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ABSTRACT

Broad assumptions about the impact of the Internet have created a "cult of hype" where the latest technological advancement is seen as the next best thing, and educators have been swept up in the promise of an educational utopia. The hype tells us that the world is joined by the infrastructure of this new technology and that globalization is now a reality. But the lack of an effective global telecommunications systems is creating a "digital divide," widening the economic gaps among nations. Areas that would benefit most from online education, such as remote areas in Australia and countries with limited economic resources for education, are the very areas that are hardest to reach with new technologies. This may create an even more elitist education system. Because businesses operate virtual classrooms to promote sales instead of learning, online education emphasizes the student as consumer. This approach is reflected in government policies, which have increasingly been influenced by economic rationalism. Online education is more than simply transferring learning methodologies from the classroom onto the Internet. It requires shifting from language-based learning to visual-based learning and understanding how education, technology, and culture impact each other. Little is known about the effectiveness of online education. An understanding of these changes will determine whether online education will become an effective and lasting educational medium or merely another educational gimmick that runs out of steam. (Contains 26 references.) (TD)

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Graduate Paper no. 3

E-commerce and Education

by Tania di Giantomasso

Preface

The students whose papers are reproduced here are doing a Master of Arts (Communication) course at RMIT University in the School of Applied Communications, Faculty of Art, Design and Communication. The papers were written for the subject 'Electronic Commerce: Money, Media and Communication' in semester 1, 2000. The subject connected the study of electronic commerce with the transformation of the form, channel and meaning of money. It also explored the way electronic media are changing the nature of communication. The focus was on the use of electronic commerce in the home in Australia and internationally..

The subject is described in the Subject Guide as follows:

> *In this subject we connect the study of electronic commerce with the study of money, media and communication. We discuss how electronic commerce is changing the media of money, thus changing the meanings and use of cash, paper and electronic forms of payment across cultural boundaries. We also explore how the social meanings of money influence the use of electronic commerce in the home in Australia and internationally.*
>
> *As the Internet gets increasingly domesticated, it becomes important to understand the perspective of residential users. The economic, technological and policy aspects need to be explored within the social and cultural context. Moreover, changes in the nature, form and meaning of money will influence the use of electronic commerce across national and cultural frontiers.*

Dr Supriya Singh, Senior Research Fellow with CIRCIT at RMIT was co-ordinator of the subject.

Introduction

Electronic commerce is continually expanding into many different areas and education is no exception. Electronic commerce, or e-commerce as it more popularly known, is a term that is being used constantly in the media, in business and in education. Business organisations see it as a valuable way to conduct monetary transactions and improve their business frameworks. Other groups see it as a new tool to interact with others or as new medium with which to convey information. Some, in particular educators, view it as a combination of all these domains. At its broadest point, electronic commerce can be defined as 'any type of business transaction or interaction in which the participants operate or transact business or conduct their trade electronically' (NOIE 2000). Many new dot.coms (Internet start-up companies funded by venture capitalists), business organisations and established learning institutions are catching the 'Internet fever' by creating virtual classrooms or by delivering course information online. Some even claim that virtual universities will replace the traditional classroom. 'Thirty years from now the big university campuses will be relics. Universities won't survive. It's as large a change as when we got the printed book' (Sloan 1997).

Although many of the claims about the implications of online education may be excessive, there will be some changes to the way education can be delivered. If so, what will be the ramifications on the way education functions? This paper focuses on whether or not the effectiveness of education online is being considered by relevant organisations and if so what impact these studies are having on the development and delivery of 'virtual classrooms'. It also aims to look at online education from the student's perspective. How are prevailing views of students and learning being challenged and altered by the changes in communication, money and media?

The Internet Revolution

If we were are to believe the current bombardment of hype from the media about electronic commerce, then we must get our organisations online as soon as possible or we will be left behind. As an advertisement for *Business Review Week* informs us, 'Computer companies turning to cars? Retailers becoming media providers? Telcos changing to Internet companies? Where will it stop? It won't. Even the speed of change has changed.' Electronic commerce, however, is not a new development as it has been around ever since the introduction of the telephone. But the emergence of the Internet has strengthened and lengthened the reach of electronic commerce in developed countries with good communication infrastructures. According to data gathered by the Australian Bureau of Statistics in November 1999, 25% of all households in Australia had Internet access (ABS 2000). This highlights one of the important aspects that may greatly influence the use of the Internet – the shift and relocation of workplace and institutional processes, including education, to the home.

The National Office for the Information Economy (NOIE) predicts that Internet-based commerce in Australia will grow from $61 million in 1997 to $1.3 billion in 2001 (NOIE 200). Such estimated figures of growth encourage the hype surrounding electronic commerce. Yet when put into perspective by comparison to all other economic activity in Australia, only a small percentage is being generated by electronic commerce.

The current flow of information from media sources regarding the Internet and electronic commerce implies that the whole world is being affected by this amazing new technology which will vastly improve our lives in the workplace and at home. 'The Internet revolution has smashed down barriers and blurred boundaries', declares Martin Clarke (2000) from *The Guardian*. This current climate of broad assumptions and sweeping statements about the implications and impact of the Internet has created a 'cult of hype' where the latest technological advancement is seen as 'the next best thing'. Educators have also been swept up in the promise of an educational utopia, as many institutes of higher learning, especially in the US and Great Britain, scramble to set up Web-based education (Meister 2000).

The Digital Divide

The 'Internet revolution' has become a focal point for the development of government policy, the restructuring of business practices and the use of electronic commerce by domestic users. The hype tells us that the whole world is joined by the infrastructure of this new technology and that globisation is now a reality. But the word 'global' encompasses the whole world and not just the elite few who have the resources to access and utilise the Internet.

Manuel Castells in *The Rise of the Network Society: The Information Age* highlights the digital divide that is becoming more and more apparent. Internet access is increasing in countries such as Australia, the United States and Singapore but in countries in Africa and Latin America it is increasing at a much slower pace (pp 346-35).

Although Australian access to the Internet is increasing, this is mainly taking place in urban areas. Rural and remote areas are still facing some access problems as telecommunication networks are not as extensive as in urban areas and access to the Internet is more difficult and more expensive (ACA 1998). Overall, Australia has been fortunate in that it has strong history of supporting equality in communications policy and does try to address problems caused by the size of the country. However Trevor Barr (2000) believes that if today's current climate of 'economic rationalism had dominated public policy then, as it does now, Australia's leading-edge telecommunications network, generally agreed to be in the world's top ten national telecommunications networks, would never have been built' (p 149).

The lack of effective global telecommunications systems is creating a 'digital divide' that is widening the economic gaps between nations. 'Half the world's population has no access to a telephone... A single country, Japan, has more telephones than another continent, Africa' (Barr 2000). According to Castells (2000), many countries in Africa are being excluded from the global economy due to large debts and political unrest, which have in turn delayed the introduction of an effective communications infrastructure. The lack of access to the Internet will have massive ramifications for many countries. Not only will they not be able to participate in the global economy but eventually they will be totally excluded from participating at all.

> 'There seems to be a logic of excluding the excluders, of redefining the criteria for value and meaning in a world where there is shrinking room for the computer illiterate, for consumptionless groups, and for under-communicated territories.' (Castells 1996)

It is discouraging to think that the areas which would benefit most from online education, such as remote areas in Australia and countries with limited economic resources for education, are the very areas that electronic commerce finds hardest to reach. Will this create an even more elitist education system where 'consumptionless groups' will be disregarded once they no long fit into the global economy as defined by powerful nations?

Online Education

Educators who applaud the idea of online education insist that learning must be put before any economic advantages. But is this possible when organisations becoming involved in online education use it as a commodity for sale? Increasingly Internet entrepreneurs dealing in online education are treating students as consumers, first and foremost. 'Education has always been at the basis of commerce', said Mr. Rosenfelt, who coined the term eduCommerce to describe the concept. 'Sellers need to teach, and buyers want to learn' (Guernsey 2000). Quite a few educators have become extremely anxious about this shift from student as learner to student as consumer. 'It promises 'knowledge without boundaries' but knowledge is not the delivery and consumption of pre-packaged content, no matter how global the dissemination' (Carr & Kiernan).

Why do businesses suddenly want to invest in online education? According to Meister (2000), this type of investment is taking place in the United States because investors are aware of the 'fragmentation and inefficiency of the education marketplace' (p 2). In the past decade economic considerations, mainly in the form of *economic rationalism*, have already been affecting government policy on education. Learning institutes are increasingly using marketing practices in order to compete for the student dollar. However online education places even more emphasis on the student as consumer because businesses are running and operating virtual classrooms as a means to generate and increase sales not to promote learning. The emphasis is not on learning or knowledge but on buying and selling. Education is used as a 'marketing tool to attract potential shoppers the way other sites use free e-mail or home pages' (Guernsey 2000). However George Connick, President of Distance Education Publications, argues that there are benefits for student within this market structure. 'For the first time, educational consumers have choices regarding what, when, where, how, and from whom they can secure an education' (Cyrs 1997).

However, if online education functions within the structure of the marketplace, surely this will undermine the integrity of education delivery? According to Stephen Barley (1999), we are moving from an historical background of schools providing general education to an era where any organisation can provide training and education (p 59). This will have an impact on the effectiveness of educational outcomes and put economics before the value of student learning.

Current research and discussion focusing on the effectiveness of online education is quite scarce and most of the discourse centres around the technical or economic aspects of running a virtual classroom. This consists of examining different applications for 'Web learning', or the way learning institutions are combining with businesses to interweave the two areas. 'Corporations are looking to partner with universities that offer branded content that is know around the world' (Meister 2000).

Other discussions focus on the way current technology might shape online education. Porter (1997) suggests that 'the future of distance learning depends on the ways newer technologies can be used most effectively to provide high-quality education and training to more people at a reasonable cost'.

Since education online is a relatively new area, there has been no thorough evaluation of its effectiveness. There is no doubt that students enjoy the experience of learning online but that can not be used as evidence of its effectiveness, as indicated by Kenneth Blake (2000) in his critique of a introductory media writing course online. He acknowledged that although the students seemed to have performed better, there was not enough firm evidence to calculate the effectivencss of the outcomes. This was because there was no form of educational measurement that could be applied to the online learning process.

Some educators interested in the influence of online education realize that it does not just rely on transferring learning methodologies onto the Internet from the classroom and that it requires an understanding of the way education, technology and culture impact on each other. Beynon (2000) stresses the importance of using cultural studies to examine the effectiveness of computer-mediated communication and learning. Beynon argues that without such an understanding 'machinery itself is presented as justification enough, with no sense of it being a small part of something infinitely more complex and beyond the acquisition of narrow skills'(p 3). If education providers approach online education from a cultural or social sciences perspective, they will be able to achieve a high level of understanding of the processes, which will drive online education. The argument also stresses the importance of formulating pedagogies that will not only help students improve technical skills but also to 'become aware of the larger social context and consequences of the role of technologies in their own lives and in contemporary society' (Luke 1997). Stephen Barley (1999) also argues for a more cultural approach to establish greater discussion about online education as 'embedded practices and unanticipated side effects often slow technology diffusion, counteract intended consequences, and lead to undesirable secondary outcomes' (p 55).

Unfortunately, this kind of discourse seems to be rare and is continually over-shadowed by the entrepreneurial fervour currently gripping government and business organisations. And it is this fervour that seems to be propelling the pace in which policy (government and business) is being formed. The previous state government in Victoria pushed the introduction of computers in schools as an important part of their education policy. The program, as part of the restructuring of the state education system, 'Schools of the Future', promised an education system that was innovative and a world leader in implementing new technologies in the classroom. However the reality is turning out to be radically different to what was envisioned by the policy makers.

Computers in Schools

Since the introduction of computers into Victorian schools was basically policy driven, little attention was given to the effectiveness of computers in the classroom and it is still an area that is rarely evaluated. This combined with a disregard of important factors such as culture, gender and communication processes has created an environment where the technology is gradually losing its impact on students. As a secondary school teacher I witnessed, and was part of, the introduction of computer technology into a number of state schools and observed the initial engagement of

students with computers. Even I became caught up in the technological euphoria that swept through schools, as teachers hurriedly and quickly set up computer classrooms and information technology courses. I used any opportunity to use computers in the classroom, attending various professional development sessions and eventually taught a multimedia course.

At the time, teachers who taught computer-based subjects were rarely trained in this area. Enthusiasm and a basic level of computer literacy were often all that was required. The initial rapport that students had with computers was amazing and promised a wonderful future for this new technology in the classroom. However a few years after the introduction of computers, I began to notice many students were becoming bored and uninspired by the use of computers. Currently, the wonderment that computers first induced has all but disappeared. Students seem to have no real interaction with computers as an educational tool and they only appear to interact with the computer when they are logged into chat rooms or when they are 'surfing' the Internet for information on their favourite bands or television shows. This is even more apparent in the female students who do not seem to have the same interest in computers as their male counterparts. This has become a major concern to many computer educators who point out that gender issues also need to be addressed when designing and implementing online education (Turkle 1995).

Changes in Learning Processes

Why are students becoming dissociated from the computer? How can the communication processes that engage students in the classroom be translated to online education? What approach is needed? There is no doubt that online education is steadily redefining the communication processes that occurs between students and modes of learning. Dr John Seely Brown sees the Internet as 'generating a shift from linear learning in books to the idea of "multiple intelligence"' (Clark 2000). There is also a growing consensus on the need for a greater understanding of the way students interact with computers. How is information changed when the focus shifts from one of a teacher-cantered classroom to a student-cantered virtual classroom? On the surface, the traditional 'face-to-face' delivery of information will be replaced by a transmission of information from one source to another. Information will be mainly conveyed through text and visuals rather than the spoken word, so will the lecturer/teacher simply become a sender of information?

How will online education motivate and promote interactivity between the student and the information being conveyed? According to Ellen Wagner (Cyrs 1997), this can be achieved by effective feedback given by a lecturer/teacher which should be immediate. After absorbing and reflecting upon the received information, students will generate questions and queries which can not be addressed effectively by using e-mail or other forms of non-immediate communication via the Internet.

There will need to be virtual communities or chat rooms set aside so that two-way communication is available. However Sherry Turkle (1995) argues that interaction with computers delves much deeper than this, as humans interact with computers on a multitude of levels – psychological, cultural and social – and not just on a machine-to-person basis. She argues that using a computer is not just a transmission of information from machine to human but that 'the computer offers us new models of mind and a new medium on which to project our ideas and fantasies' (p 9). The computer no longer becomes a tool but a mirror in which we can view ourselves in a multitude of ways. If we apply Turkle's ideas to education and the way students

create identity through interacting via the online computer, then the delivery of online education becomes a much more complex process of communication.

Education has traditionally relied on the spoken work to convey content and meaning. The teacher would stand in front of the classroom and give the students information, instructions or tasks to complete. Converting education into the new medium of the Internet places a much greater emphasis on the visual aspects of learning and also constitutes a much more individual approach to education, which will be directed by the student. Llana Synder reasons that in order to understanding or deal adequately with this shift from the language-based to the visual, a theory is needed 'which deals adequately with the integration/composition of the various modes in these texts: both in production making, and in consumption reading' (p 73).

This will not be an easy task to accomplish as there needs to be a whole new line of questioning and analysis of how communication via the Internet, and therefore through electronic commerce, defines and reinvents the functions of education. Current semiotics theory, which places language at the centre of creating meaning, only barely scrapes the surface of such questioning (Synder 2000). However as Roland Barthes pointed out, all forms of communication are based on the production and consumption of signs (Castells 1996) and therefore semiotics would be a logical place to start to understand how the computer screen 'talks' to the student user.

What would at first seem like a simple task – to set up some form of education online – is not so simple when the relevant literature has been investigated. There is little knowledge about the effectiveness of online education as well as few studies into how it functions as a communication process. So many utopian assumptions have been made about the impact of electronic commerce. They range from the way it will bring the world together and promote globalism to the way it will create virtual universities which offer quality education for all. The Internet and electronic commerce do have the potential to achieve many goals that would be difficult using other forms of media and communications. The Internet does link individuals and organisations more effectively and puts mountains of information, literally, at our fingertips.

The Impact of the New Technology

The theory of *technological determinism* points to technology as being the force which shapes society, yet we know from our own experiences (and the current dilemmas created by the Internet and electronic commerce) that it is not necessarily the case. (Talbot 2000) describes 'a kind of utopian technological determinism that ... interprets networking facilities as a cradle of community and democracy; encryption facilities as a guarantor of respect for the private individual; and information storage and retrieval systems as sources of deepened understanding'. We have become so technologically driven that we are implementing advancements in technology before we fully understand what impact they have on us as individuals and on the world in general.

The education system in Australia has always seized upon new technology and deemed it to be an important learning tool. Education online is likely to follow this path, as policy and economics propel its establishment in electronic commerce. It is this lack of forethought that will most likely damage the ability of education online to achieve its full potential. There needs to be debate generated about online education that focuses on the way it impacts on students both culturally and socially.

There is no doubt that many aspects of communication, media and money in education are changing or shifting with the introduction of online education. An understanding of these changes will determine whether or not online education will become effective and lasting educational medium or merely another educational gimmick that runs out of steam.

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