"Wake up to the Real World: A Case Study of Cybermedia Project"

Dr Chika J Anyanwu
School of Media and Information,
Curtin University of Technology, GPO Box U1987 Perth 6845 WA
Email: ranyanwu@cc.curtin.edu.au

Abstract

Cybermedia is a double-edged research project aimed at investigating the sociocultural implications of New Media Technology in society. It is also a project used to assess students' performance in a virtual classroom environment. It reconfigures electronic infrastructure to support a virtual classroom unit using a new generation of Instructional Information Management System (IIMS) combined with WEBCT in order to implement an innovative student centred approach to teaching and learning independent of time and space. Some of the objectives of the virtual teaching assessment are:

- to monitor the quality of students' research and learning outcomes from the two environments of study (traditional and virtual classrooms)
- to be able to make informed decisions regarding the use of the new media technology in course delivery in the humanities discipline
- to be able to analyse some of the controversial issues raised by advocates and sceptics of new media technology
- to be able to focus more attention on a student-centred approach to teaching and learning
- to be able to be flexible in the modes of course delivery

Using Cybermedia as a case study, this paper will analyse some of the problems encountered at the initial phase of the research. According to an Internet survey conducted in May of 1999 by NUA online services, about 3.9% of the world population is hooked up on the Internet. This figure shows a dramatic jump from a mere 0.63% in 1995. If this trend is to continue at this rate we can estimate that in fifty years, 50% of the world population will have hooked up onto this global network system. If we also add to this the essentialist role that the new technology has been made to play in modern society, it is logical to say that in twenty-five years, every home will have no choice but to be linked to this network system. When we place this dramatic change in perspective it seems to be logical for universities to think technologically. But the big question is, do we act locally while thinking technologically?

Problems

The euphoria surrounding the new technology has almost clouded an investigative approach to its application in industrial and academic environments. For example, in 1997, the ANZ bank shed most of its customer service staff and diverted customers to use ATMs (Automatic Telemachines) by introducing fees on over-the-counter transactions. The new millennium on the other hand has been heralded with technoconsciousness and nations of the world have seen it as the miracle year of digitopia. This has also permeated industrial and academic environments. One of the goals of Curtin University of Technology is to create an innovative teaching environment, "to train professionals who will be properly informed and equipped with relevant tools to face the challenges of modern society". But the big question is how does the humanities discipline fit in this era of human displacement and technological refocusing? Should we follow the bandwagon of techno-nerds without first exploring our possibilities and limitations or should we make haste slowly?

The new media technology of the Internet has created a new social sphere. Much literature to this effect has appeared within its short period of existence. Educational and corporate establishments have embraced the new media with open arms yet little other than procrastination has been made of the sociocultural effects of this

“alternate world syndrome”. Emphasis has been on its technical efficiency as a substitute for human labour. If modern computers can emulate signs of life such as cerebral (mental?) and physical activities, the boundaries become blurred, and, under some circumstances, we may have difficulty differentiating human life from mechanical life. From all indications it seems that human machine synthesis cannot be retraced. The phenomenon has become a part of modern civilisation (Springer 1996: 19-23).

The question then is how do we ensure that in the process of assimilation we do not lose our human identity or those attributes that give us a sense of belonging and empowerment?

O'Connor (1995), a reporter with the Mercury Times says "every so often when I marvel at the brilliant people who have created computer technology, I am snatched back to earth by evidence of just how insular the computer intelligentsia can be and left wondering about what the people in charge of this grand revolution are thinking".

If virtual classrooms are meant to replace traditional physical classrooms what will be the shape and form of our new knowledge environment? Will we still need lecturers and what new roles will they play in the new dispensation? What of the infrastructure called university campuses shall, we convert them to casinos or gambling houses since that is closer to what we are doing? I foresee a virtual education system where lecturers will be hired on the Internet and allocated students admitted via the Internet, where the lecturer is charged with the responsibility of designing specific course packages that suit the expectations of these virtual students. I foresee a future where universities will only be programs on the global computer network, controlled by corporate establishments and lecturers will be known as Service Packaging Officers. We are fast moving from ivory towers to computer towers. We are fast dehumanising humans and humanising machines. The line separating the artificial from the real is becoming very thin in our technological age. The danger according to Woolley (1992: 2) is that the perfection of the artificial over the natural leads to a neglect of the natural. In one way or another humans are enslaved and colonised. (*Note Rousseau’s ‘Social Contract’ “Man is born free - but everywhere he is in chains*”). Two things are happening in this age of the superhighway: at one level is the “economic cycles of boom and bust” at the other end is the “revolutionary restructuring of markets, culture, technology and work” (Plunkett 1994: 36). In the face of these technological contradictions, how do disciplines in the humanities contribute to the evolving debates?

Strategies

In 1996 Cybermedia was started as a simple philosophical inquiry into the position of humans in the age of information technology. Its objective was to see how the humanities could contribute to the raging new technological debate. It focused on analysing such topics as Cyberspace, Cyberculture, Cybercorporeality, Cyborgs, Cyberconsciousness, Cybersexuality, Cybercommunity, Cybersphere, Cyberethics, Cybereconomy, Cyberentertainment Cybernarrative and Cyberwar. As a critical inquiry into the realm of New Media Technology it was considered logical that for the research to produce a balanced and objective analysis it would have to be immersed into its medium of analysis (Cyberspace). In 1998 an academic research unit was designed with final year undergraduate and postgraduate students in mind. The aim was to introduce them to critical appreciation of the imports of new media technology. In the process dimension, students develop, practice and refine skills and competencies requiring them to make critical judgments regarding the nature and impact of these technologies on society - as it now exists, and as it might become. By re-situating the classroom from the physical to the virtual, it is expected that students’ ‘lived’ experience of the object of study (the Internet) will enhance their understanding of the subject matter and improve their critical skills. At the same time the unit became a reflexive tool for the pedagogical investigations of the original Cybermedia Research. It became necessary to carry out a comparative study of students' performances in the unit using the two environments of study as variables. The data gathered from the 1999 physical classroom environment formed the baseline data that will be triangulated with data gathered from the virtual classroom environment in 2000.

Anticipated Outcomes

It is expected that at the end of this study we should be:

- able to extend this project to other critical courses
- able to identify the new media technology as both a discipline and tool of study
- able to create a simulation effect in the learning process where students' immerse themselves in their environment of study and develop first hand unbiased critical skills able to monitor the quality of students' research and learning outcomes from the two environments of study (traditional and virtual classrooms)
- in an informed position to make decisions regarding the use of the new media in course delivery in the humanities discipline
- able to redefine the role and position of the new humanities in a changing technological world
- able to put to rest controversies among advocates and sceptics of new media technology as effective alternative to classroom teaching
- empowered teachers with professional tools of assessment
- able to focus more attention to student centred learning
- able to create flexibility in the modes of course delivery.

Similarly, students should be able to have:

- a validated course design ensuring that, on completion, they will be computer literate and critically aware of both the implications of technological convergence, and attendant sociocultural developments of the information superhighway.
- quality controlled on-line publications of their scholarship and research.
- publications that give them an early start in the academic tradition of original contribution to knowledge.
- their research projects online, which limit duplication of research efforts and instead encourage cross-institutional research portfolio.
- the empowerment of both contextual and practical knowledge of the Internet through self immersion and manipulation of the virtual environment
- a situation where they experience the same learning challenges as their lecturer

Methodology

According to David Carter in his unpublished paper titled "Articulating Curriculum Purpose with Student Assessment", there are two ways of using technology to achieve an information rich environment. One is for the purpose of automating and the other is for 'informating'. It is evident that an academic environment cannot be advocating for the automation of curricular but for informating. To informate therefore is to "empower educators as professionals". IIMS (Instructional Information Management System) provides a tool for analysing students' progress. Related instructional histories of individual students can be recreated over differential time periods and compared with a range of variables for decision- support/learning activities. It automatically records detailed audit trails as individuals use it, supervisors can obtain profiles of how the performance of their students are changing by viewing sets accumulated over selected periods of time. Similarly WEBCT has a student tracking mechanism which helps a tutor monitor how often a student makes a contribution to any discussion or posts messages to an ongoing discussion. Data from WEBCT will be augmented with data from the process, meta and summative evaluations being carried out at intervals during the research. It is anticipated that barring all obstacles, the quality of students' research output in the virtual classroom should be higher than the quality of research from the physical classroom environment.

Research Questions

The major question is are we creating computer based learning as a way of enhancing our availability and efficiency with students or as a way of alienating ourselves from students? After adding all the intangible costs involved in online delivery such as time, energy, personal contact, anxiety, technical support etc. do we still feel that online teaching is more efficient or is worth the sacrifice? Are we more productive online than off-line? In the age of global education network what percentage of the world population can have access to such hi-tech

education? Are we in fact creating educational disenfranchisement in the name of globalisation? What is the rationale in creating an online education for students who have physical access to a classroom environment? What is the rationale in creating an online education for distance education students who have no access to the facilities of retrieval? These are some of the problem questions that this paper will be focusing on using the ongoing experience from Cybermedia Research.

Challenges to Changing Educational Structure

Education is arguably the first and most important tool of colonisation. Colonisation in this instance is not limited to physical conquests of land and people. It includes the mental and ideological displacement of people's values and beliefs. These belief systems have been built and protected over the years. They have stood the test of time. It takes more than wishful thinking and rhetoric to change them. Even though "we are witnessing the demise of the traditional, nationally based, 'bricks-and-mortar' university, and the rise of the globalised, networked and 'virtual' university", it suffices to note from the result of a study with Cunningham et al in *New Media and Borderless Education*, that Flew believes that "the rhetoric of globalisation and media involvement far outstripped the reality" (Terry Flew 1999:34). In other words there is more hype than reality in the process of virtualisation of education.

What is global about globalisation? One of my students emailed me an interesting analysis of globalisation which reads: "a*n English princess with an Egyptian boyfriend crashes in a French tunnel driving a German car with a Dutch engine, driven by a Belgian driver, who was high on Scottish whiskey, followed closely by Italian Paparazzi, was treated by an American doctor, using Brazilian medicine*"{perhaps we should add} *and mourned by the whole world".* The above scenario may be funny but it is as serious as the tragedy that befell the parties involved. Their tragedy can be linked to the incongruities of their backgrounds that ranged from religion, culture to politics. They had only one thing in common, power/influence. They used this position to subsume their differences. Similarly, the power of the Internet (as a homogenising tool) has subsumed the cultural and geopolitical differences of people. While globalisation is a form of neo-colonialism where the non-western Other is placed in a deceptive position of artificial competitiveness, it is a system that uses what Robert Stam would call the 'fictive we' to subjugate us through what Roland Barthes would call a 'subjective nominated truth'.

John Tomlinson (1999) sums up the reality of globalsiation thus:

> *The culture that is currently emerging via globalisation is not a global culture in the utopian sense. It is not a culture that has arisen out of the common experiences and needs of all of humanity and it does not represent a confluence of divergent cultural practices. It does not draw equally on the world's many cultural traditions. It is neither inclusive, integrative, pluralistic, balanced, nor, in the best sense, synthesising. Rather globalised culture is the enforced installation, worldwide, of one particular culture, born out of one particular, privileged historical experience. It is in short, simply the global extension of western culture (in Mackay and O'Sullivan p.167)*

Tomlinson's views are in line with Johan Galtung's (1981) structural theory of imperialism which divided the world into two parts: the centre and the periphery. This structure also determines the flow of information around the world. While industrialised nations occupy the centre of information the developing worlds are at the periphery of information flow. With the borderlessness of information technology it is worth knowing that geographical borders have ceased being the defining agents for rich and poor nations. The United States of America and Australia are good examples. In these societies we have the richest people in the world and also have the most downtrodden members of society. We have some of the most accessible and the most isolated.

Dreams and Reality

Professionalism, there are many dreams regarding the implementation of computer based learning but there are fewer realities at present. The major obstacle is our failure to distinguish between using computers as tools for learning and seeing computers as *the* new knowledge environment. The first is and has been successfully utilised by many academics and students irrespective of their economic and social background. The latter is the big concern and what I call the *dream factory*. As a tool the computer could enhance teaching and learning and

act only as an enhancement. But as a dream factory, the contradiction is that almost anybody who can operate the computer and use computer programs to design WebPages can now front up as an IT specialist. These people design courses that have big names with no content. Students are lured into such courses. We are fast blurring the line between computer specialists and domestic applicators of computer programs due to the urge to sell our courses to international markets.

Technical support, as an academic with little computer background other than staff development courses on various computer programs and application, especially in relation to the programs I need to get my units online I cannot pretend to have all the technical answers to students' questions. Having set up the Cybermedia unit and testing to make sure that everything worked we started our two weeks of physical acclimatisation interaction in computer labs before leaving for our various comfort zones. In week one everything went smoothly. Students were excited and enthused about what they regarded as the coolest of medium. Postings and discussions started flaring from every angle. Email started popping in from every angle. We had over 65 postings between seventeen students in one week.

In week two, I started the process of updating and summarising the points and shifting the discussion to the next week's topic and it happened! I inadvertently erased the entire week's discussion instead of updating it. "All is not lost, relax," I said to myself "I have a backup in the server". First thing the following morning I rang our technical support team for help but was told my backup did not include the current discussions. The backup system does not automatically update itself. In addition, the backup facility only allows three backups per unit because of space. In one week I learned that all my dreams of hassle free online teaching can cost me an entire semester's work. What if this had happened in week four or five or even towards the end of semester when these students will be getting ready to graduate? Can we justify that all their dreams could be erased by a click of the mouse? The next question is, can I quantify the anxiety and sleepless nights I had because of this experience? Have I really saved more time in this unit since we went online than when it was running in the physical classroom environment? I spend an average of two hours online everyday updating and replying to students' queries on this unit including weekends. This translates to 14 hours a week without any physical contact with the students.

Physical contact, at the end of week two (being the last physical contact day before we disappeared to our various places of comfort for online interaction) one student asked, "Chika, can we still see you or do we have to resort to emailing you?" Simple as this question may seem, it gave me some food for thought. What is my role as a lecturer in this new environment? Am I just an instrument used to deliver information to these students or am I also a confidant who they need to come to when they have problems that technology cannot deal with? Can technology replace our human values and can we separate learning from emotional attachment?

After reflecting on the question I told them to come and see me as often as they need to but for problems pertaining to the unit we should try as much as possible to exhaust all the possibilities that the new medium offers before we meet.

Access, according to proponents of the Internet the medium is an alternative medium of interaction for the disenfranchised. It is a kind of public sphere or “an open frontier for those oppressed by social norms-patriarchy, capitalism, sexual ideologies” (Shields 1996:9). As early as in 1980, Yoneji Masuda in the book *The Information Society as Post-Industrial Society*, predicted that the information age will empower individuals to take control of their own environments and to find information and education on issues of specialised interest.

Reality, the medium has indeed enabled some students to combine study with other private activities. But is has also denied some students the opportunity because it unfortunately operates on the biblical principle of giving more to those who have and removing access to those who have not. Two postgraduate students wanted to enrol into Cybermedia unit as external students living in the country in Australia, but they could not because even though they could access the unit via remote access they had no access to library facilities in order to make use of the set texts for the unit. The available texts could not be uploaded online due to copyright restrictions. These student could not borrow the books from the library as external loans because they have been put in the closed reserve for students on a two-hour borrowing basis. On the other hand, a student from Singapore was able to go

back home to her parents because she discovered that she could comfortably do the same unit from her home with enough library and Internet access. I am sure that this situation is not peculiar to Cybermedia.

The issue of access is affected by many factors including the following:

Electricity, computers are still dependent on electricity and even though laptops can operate on battery they still need constant electricity to recharge. While western societies can boast of constant supply of electricity, many developing and rural communities do not have such luxury.

Telephone lines and modem, according to Inayatullah and Milojevic (1999) two thirds of the world population has never used a telephone. 90% of the global information is stored in English but there are more than 6000 global languages (Afeman1997). Gajaraj Dhanarajan (President of the Commonwealth of learning, Vancouver) in his paper at the 1998 AMIC Symposium in Singapore said: “Even as we near the end of the century, some 500 million people may not have made their first phone call let alone use the Internet”.

Computer hard and software, if the above statements are correct then we have a lot to be worried about regarding the global nature of virtual education. According to the following survey Internet access is still predominantly a North American preserve.

World region	Internet Users (Millions)
Asia Pacific	26.97
Africa	1.14
Europe	35.55
Middle East	. 88
North America (Canada and USA)	88.33
South America	4.63
World total	158.5

(Source: NUA Internet surveys March 1999 http://www.nua.net)

Economic ability, many students from Australia and South East Asia have remote access accounts and even mobile phones which they subscribe to and pay for. How many people in the developing world can afford any of these facilities? According to GVU's 10th WWW User Survey of October 1998 which covered the USA and Europe with a sample population of over 5000, the following important results came out: respondents with college degrees accounted for the largest percentage of experts in computer skills. They also discovered that there were some experts who were still in high school and some novices who had a PhD. This finding proves the fact that academic literacy is not an automatic passport to computer literacy or Internet access. Their respondents were predominantly white (87.2%) which also shows that apart from cultural subjugation of non-western Others the Internet is an extension of physical economic exclusion. Despite the multiracial nature of the United States and some parts of Europe, African-Americans accounted for only 1.7% while Asians accounted for 2.9% of Internet users who had been online for more than a year. Trained professionals constituted 27.4% followed by middle management professionals with 10.5%. Students made up 10.4% and self-employed people 10%. The average annual income of these users was $57,300 (US). According to the findings students and researchers are more likely to be from Europe than from the US. In terms of access, 78.7% accessed the Internet from home and almost a third of respondents never accessed the web from work.

If we compare this trend with their profession it implies that only students and academic staff members can access the web regularly from work while many private establishments would restrict such practices if they are not work related. The survey also confirmed that the majority of Internet use is for entertainment.

By simply looking at the average income of these users and their profession it is clear that they do not belong to the low-income bracket. This also proves that the Internet is presently a pastime for yuppies (young urban professionals) who, according to Grossberg (1998:211) have a lot of disposable income.

Fujitsu Research Institute of Tokyo conducted another survey in September 1998. According to their findings there is a growing number of women Internet users, from 22.2% in 1997 to 27.8% in 1998. Generally, there was

a drop in employee users of the web from 64.9% in 1997 to 57.4% in 1998. This drop can be accounted for by the Asian and Japanese economic recessions which have made employers more stringent in resource management.

Compared to their first survey, the number of respondents who cited "work or study" as their primary purpose for using the Internet declined, while "entertainment or personal interests" surpassed 70%. The number of respondents who accessed the Internet from their homes (64.7%) was double the number of users who went online from their workplaces (32.3%). We can see that the two surveys have similar results even though they represent different cultural environments. What we can deduce from these results is that Internet facility excludes the unemployed, uneducated, and non-western Others with poor economic support.

Literacy, literacy is a necessity for any virtual classroom implementation. It is also necessary to bear in mind that our thought processes over the years have been conditioned by the linear structure of our reading and writing habits. Similarly, it is not enough to just change our pattern of reading and writing from text to screen, it is necessary to understand the binary logic of the computer screen and programs. Using Afeman's figures above we should also realise that majority of people who speak English as an official language do not necessarily think in English, therefore their interactivity on a network constructed in such an alien language is limited if not inhibited. As a textual medium of expression those who can write faster eventually dominate those who cannot. While developed non-English speaking countries can afford communication servers in their own language, poor nations without such facilities rely on rich nations to grant them access to this interactive network. By simply adding up just India and Bangladesh’s illiterate population and putting the figure alongside the entire United states, UK and Australia with their almost 100% literacy rates we will discover that less than 1/4 of the English speaking world population can read and write. However this fact is hardly known because the decision-making processes of global information comes from the powerful minorities of the world population.

In effect a medium such as the Internet which requires such literacy skill only consolidates the marginalisation of the illiterate majority of the world population. Access to the network can only be defined as communication between the information rich at the exclusion of the information poor and illiterates. And if we classify this disparity by gender, we would see that women in information poor nations are the underdogs of society. For online education to be effective whether for domestic or international use, computer literacy should be targeted first, at primary school level and then high schools before it can become a prerequisite in university education. It is almost impossible to expect computer literacy from every international student especially those who come from societies where such tools are still exclusive to the rich and famous. Another factor to consider is the level of staff computer literacy and skill. From the above GVU survey we know better than to assume that every lecturer is computer literate, even in the developed world.

Transformation, technological transformation has two parts to it, human transformation and technical transformation. We often forget that for every change in human mobility there is an equal amount of mental displacement. The non-linearity of computer mediated information (such as hypertexts) infers that the mental comprehension of its coding process operates by a displacement of a linear thought process by a non-linear decoding activity. This is one of the areas of contradiction in literary discourse. It therefore means that computer mediated education system is easier to adopt in the physical sciences than in the humanities.

Terry Flew (1999) listed five Ps of concern in establishing global/virtual university network:

Practical issues of cost, intellectual property, core business and student access
Pedagogical issues of education versus training and technology versus cultural differences
Policy issues of accreditation, consumer protection and quality control
Philosophical issues of imperialism, equity and nature of university systems
Personal issues of attitude of staff and students towards technology and change

The above analyses seem to fall under these P concerns of Flew except perhaps the last Personal issues of attitude of staff and students towards technology.

Of the present twenty-three students enrolled in Cybermedia, the last six did not enrol by choice. Three of them had earlier enrolled and withdrawn from the unit when they discovered it was to be run purely online. They said they dreaded online environments. The other three did not elect to do it at all but when they discovered that one of the other units they were enrolled in was not running during the semester they had no other choice but to transfer into Cybermedia in order to graduate at the end of the semester.

Surprisingly, these students have made valuable contributions and have confessed to loving the forum discussions and study plan more than their previous physical classroom environment. The most impressive style of the unit is its asynchronous nature which gives the students ample opportunity to joggle their time and work at their convenience. From the feedback to date flexibility is the most important thing that students need in their study. The flexibility offered by online Cybermedia is that students do not have to be at any venue at any particular time. They have one week within which to make contributions to the topic of the week from any remote location or laboratory of their choice.

Perhaps the major problem of adjustment lies more with lecturers than with students. Educators who have held positions of authority for years must be willing to sublet their powers to the learners because virtual education contradicts authorial supremacy. Educators should be prepared to accept the changes and all the realigning implications of such change before any virtual education takes place successfully. According to Ohmae Kenichi:

> *"It is hard to let old beliefs go. They are familiar. We are comfortable with them and have spent years building systems and developing habits that depend on them. Like a man who has worn glasses so long that he forgets he has them on, we forget the world looks to us the way it does because we have become used to seeing it that way through a particular set of lenses. Today, however, we need new lenses. And we need to throw the old ones away" (Dhanarajan 1998:15).*

Another issue of concern is that even though some people opt not to participate, decisions are made without their direct control. Universities make decision to implement computer-based learning with or without students' consent yet the data for such decisions are based on such students. The by-product of this global technological network is data or the creation of a database. Both the producers and consumers of virtual education or global education are also part of this data discourse. This is one of the arguments of Mark Poster's (1995) panopticon thesis which says that the database is a discourse. It negates authorial position because it is authored by many. The database belongs to no one and everyone yet it belongs to someone, the social institution that owns it as property, the corporation, and the nations that control it. His super-panopticon (a process where our private actions are effortlessly public through our high dependency on technological surveillance such as credit cards, email and now education) exemplifies this imbalance in global information discourse. The producers of information claim ownership of the database yet the content of the database belongs to the consumers who in most cases cannot afford to control or produce their own. Global education or virtual education is perhaps the peak of intellectual colonisation backed by capitalism. How can we justify a homogenous educational system in a virtual environment where those who will have access to it are only those who do not in fact need it? We have come to a stage in human history when it could be said that whether we are hooked on to the World Wide Web or not we are hooked all the same. We can no longer use the term information poor or rich rather we should be focusing our discussions on information producers and consumers. We should be critically analyzing the ambiguities surrounding the notion that the Internet is the great equalizer or the hope of the disenfranchised. We can say that the problem confronting modern society is not information drought, rather information overload. Our focus should therefore be on how to manage such information overload while balancing the inequality between information producers and consumers.

Computer mediated education is a capitalist construct and as such acts as an agent for state/institutional control. According to Clark and Dear (1984:36) state apparatus refers to the "mechanisms through which state functions are executed" and, state function "refers to those activities undertaken in the name of the state". Educational policies of a state fall under state function and any agent of its enforcement either directly or indirectly falls under state apparatus. State policies are in most cases determined by the economic policies of the state. In Australia, especially with Amanda Vanstone and David Kemp as ministers of education the educational policies of Australia have reflected the changing global economy.

Educational institutions are made to become almost self-supporting. Such capitalist challenge on academic institutions means that drastic measures are taken to bring them into line with business establishments. Such drastic measures range from merging departments, retrenching staff, and phasing out "non viable programs" to the aggressive marketing of courses which include staff and institutional profiles for international competitiveness.

One such marketing strategy is the incorporation of hi-tech infrastructure into the classroom in other to attract local and international fee paying students and for greater flexibility. On the one hand such gimmicks attract many fee paying students who see such high-tech institutions as institutions of the future.

Those other students who also see future employment as dependent on technological innovations and applications rush into such courses and institutions. Many of the local students also see flexibility in education as key to their success in life because it affords them the opportunity of studying at their convenience. A study carried out by this author in 1998 using Curtin University students as a case study, revealed that over 85 percent of undergraduate students engage in one form of employment or another while schooling. The research also revealed that the majority of the students chose to work as a sign of independence rather than as a result of financial constraints. If this result is general to every Australian University we can be tempted to say that such students will find flexible delivery more rewarding than the traditional mode of education.

The big question however is, is flexible delivery synonymous to online delivery? Perhaps this is one of the major contradictions facing many institutions confronting hi-tech education in Australia today. Many institutions have assumed that flexibility in teaching and learning is achieved by uploading every course material on to the world wide web or by creating online versions of every discipline. Are the students consulted when such decisions are made? If we now see them as clients by virtue of their payment what adequate arrangements have been put in place for them to seek redress when they feel cheated by our contract? We have created a situation where international students (with more money) are lured onto our campuses to utilise our promoted innovative hi-tech mode of delivery and at the same time our domestic students are yearning for flexible mode of delivery through their work commitments or habits.

The corporatisation of educational institutions infers that students have ceased being novices under institutional tutelage. They are and should be seen as clients or customers. Lecturers must therefore deliver the goods as and when due. This type of situation raises some questions and concern. What type of academic challenges face modern day educational institutions? According to Steve Visard during his 1999 Andrew Olle Memorial Media Lecture, the difference between the media and other production factories is what comes out at the end of the factory line. In our case the difference between the capitalist enterprise of educational institutions and other business enterprises is the end product of the transaction (intellectual production). Are we producing need-oriented (designer) educational programs for society or are we having mass production of graduates because it is cheaper to service one million anonymous barcodes (called students) for quick profit and national accolades as high educational exporter? We have to wake up to the reality of the challenges ahead in virtual classroom education. There is more hype than hope and we cannot replace human values with computer programs.

References

Afemann, U. (1997) Internet for the Third World: Chance or Threat, (Online) http://www.uni-muenster.de/EthnologieHeute/eh1/afe.htm#beginn accessed 4 March 00

Ang, Ien "In the Realm of Uncertainty: The Global Village and Capitalist Postmodernity" in Crowley, D. and Mitchell, D. (eds.) (1994) Communication Theory Today. Cambridge, Polity Press (p.194)

CIA (1997) World Fact Book Washington, D.C.: Central Intelligence Agency, UM-St Louis Libraries Edition, Derived and modified by Raleigh Muns April 1998, from http://www.odci.gov/cia/publications/factbook/index.html (accessed June 1999)

Clark, Gordon L. and Dear, M. J. (1984) State Apparatus: Structures and language of Legitimacy, Boston, ALLEN and UNWIN

Dhanarajan, Gajaraj (1998) "Learning Technologies: Transmitting Information or Transforming Education" Paper delivered at Asia Media Information and Communication (AMIC) Symposium, Singapore Nov.1998 quoting Ohmae Kenichi in Carrol, J Surviving the Information age Canada, Prentice Hall

Flew, Terry (1999) "The Virtual University: Mickey Mouse or Real Learning?" AQ (Journal of Contemporary Analysis Balmain NSW January-February issue

Galtung, Johan and Ruge, M. (1981) “Structuring and Selecting News” in S Cohen and J Young (Eds), The Manufacture of News**,** London: Constable**.**

Graphic, Visualization, & Usability Center's (GVU) 10th WWW User Survey run from October 10-Dec 15 998. http://www.cc.gatech.edu/gvu/user_surveys/survey-1998-10/ (Accessed June 1999)

Grossberg, L., Wartella E., and Whitney D. C. (1998) Mediamaking: Mass Media in a Popular Culture, California, SAGE Publications

Inayatullah, S. and Milojevic I. (1999), "Exclusion and Communication in the Information Era: From Silences to Global Conversations, in Harcourt, W. (ed.) Women @ Internet: Creating New Cultures in Cyberspace, London, Zed books

Japanese Internet Users Survey by Fujitsu Research Institute (FRI), survey period: 3/1/98 through 3/8/98 http://www.fujitsu.co.jp/hypertext/fri/cyber/research2/index-e.html (accessed May 1999)

Kitchen, Rob (1998) Cyberspace Sussex, England, John Wiley and Sons

Mowlana, Hamid (1997) Global Information and World Communication 2nd ed. London SAGE

O’Connor, R. (1995) “They, Insiders: Technology fails As the Great Populist Equalizer" San Jose Mercury News http://newslibrary.krmediastream.com/cgi-bin/search/sj (accessed June 1999)

Poster, Mark, (1995) The Second Media Age, Cambridge UK, Polity Press

Shields, Rob, (1996) Cultures of Internet: Virtual Spaces, Real Histories, Living Bodies London SAGE Publications

Springer, Claudia (1996) Electronic Eros: Bodies and Desire in the Post-industrial Age, Austin, University of Texas Press

Tomlinson, John (1999) "Cultural Globalisation: Placing and Displacing the West" in Hugh Mackay and Tim O’Sullivan (eds) The Media Reader: Continuity and Transformation, London: SAGE

Williams, Raymond (1990) Television Technology and Cultural Form, 2nd edition London, Routledge

Woolley, Benjamin (1992) Virtual Worlds: A Journey in Hype and Hyperreality, Oxford UK, Blackwell Publishers