—among others, the ecosystem of cloud computing which is accessed through clickable objects.

Eventually, we are going to stroll through a world overlain by a technological interface that does not use clickable objects. Thus, the double interface of digital technologies will become a single seamless world in which humans live, think, and interact. If de Rosnay’s metaphor is at the point of becoming true, what does it signify for the design of e-Learning in the university? Once technologies vanish from the surface of perception and fade into the background of our daily existence, how will we evaluate their impact on learning if a deliberate reflection is not undertaken beforehand?

As far as these questions are concerned, we remain at sea, far from a safe harbor. Ahead of us, a difficult task remains: to think about our teaching through the lens of the technologies used by our students. And while we do not hold that we should adopt all of the technologies that are in our students’ pockets, the fact remains that if we begin to experiment with these tools, we will be better prepared to confront the challenges posed by the next wave of technologies.

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