A critical appraisal of the implementation of online learning technologies: society, higher education and business

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ABSTRACT

This article critically investigates the implementation of online learning technologies at higher education institutions, with the accent on the needs of society and the role of business. The conclusion is that the process may be directed towards the needs of business while the overarching needs of society are neglected.

INTRODUCTION

For the ordinary man in the street electronic communication technologies may appear to have a life of their own. We may experience a temporary surprise at how fast we can communicate online, pay our bills or buy the latest accessory from the USA, and then we carry on with our lives. But, among other far-reaching effects, these technologies may affect our society and higher education institutions in a negative way. As the need for online teaching increases, business's role as the supplier of technology becomes another factor to be aware of. Says Apple (1991:77): "Wise choices about the appropriate place of the new technology in education ... are not only educational decisions. They are fundamentally choices about the kind of society we shall have, about the social and ethical responsiveness of our institutions to the majority of our future citizens, and to the teachers who now work in our schools."

It is the aim of this discussion to critically investigate society's needs, and/or alleged needs, what will or may happen in higher education, and to assess business's role in the implementation of technology in higher education. The question to be answered is: Will society's higher education needs be successfully addressed by the implementation of online learning?

SOCIETY'S NEEDS

The new information society is a different one from that of 20 years ago; it is fast moving, with a need for immediate access to information and effective global communication. Everybody is a global citizen and is as closely related to suffering people in Bosnia, Kosovo and Rwanda as to friends in the next block. In addition it is a world where value is symbolic: the cost of an item is not related to its manufacturing costs, and an item that has value today means nothing tomorrow. The grand narrative no longer guides actions and futures: people's lives are not predestined to be one long, happy story. There are a myriad distractions in people's lives. There is a need to access information in order to become informed citizens (decisions are to be made by each and every citizen - no longer can one rely on the integrity and the ethical responsibility of the next person) and to gain the competitive edge. There is little certainty in many aspects of people's lives and they need to be prepared for ever-changing, flexible structures.

It is a different economy with different needs - one's running shoes were conceptualised in the USA, designed in Japan, manufactured as components in China and Indonesia, assembled in Mexico and marketed from the United Kingdom for a particular location. This globalisation of the factory and marketplace has made the job of the individual worker or citizen full of uncertainty and fear; once one is to be laid off one needs to upgrade knowledge and skills to be competitive for the next production run (Gutstein 1999:22). With all of this uncertainty and instability the average citizen is running around frantically assessing the job market and trying to assemble the right credentials to be continuously in demand. But what are employers looking for? Technology appears to have a life of its own as it infiltrates the workplace and the

home. Every action or step of our work or home lives seems to be enhanced to some extent by technology. Not being able to do word processing, search the Internet or programme a home video recorder may be an embarrassing shortcoming if revealed to friends or colleagues - such "basic" skills or credentials have become essential to earning a living wage (or at least this is what people believe).

Not only has it become important for such skills to be obtained from somewhere, but they have to be offered through such technologies to make economic sense. As job requirements change, the need for lifelong learning increases, and workers now need to be trained while they are on the job. Others are starting low-paying jobs to earn wages so that they can afford to qualify themselves appropriately - more and more so as the cost of higher education increases and government subsidy decreases.

THE ROLE OF HIGHER EDUCATION INSTITUTIONS

Learners' needs for future employment are addressed by higher education institutions. Kaufman and Herman (1997:47) see the responsibility of higher education institutions to improve the quality of life of members of society as a major one. Such higher education needs are about receiving appropriate skills or competencies linked to affordability, being just-in-time, and time and place independence. Although the economic sector is in need of appropriately qualified human resources, society in general may also be in need of balanced citizens. One way of attempting to deal with all these requirements is to consider the advantages of technology, and more specifically, online technologies.

The appropriateness of online technologies

For Wilson et al (1998:09) the Internet, WWW and online environment represent almost a techno-utopia. Millions of people are online, and distance education, distributed learning and face-to-face education are frantically preparing to show themselves on this global platform.

Online communication technologies (like the Internet, discussion facilities, chat rooms, email and the WWW) make it possible for learners to study independently of the constraints of time, place and slow mail systems, and just in time for current work requirements. In fact any location with a computer can be a study facility. What is even more beneficial is that the new qualities required of the skilled worker (or graduate), which Bates (2000:11) lists as: good communication skills, independent learning competency, social skills, teamwork skills, the ability to adapt to changing circumstances, thinking skills and knowledge navigation, can be greatly enhanced by the use of these technologies, which provide communication, collaboration and interaction opportunities - the tutor, fellow students, and experts are just a click away (Harasim et al 1995; Oblinger & Verville 1998; Tapscott 1998). If Don Tapscott's Net Generation is any indication of the online interests and skills of today's young people, it is almost unthinkable that higher education institutions should not exploit online technologies to teach without restrictions.

Many universities will claim that they can provide higher education without boundaries with the help of online technologies, but what are the current and possible characteristics of such attempts?

Academic work, autonomy and accountability

There is expected to be a blurring of roles at universities as academics will be responsible for a more and more diverse set of tasks to meet the budget and to accommodate diverse delivery modes. Coaldrake and Steadman (1999:3) warn that the growth in student numbers at universities and the move to student-centred learning have forced academics to re-evaluate their task. New online communication technologies can enhance communication and personal interaction in the learning environment. This may require additional commitment from academics - face-to-face teaching commitments, research and after-hours or online

course support with new technologies are responsibilities that will simply increase with online teaching.

In addition, students who pay for an increasing part of their education are expecting value in return: higher education institutions and academics are held accountable for their teaching. In fact, the relationship between teaching and research is one that will come under the spotlight. Research was often seen as the superior activity, but in view of the aforementioned pressures, teaching will have to be seen as equally important and good teaching will have to be rewarded in the same way (Coaldrake & Steadman 1999:17).

Concerns have been voiced about the influence of online technologies, especially with the business interests of higher education institutions and corporations behind them. For Coaldrake and Steadman (1999) and Noble (1997, 1998a, and 1998b), academic freedom and autonomy have come under pressure as university management adopts a more entrepreneurial and business-like style. Noble is deeply concerned about the copyright of course materials that academics have developed; online technology, a business-oriented university management, and partnerships with corporations who want to deliver their own courses via technology will diminish the rights of the academic, with whom the materials originated; his or her intellectual property will be sold without due consideration.

The potential loss of academic employment is seen as a serious issue. The new online learning delivery is mainly supported by cheap temporary staff, which further diminishes the role of the qualified and experienced subject expert (Noble 1998a). This heralds the loss of jobs at higher education institutions, as cheap tutors take over instruction and prepackaged subject content is bought in from somewhere else. Apple (1991:70) warns that when computers enter into the teaching situation, increasing competition develops between staff; as the use of online technologies is portrayed as progress in teaching, instructors see such skills as a must, and there is a frantic scramble to obtain computer skills credentials in order to be seen as a good instructor. This situation applies pressure on otherwise good instructors to leave higher education if they cannot keep up with the rising demand for such skills.

Perelman (1992:63) takes this already beleaguered situation even further as he talks about the end of education: with the onset of hyperlearning comes a form of freed "education" - of a world not simply freed of this or that encumbrance, but freed of the encumbrance of education altogether. For Perelman there is the possibility of the final liberation of an economy where no one goes to school!

The above scenario requires the rethinking of the responsibilities of the academic, subject expert and tutor in the higher education system. Although technologies can facilitate communication and collaboration in various ways, the position and functions of staff should be negotiated during the conceptualisation and implementation of such technologies; a loss of quality input in the learning process may not be in the interest of the learner or society in the long term.

Quality higher education

The Technology Plan of the Oregon University System ([nd]) cites the vision of the Board of Higher Education: "Education Unbounded" would develop new educational strategies and capacities to serve students who were not campus oriented in the traditional sense, by providing the social, interpersonal, and developmental learning experiences appropriate to their needs and situations. The content of this vision is certainly positive and full of commitment to serve the needs of society - especially when the appropriate learning experiences are listed. But is this really what online learning technologies provide?

Apple (1991:69) underlines the time constraints of providing the right thing at the right time as higher education institutions rush online in their fear of losing out. They are forced to consider buying ready-made materials. Universities and colleges are responsible for quality content, addressing the needs of their particular contexts, but they now find themselves delivering

materials whose important curricular elements are not internally produced, but purchased from commercial sources whose major aim may be profit rather than educational merit.

Wilson et al (1998:119-120) stress another side of online learning. From their research it is clear that US content (be it commercial or educational) dominates the WWW to the extent that it is difficult to find non-American course materials. There are very definite topographic and structural reasons for this situation: most host computers are in the US; most users and Internet-related business concerns operate from the US; filters like browsers, search engines and digitisation are US dominated, and evidence is provided that even if they are given a local branch status they still revert back to US sources. In addition American links, or links to the "centre", dominate course content, while most Internet structures are corporately owned and operated with profit in mind. The very nature and ownership of online technologies may force universities worldwide to introduce foreign learning experiences and to teach foreign values.

Gutstein (1999:206) sees the colonisation of the education market as one goal of business, a second goal being to ensure that students receive the training business deems appropriate for the workforce of the future. Hundreds of partnerships are being consummated in locations in Canada. In every case content will be created to be used internally or to be marketed elsewhere, increasing the danger that authorities will lose control of the public education agenda and the setting of common curricula (Gutstein 1999:227). With business in general setting the curriculum and IT companies running the delivery systems (and providing the content), Gutstein (1999:197) predicts "a gradual disappearance of shared public information and community values, hallmarks of Canadian public education for a hundred years".

If the financing of online higher education is seen as mainly in the hands of business and private institutions (due to the restrictions on and cuts of central higher education budgets), it seems as if nobody will have the responsibility to fund, develop, and deliver critical liberal education. Higher education, delivered quickly and efficiently via the Internet and the Web by IT companies, will provide many young people with the skills needed for employment in business, but they will not be equipped to be valued citizens of society.

Considering the use of online technologies for delivery therefore requires us to revisit the reasons for the existence of higher education institutions. Are they contributing to the knowledge generation and how are they facilitating the dissemination of such knowledge to the citizens of society? The online environment challenges the role of the higher education institution as an exclusive source of knowledge by presenting learners with a myriad of instant sources. The accent has shifted from a responsibility for transmitting knowledge to a responsibility for promoting the ability to navigate quality knowledge sources. It is not only the relevance of course content that needs to be addressed, but the role of the instructor in helping learners to navigate such content in relation to various other sources they are exposed to in any case.

Localising technologies

If on the one hand the future provision of online higher education is going to be in the hands of business, and on the other it is to be delivered using technologies that are by nature American, learners in developing countries or other part of the world may end up receiving not just a business skill, but also a Western American one, as the knowledge navigation process is highjacked.

Pelton (1991) believes that to the extent that technology in education imposes a particular world language and culture on subjects submitted to its use, it can be regarded as controlling these subjects and forcing them to comply if they are interested in getting a proper education. It is exactly this economic and cultural domination (and prescriptive nature) of the Internet and WWW that would have led Ursula Franklin to call it a control technology (Franklin 1999:9-10); the human being is alienated and controlled via online technology and a culture is prescribed - he or she is merely a consumer. Pelton's views (contained in his warnings) also correspond with two of the categories suggested by Boshier (1996): subjects should not allow a false consciousness and identity to be forced on them by new technologies. Instead the opportunity

should allow them to revitalise their local traditions and culture. Moreover, the use of technology should not establish structures of domination and disempowerment, and exploitation of need.

It will be necessary to "localise" such technologies in addition to making their content and process relevant to the needs of society rather than just business. In the words of Gayol and Schied (1997) it may be necessary to concentrate on the "decentralisation" of online technologies in order to counteract US cultural imperialism. The marginalised should be empowered, by localising content and links, to acquire relevant knowledge, or participants should be involved in the sense that their contexts and needs are integrated into the process of education technologies (incorporating a touch of functionalism and interpretivism). From this perspective, Pelton's world of education through technology would look very much like a post-Fordist solution for education technology - design team members and authors (academics) are almost back to the craft mode of learning design and delivery and, most important of all, students and context are part of the construction of learning in a decentralised implementation of technology.

This desired state of affairs synchronises with the critical stance which holds that alienating technologies limit knowledge navigation - the argument is for a critical pedagogy (Gayol & Schied 1997) that opens up education technology to a decentralised, anti-imperialist stance which assures relational identities and empowerment of the marginalised to learn; cultures and nationalism cannot be rationalised into oppression. The marginalised should be empowered to learn if online technology is accepted as the avenue.

Addressing the needs of the job market

The job market is related to business activities, and employment addresses the welfare of the capitalist society. With business owning the content and process of online means of delivering higher education, content and learning will be tailored according to the business agenda and the employment strategies linked to such an agenda. It is possible to create a need for training on a higher education level which is not related to employment opportunities. Providing such training to ignorant hopefuls is a lucrative but unethical business, all the more so with efficient technology.

From a more general perspective, the economic accent on computer industries and information services may stimulate economic growth and competition, but also result in the displacement of thousands of workers, creating high unemployment for years to come. Certain skills are deemed essential for employment and re-employment. Computer-related skills, for example, are cultivated as being necessary for progress in the information society (Apple 1991:72), but are they really necessary? Some critics believe such technological skills are required in the office and work environment to improve profit levels, efficiency and control (Apple 1991:62; Gutstein 1999:213) - not to benefit the workers themselves.

Capitalist business to a large extent controls the job market (even that of the public service), and now, with the advent of online technologies, it ends up owning higher education, providing content and opportunity to study. If access to the job market is controlled, the needs for higher education can be adjusted and additional profit be made. "Lifelong learning" could be a useful pretext for prolonging such an education market. With the ownership of higher education shifting, fictional education needs and employment opportunities might be created.

The challenge to traditional DE institutions

If the quality of online learning is accepted as being more enriching (because of being collaborative and interactive) than traditional, mainly correspondence-based distance education, it can be expected that there will be a burgeoning of online teaching initiatives (by, for instance, the virtual universities and other private initiatives) to take advantage of such a promising higher education market.

Bates (1991:12) is of the opinion that it will be easier to create new institutions of higher education based on the new online technology than to convert old industrial-model institutions, providing mainly traditional print-based teaching. Different contexts may require different delivery modes. In countries like South Africa, where there is a significant sector of the population which does not have access to online technologies, print-based delivery through the mail system will still be the best option. Bates (1991:11) also believes that institutions operating from the industrial model, which is totally geared for the mass production of one-way materials, will find innovation extremely difficult. They cannot use technology to supplement print, as this will simply increase cost and the students' workload. Comparing the costs of print-based delivery and online delivery (the latter appearing to be the cheaper), Bates (1991:13) says: "I have an uneasy feeling that if the full support costs of tele-education are included, the cost advantage over the industrial model is not so clear." The lack of support for and communication with independent learners has always been a weakness of the industrial mode of distance teaching. To improve this by migrating to online learning would be very costly, owing to the need for infrastructure and the provision of student support due to the infrastructure needed and student support - it would be extremely difficult and expensive to support thousands of students online.

Noble (1998a & 1998b) blames the mere existence of distance education for the disastrous implementation of online learning technology. DE leads to customisation of perfect packages to masses of students, supporting commercial viability. With the customised package the academic or subject expert's involvement is limited and quality is cut out of the education process. The University of South Africa (Unisa) has been fairly successful in developing quality print packages for its mainly disadvantaged students and with some adjustment as regards student support could continue to provide quality higher education in the South African context. To blame distance education per se for the apparent mismanagement of online distance teaching would be unjustified. There could also be positive cross-fertilisation - if there is dual-mode delivery, some good qualities of online learning, such as collaboration and communication, need to be improved in print-based learning, so that the online learner does not enjoy an unfair advantage.

With dual-mode institutions (offering some courses in a degree via face-to-face, and others via online DE) and adjunct mode institutions (where online DE is added to face-to-face courses) flourishing all over the world, Coaldrake and Steadman (1999) see the boundaries between DE and face-to-face teaching starting to blur. Print-based traditional DE will, however, have its market for decades to come, as it is context bound.

The digital divide

The information revolution and the use of online technologies to facilitate communication and learning are affecting nations in positive and negative ways. Says William Daley (in Falling through the net: defining the digital divide (no date)): "While we know that Americans are more connected to digital tools than ever before, the report provides evidence that the digital divide between certain demographic groups and regions of our country continues to persist and in many cases is widening significantly. We should be alarmed by the news."

Computer access has become to a large extent a necessity, and more so for distance education students. On whose shoulders should the financial burden rest? For the USA (Falling through the net: defining the digital divide (no date)), statistical evidence shows that access to computers and the Internet is increasing amongst the haves (white middle and upper classes) and proportionately decreasing amongst the have-nots (black families and Hispanics).

Some institutions provide different options: Sonoma State (California, USA) takes affordability into consideration by providing discount prices at their bookstore, recommending students take out a loan, borrow from their loan pool if they qualify or talk to their financial aid department (Sonoma State University... 1999). This may be some form of a solution, but there are deserving learners to whom the lack of a few dollars forms a point of no entry which widens the digital divide.

It would be unethical to provide more for the haves while the have-nots drift further away (Apple 1991:74). In countries like South Africa and other developing nations, implementation of online learning must be a well-planned venture, making sure that nobody is left out in the cold because of the lack of alternative opportunities.

THE BUSINESS CONSPIRACY

Gutstein (1999:196) uses the slow-growth economy of Canada to draw attention to business's infiltration of higher education. New areas of revenue for businesses lie in cultivating areas of social and cultural life that have not previously been subjected to business transactions; this is described as colonising new areas of society. Education is a huge business in many countries, and Gutstein believes that the Chrétien government saw helping IBM and other firms to colonise education, using IT, as one of its essential tasks, with Finance Minister Paul Martin cutting spending, and Industry Minister John Manley promoting IT and corporate partnerships.

Iannacone (1984) shows that the elite groups managing education systems and institutions use a range of strategies to limit political saliency. This cultivation of political quiescence also makes it easier to implement technological education in developing countries which have limited access or which suffer from literacy problems. Many corporate "pioneers" and "philanthropists" are infiltrating countries like South Africa and Botswana, for example, to sell online educational technologies. Although governments and IT multinationals make a non-issue of the fact that many citizens do not have access to online technology, is it right for these countries' educational institutions to spend what little funds they have left to implement technologies? Prospective users who do not have a technology-literate voice will unknowingly facilitate the advancement of the information conspiracy (Gutstein 1999; Wilson et al 1998).

The implication for Noble (1997, 1998a & 1998b) of the "commoditisation" of higher education is twofold - the university becomes a site for the production of the commodities and ends up being a market for them. Some characteristics of this "cannibalistic" state of affairs need closer investigation.

Advertising, sponsorships and proprietary software

Apple (1991:69) mentions the enormous amount of money spent in education journals to advertise products. Companies make themselves guilty of "puffery" as they claim products to deliver more than they do. With advertising allowed on systems (including hardware, software, Internet connectivity and Web space) sponsored by IT companies, there is pressure to slant content towards the sponsor's product. Companies are working to "machine fit" the educational needs and visions of the teacher, students and community. The new technology wants to transform the classroom into its own image by using a technical logic which is more about obfuscation than about facilitating understanding.

Gutstein (1999:224) uses the example of Microsoft as a company which is after the academic market. The company signs up more than 300 academic institutions and 40 000 students a year through its Authorized Academic Training Program, which provides free technical training to teachers and educators and has shaped those academic programs to create Microsoft-certified professionals. In the end they can make sure that the only integrated approach to computing on campus with technical support will be through Microsoft products. Apple (1991:71-72) cites an example of an Apple proposal to donate a computer to every school, but the potential reward to the IT company of such a scheme lies in the schools' purchases of proprietary software to use such computers - in the long term the hardware will be paid for by software licences.

It is very important for higher education institutions to be cautious of any such sponsorship and of advertising deals and schemes. They should strive towards open computing standards and systems that ensure long-term viability with internal ownership.

Central government and university management

The implementation of online technology initiatives with the help of the corporate sector may give higher education institutions a fashionably forward-looking image. Although some value may accompany the fashion, it is a process that will have to be strategically managed.

Cuts in higher education by central government - a phenomenon faced by most higher education institutions in the world today - have made management and the public open to the idea of links into the business community. The notion that information technology could be an excellent economic response to budget cuts can be firmly planted in the public mind. The next step is for the public to accept that higher education is business and that such business should resemble that of the private sector. For Gutstein (1999:206), the next stage of colonisation becomes evident: dissemination of the idea that education is just another area of business activity. He uses the example of the Ontario government, which slashed its education budget and then welcomed Corel with open arms.

Noble (1997) sees the collaboration agreements between high-tech commercial industries and administrations of universities (he uses UCLA as an example) for the advancement of distance learning as a conspiracy to take over higher education. It appears as if the universities' administration and management (in conflict with the academic side) are selling out the institution by pseudo-partnerships, and in the process feathering their own nests. The boardroom, in Noble's view, is taking over higher education. There is already a suspicious exchange of top education officials to the management of high-tech software companies to aid this "fraudulent revolution". Noble describes the strike in 1997 at York University in Toronto as a conflict between the classroom and the boardroom.

The virtuals and the hamburger universities

With IT business getting more involved in the higher education context, numerous online delivery systems have been developed. These are tested and given a trial run at higher education institutions, and are refined as they are used under licence. Experience like this makes the setting up of virtual campuses outside public higher education a likelihood, with the promise that whoever gets content out there and online fast enough will reap the financial benefits. Such ventures fall mainly into two classes: the virtuals and the hamburger universities.

But the question is, whose content? The excuse for the existence of virtual universities has been that face-to-face institutions could not provide training in time. Western Governors' University (which had a disappointing start) was an initiative born of the founding governors' frustration that universities and colleges were not responding to the needs of business and industry, and were not preparing students properly for the new world of work (Western Governors' University (no date)). Course content can come from basically anywhere, as it is competence that is assessed in the final analysis. The danger persists that quality higher education and the liberal arts, which contribute a great deal towards citizenship, may suffer owing to business interests being given first priority and content reflecting business values and skills only. The University of Phoenix currently enjoys the premier position among the virtual universities, offering full degree courses online. On the face of it it seems as if this institution has the correct recipe, as unlike Western Governors' University it has succeeded in raising student numbers dramatically. There are, however, accusations that this institution is a parasite on current face-to-face institutions: these are contracted in for subject content, cheap junior lecturers are employed as tutor support, and lecture halls of face-to-face institutions are used where needed.

The "hamburger universities" are mainly established to provide staff with appropriate skills to further the interests of the particular business and to assure standards and quality of service. MacDonald's Hamburger University is a collection of centres training workers from the restaurant floor upwards. At the other end of the scale there are institutions like DeVry, dating from 1931, which provide degree courses in accounting, business administration and telecommunications management (About the DeVry Institutes....(no date)) Both these

examples address business needs and provide content and skills immediately needed in the corporation or economy - the loyalty is therefore to business needs.

These initiatives are the results of the rush to address business's needs in time. In the case of the hamburger universities, more specific on-the-job or technical skills are provided, whereas the virtual universities like Phoenix provide more general business degrees. They are, however, not providing any form of liberal education towards citizenship, which forms a significant part of a proper higher education.

CONCLUSION

It is apparent that the implementation of online technologies to provide learning opportunities, either at higher education institutions or private concerns, may lead to academic insecurity, low-quality learning content and online imperialism, manipulation of job market needs and, last but not least, society being deprived of the liberal arts input which would produce quality citizens.

For a more balanced implementation, Bates (1991:10) wants educators and not technological idealists in the driving seat. Learners should not be run over by the technology or the business prophets who currently drive the initiative. With the wrong party in the driving seat, Apple (1991:76) foresees more deskilling than skilling , defeating the purpose of the higher educator. He suggests that teachers and students deal honestly and critically with these complex issues. The power of using online technology for teaching should remain in the hands of educators, in order to assure capacity to act against business's attempts to highjack higher education. A democratic and open approach should be followed, removed from the economic and political pressures placed on institutions to get onto the bandwagon.

In conclusion, it may be useful to repeat the caution of Neal Postman (1992:183): "Our local history, originality and humanity should not be blindly submitted to the sovereignty of a technological thought-world."

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