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# Knowledge in the Marketplace: The Global Commodification of Teaching and Learning in Higher Education

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## Introduction

This chapter presents the commodification thesis as it applies to teaching and learning in higher education in the context of globalization, internationalization, and the knowledge economy. Research on higher education has traditionally veered between two approaches: on the one hand, theoretical frameworks which position universities as reflecting the configuration of forces in the socio-economic context; on the other hand, frameworks which detach universities analytically from the macro socio-political context in order to study their inner workings. Less attention has been paid to the *interaction* between macro forces such as those associated with globalization and the activities that occur within universities, including processes associated with internationalization. This chapter takes a step in this direction by examining the relationship between the 'macro' forces impacting on higher education and the 'micro' processes of learning and teaching in universities. It therefore begins by examining the extent to which contemporary ideological, structural and economic developments in higher education apply pressures on universities to commodify and internationalize the educational process. It then draws on the recent literature on teaching and learning to outline key features of effective education in order to assess the possible impact of commodification on student learning. One major approach to internationalization, virtual education, is selected as a site that is particularly vulnerable to forces of commodification. The chapter illustrates how the repositioning of virtual higher education as an international service operating mainly on the basis of economic considerations is inimical to high quality learning.



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## Forces Impacting on Teaching and Learning in Higher Education

Higher education in the context of globalization has been positioned as a crucial site for the production and international dissemination of economically productive knowledge, innovation and technology (Carnoy 1994). In relation to teaching and learning, there are growing pressures on universities across the world to equip greater proportions of the population with higher order skills that can be used productively in the knowledge economy. In relation to developing countries, powerful global regulators such as the World Bank formerly held the view that higher education offered lower individual and social returns than primary education. However, this view, which led to the systematic under-development of higher education, has changed. There is now widespread acknowledgement that quality higher education is essential for developing economies to escape a peripheral status in the world economy (see Task Force on Higher Education in Developing Countries 2000). In particular, in both developing and industrialized countries, there has been an increasing pressure on universities to impart to students the skills, knowledge and dispositions related to innovation and the ability to 'learn how to learn' in order to continuously upgrade their skills in tune with the demands of a changing global economy. Interestingly, these emerging expectations from government and industry resonate with more traditional understandings of high quality learning held by academics in general.

At the same time, changes associated with globalization and the knowledge economy have given rise to developments which apply pressures on universities to commodify teaching and learning and 'sell' it in the international educational marketplace. A powerful ideological force linked to the rise of the New Right (see, for example, Brown & Lauder 2001) that has impacted on higher education in the present period is the expectation that public universities contribute in a relatively unmediated manner to economic productivity. According to this ideology, the performance of universities has become more central to economic success in a context where the strength of national economies is perceived to be dependent on high value goods and services, which are in turn dependent on sophisticated scientific and technological knowledge. The conception of higher education as a 'public good' has therefore become somewhat eclipsed by the redeployment of higher education as an industry for enhancing national competitiveness and as a lucrative service that can be sold in the international marketplace (Naidoo 2003a).

Structural changes have also applied pressures on universities to commodify education. There is a global trend away from forms of funding and regulation that were based on the 'social compact' that evolved between higher education, the state and society over the last century (Marginson & Considine 2000, Newotny, Gibbons & Scott 2001). For example, the belief that universities require relative independence from political and corporate influence to function optimally, which was in turn linked to the need for guaranteed state funding and professional autonomy, has been eroded. These developments, together with more general retractions in public policy away from frameworks based on Keynesian welfare state settlements, have resulted in the

implementation of funding and regulatory frameworks which revolve around neo-liberal market mechanisms and new managerialist principles (Dill 1997, Deem 2001). Such frameworks are based on the assumption that the contemporary higher education system has become too large and complex for the state to sustain its position as sole regulator and funder, that market competition within and between universities will create more efficient and effective institutions and that management principles derived from the private sector which monitor, measure, compare and judge professional activities will enhance higher education functioning. There has, therefore, been a world-wide decline in state funding for research and teaching and the deployment of mechanisms such as league tables to exert pressure on universities to comply with market based regimes.

This has led to what Slaughter and Leslie (1997) have termed 'academic capitalism', which describes the 'marketization' of public higher education and the rise of research and development for commercial purposes. Higher education has also seen an influx of direct corporate involvement due to the relaxation of state regulation over the recognition of degree granting institutions (see Naidoo 2003b) and the increased potential for profit. Finally, the technological advances associated with globalization have given rise to virtual higher education. We will return to these themes in later sections. Our argument is that the forces unleashed on higher education in the present context have propelled universities to function less as institutions with social, cultural and indeed intellectual objectives and more as producers of commodities that can be sold in the international marketplace.

## The Commodification of Higher Education

In order to understand the impact of pressures for commodification on universities, it is useful to turn to the work of Bourdieu (1996). According to Bourdieu, universities exist in a 'field' of higher education, which he characterizes as a conceptual space that is relatively autonomous and relatively insulated from the direct forces of political and economic pressures. Activities in higher education have traditionally revolved around the acquisition of assets invested with value in the field which he terms 'academic capital', and which are based on academic (rather than economic or political) criteria such as a contribution to knowledge, peer recognition and the intellectual development of students. The logic underlying activity in the field of higher education has therefore been historically shaped by deeply ingrained values and professional protocols which revolve around the competition for academic capital.

Forces for commodification impact on universities by altering the nature of rewards and sanctions operating in higher education and by reconceptualizing education as a commodity. Academic success therefore shifts from being measured according to academic principles to being measured according to narrow financial criteria such as the number of student customers captured and the degree of financial surplus created. Commodification in higher education can therefore be defined as the

transforming of educational processes into a form that has an 'exchange' value, rather than an intrinsic 'use' value. Commodification also implies that education processes and knowledge can be 'captured' and 'packaged' in order to be bought or sold under market conditions across national boundaries and that this can be carried out independently of the producer. A related concept is that of 'commodity fetishism' which refers to the transformation of social relationships between people into relationships between things. So it is not merely knowledge that is packaged for sale but the educational relationship itself that is transformed into a relationship that is dependent on the market transaction of the commodity; the lecturer becomes the commodity 'producer' and the student becomes the commodity 'consumer'. In this way, the pedagogic relationship is disaggregated and each party is invested with distinct, if not opposing, interests (Naidoo & Jamieson 2002).

We turn now to an examination of the effects of commodification on the quality of student learning. We begin by outlining some of the essential characteristics of effective learning in higher education before assessing the effects of commodification on the particular site of virtual education.

## Effective Learning

Teaching and learning is complex and it is important to acknowledge that there are still energetic academic disputes over models of effective learning. In psychology alone behaviourists still vie with cognitivists and constructivists in providing explanatory frameworks for learning, and these three groups have been joined more recently by insights from cultural psychology. For behaviourists the idea that learning occurs as a response to a stimulus (a text, specific experience, an experiment) is still a powerful one. The cognitivists are associated with models of brain processing, or more strictly information processing, and they have obvious contributions to make in areas like memory. The constructivists' major contribution has been to emphasize the importance of the learner as an active agent in understanding phenomena, and it would be fair to conclude that "most contemporary psychologists use constructivist theories of one type or another to explain how human beings learn" (Fry, Ketteridge & Marshall 1999: 22). Finally, the cultural psychologists shift emphasis away from an individualized model of learning towards one which emphasizes that a great deal of learning takes place in groups and communities, and thus learning becomes part of the process of enculturation or initiation into 'communities of practice' to use a term from Lave and Wenger (1991). Although it is useful to have an understanding of the psychological models that underpin learning in higher education, as Entwistle (1990) has argued, we have made progress in our understanding of learning in this context because we have moved beyond the application of general psychological theories of learning towards the examination of the educational process itself.

Entwistle and Tait (1989) offer a heuristic model of the teaching and learning process in higher education which specifies a range of student characteristics (intellectual abilities, cognitive style, personality and so on); a range of teaching characteristics (including teaching methods and aids); and what they call 'departmental characteristics' (such as workload, feedback, and study skills support), which are important in determining a learner's progress. Summaries of research like that of Fraser, Walberg, Welch and Hattie (1987) come to very similar conclusions: that learning is a function of student variables, instructional variables and environmental variables. Although this is a complex field, if one focuses on those variables which are in principle open to change i.e. factors relating to the process of higher education learning, and one combines research findings with what one might call 'evidenced based practice', then it is possible to build up a picture of what an environment of high quality learning and teaching looks like.

One of the most important principles to arise out of the literature is that effective learning is highly dependent on the relationships between students and lecturers and among students themselves. The quality of these relationships is crucial; ask any successful learner about significant moments in their careers as learners and they will almost certainly mention powerful teachers and supportive peer groups. In other words, the interactive dimension provided by participative teaching (Ryan & Stedman 2002) provides the pedagogic dialogue that Laurillard (1993) has argued is essential for education. We believe that it is possible to identify six key principles of high quality learning in higher education. These relate to student motivation, the active engagement of the learner, the modification of students' cognitive maps of subject domains, the use of feedback to students, effective peer support, and the use of context variation in developing transferable learning.

In a summary of research into student motivation in higher education, Entwistle (1998: 16) concluded, "for many years now, research findings have shown a fairly strong relationship between academic motivation and levels of performance in higher education". Motivation is not a unitary concept. We can distinguish extrinsic motivation, for example, students being motivated by external pressures and rewards like obtaining a good job; intrinsic motivation derived from interest in the subject matter; and finally achievement motivation, for example motivation derived from peer competition. A consistent finding, however, is that the amount of contact with faculty in and out of class is highly correlated with motivation and interest. There is also evidence to suggest that the peer group also plays an important role. Peers have a role in the process of commenting on their fellow students' models of the world and good teachers can engineer this as part of the pedagogic strategy. We also know that integration into the academic peer group is one of the most important indicators of retention and ultimate success

A further important principle to arise out of the literature is that for effective learning to occur, students need to engage in experimentation via modes of active learning, and most importantly teachers need to constantly adjust what they do to the needs of individual learners. This is in significant contrast to a model of learning

which sees the task as one of essentially adding new knowledge to students. In higher education students tend to already possess cognitive maps of the fields of knowledge which they are studying, however rudimentary. The constructivist sees the process of learning as one that involves confronting those maps with new models and information so that they may be developed and in some cases completely changed (Mezirow 1991). This has important consequences for pedagogy. Teachers have a crucial role in getting students to reveal their understandings and hold them up for public scrutiny in a manner which is both supportive yet ultimately challenging. The classic model of this is the 'crit' in architecture. This is both a time consuming and skilled process. If the constructivist approach is accepted then it is also possible to understand why feedback is absolutely crucial in high quality learning. As students put forward their own versions of solutions to problems, the teacher needs to provide detailed and timely feedback on those solutions. All the evidence shows that quality and speed of feedback are vital in the development in such learning (Raaheim 1991).

There is an increasing emphasis on the development of transferable skills in higher education. The evidence base for how these are developed is as yet modest, but some elements are becoming clear. Perhaps the most important finding is that these skills are developed if the teaching programme systematically varies the contexts for learning, that is students are required to try out their knowledge and skills in a variety of different situations (Gibbs, Rust, Jenkins & Jacques 1994). The classic model of this is the internship, but there are a wide variety of other methods of doing this including specially designed projects, as well as real world and simulated problem solving. Commentators on the type of high quality learning required for the new economy also indicate that while first order learning may be standardized, second order learning or 'learning how to learn' is unpredictable and requires exposure to uncertainty and risk taking on behalf of both students and lecturers (Seltzer & Bentley 1999). This type of learning requires personal relations of trust between students and lecturers, as well as institutional frameworks based on trust between universities and other stakeholders including the state (Brown, Green & Lauder 2001).

## Virtual Education

We now turn to attempts to assess some of the evidence for the thesis that the forces of commodification in higher education are inimical to high quality learning. We are aware that there is a danger in choosing sites of virtual learning in higher education to illustrate our thesis that commodification and high quality learning are incompatible. The danger is that we take for granted that virtual learning automatically leads to commodification. This is not our argument. Numerous international examples such as the Open University in the United Kingdom, the doctoral programme at the Open University of Catalonia and Brazil's teacher training programme 'TVEscola' attest to the fact that virtual education can provide a high quality learning environment and can overcome many of the barriers faced by off-line teaching. Castells (2001), for

example, has advanced the idea that developing countries may be able to use information technology to 'leap-frog' the development process. He argues that the longer-term process of improving the education system by developing a high quality indigenous teacher base is too slow for urgent development needs in a world where the 'core' appears to be spinning away from the 'periphery'. He proposes that this process can be speeded up by using information technology and distance education in innovative and pedagogically sound ways to disseminate knowledge and skills.

However, we argue that virtual education in general is particularly vulnerable to the tendency for commodification to creep in. One of the reasons is that virtual education primarily holds out the promise of more efficient ways of learning in higher education. It does this for a variety of reasons. First, once the material (the commodity) has been produced then it would appear to be relatively easy to send this out electronically to the learners. The learners can be located anywhere with an internet connection, thus offering potential savings in space. Furthermore, tutoring and assessment can in principle be delivered more cheaply by adopting some of the techniques of mass production. The flexibility offered by such an approach, both to 'producers' and 'consumers' is attractive. Universities are very often attracted to such forms of learning and teaching because they are being squeezed financially by governments, such that any opportunities to produce teaching more cheaply are seized upon (see also Schapper & Mayson, this volume). And once having made the required investment in eLearning universities become keen to expand their virtual student numbers in order to spread their costs. Interestingly, Noble (2002) argues that many universities develop eLearning initially for some of their non-core business, for example their short course provision or overseas distance operations. There is almost a suggestion here that their core on-campus provision needs to be protected from an essentially commodified offering, although Noble goes on to argue that increasing cost pressures almost inevitably push this into core teaching.

The advent of eLearning and the spread of the internet have also attracted for-profit corporations into the higher education sector, for several reasons. The number of people in higher education is growing rapidly, not only because the fraction of the age cohort entering higher education is growing in most countries, but also because the number of older people returning to higher education to acquire new skills and knowledge, or at the very least to refresh them, is growing. And many in this second category are relatively 'cash rich' and 'time poor', which makes them ideal potential candidates for corporate higher education. Finally, the corporate world is interested because it sees itself as having a comparative advantage over universities in at least two respects. First, the relatively high barriers to entry for mass eLearning play to the strengths of corporate capital; secondly, large corporations are invariably international and are well used to tackling international markets.

This is not the place to detail the advance of corporations into higher education and in particular their focus on various eLearning models. The reports for the Observatory of Borderless Education do this very well (Ryan & Stedman 2002, Garrett 2003). The brief facts, however, are startling. Couturier (2003) estimates that

there are now over 2000 corporate universities worldwide, that is, over 2000 corporations offering a 'university service' to their students directly in competition with public institutions. Some of the country statistics are equally striking: there are over 200 for-profit higher education corporations in Poland; 600 in Malaysia; and 625 in the USA. Examples of global companies include the Apollo Group, which runs Phoenix University, and also universities in the Netherlands, Germany and Brazil; Sylvan operates on a similar basis in Europe, but also in Mexico and Chile where it has bought a number of private universities. Adtech is a major player in South Africa, whilst Amnet has a major operation in China.

Apart from these corporations who offer a 'full university service' to their 'customers' there are major corporations that are offering partial services. These services can be concerned with the necessary IT capability e.g. the supply of the required IT platform or other elements of software support (Skillsoft, Serebra); or they can be as a partner offering whole programmes, typically, but not exclusively in the IT domain. It is also possible to see major publishers joining in as they seek new outlets for their content. A good example is Thompson, which is a partner in Universitas 21, a global partnership of major universities collaborating together to offer on-line content.

Three overall trends are clear. First, the reliance on the public university that sees post-compulsory education as a public good is under attack on an almost global scale. It is primarily accused of being inefficient i.e. too costly, too slow to change, and too inflexible. Secondly, this is a global trend that is accelerating under the twin influences of the GATS, which decrees education as a commodity which can be traded globally, and global corporations which are turning these claims into a reality. Thirdly, the development of eLearning technologies using the internet is greatly assisting this process. It is our contention that all three of these trends are resulting in the gradual commodification of higher education.

## The Effects of Commodification

What have been the consequences of these trends? Is there evidence that the process of commodification has produced problems for the quality of learning in higher education? It is not easy to pick up direct evidence of the quality of learning since little research has been conducted in understanding the pedagogic implications of virtual education (CVCP 2000). Indeed, Harris (1998), one of the founding members of the Journal *Internet in Higher Education,* concludes, "I have not been able to uncover any systematic evidence of careful consideration to questions of the 'effectiveness' of various pedagogical approaches. Neither faculty or students seem interested in the question of the 'quality' of the learning experience" (Harris 1998: 248, quoted in Hall 2001). However, the available evidence indicates that pressures for commodification in virtual higher education have the potential to erode the quality of learning in higher education.

When we talk about commodification in higher education it is useful to think about three inter-related processes. The first concerns knowledge itself, that is the ways in which knowledge can be assembled and packaged for the potential learner. This is usually in some form of text, whether it be a conventional textbook, specially constructed text based distance learning materials, audio-visual material, or some form of eLearning. The second element is usually summed up by the concept of pedagogy, that is the processes that go on between the teacher and the student in the context of learning. This can be synchronous, as in face-to-face learning and some modes of eLearning, or it can be asynchronous, as in the most common forms of eLearning. An integral part of pedagogy is the process of assessment, whether it is formative or summative. It is a commonplace to argue that models of assessment tend to have an independent effect on learners and learning. These three elements react in complex ways in the learning-teaching nexus; it is clear that following the work of Biggs (1996), all the elements of the learning-teaching nexus have to work together in what he calls a 'constructive alignment'.

Knowledge and information are often perceived as interchangeable. Our thesis is that attempts at the commodification of information are probably less problematic than attempts to commodify knowledge, pedagogy or assessment. Information in its unprocessed form is readily accessible to large numbers of people, except at the very frontiers of some subjects in science and technology. It is of interest to note that an institution like the Massachusetts Institute of Technology (MIT) is prepared to put all of its subject content on the internet as open source material. This is in recognition of the fact that what MIT adds to this is its distinctive pedagogy and its assessment of learners. All knowledge has to be processed into pedagogically effective formats, or into pedagogic content knowledge (Shulman 1987). This is not an unproblematic process for universities that have invested heavily in IT infrastructure and e-course development and who need mass markets in order to recoup their investment. The essence of commodification is that it necessarily involves a great deal of standardization of knowledge, resulting in a model of learning which sees the task as essentially one of adding new knowledge to students. In some subjects, particularly in the sciences, it might be argued that this is easier to achieve since there is an inbuilt logical linearity to the subject discourse. In this model, the logical linearity in the text needs to be represented, while at the same time having regard for knowledge of cognition, for example, how easy it is to follow and remember material displayed or represented in a certain way. However, as Crook (2002: 121) argues, "research on the effective design of such materials is scarce and some of what is known might be taken to suggest that these apparently laudable ambitions of designers are misguided". It would appear that the key issue is learner engagement, that is the ability of the text to engage the learner actively with the material such that they begin to construct or reconstruct their own models of the world according to the discipline being studied. As Crook (2002) hints, the consequences of this might be that some of the more comprehensive and logical texts are rather less good at this than texts which are good at setting students puzzles and provocations which they have to work at to solve. But

even in areas like basic science this is problematic; and in areas like the humanities where cultural issues come to the fore, it is even more problematic. In addition there are some areas of knowledge and skill, particularly the soft skills, where it is very difficult to see the development of virtual solutions.

The temptation in the virtual world where one is trying to develop income via the economies of scale, is that one is producing a standardized product and generic content which can be used anywhere. This is likely to be a particular problem in the context of developing countries where national governments do not have the resources to develop indigenous higher education systems. The rebranding of higher education as an exportable commodity has led to a stampede by private for-profit providers, European and American universities and international development organizations to implement distance and other forms of profitable education provision. Commentators from the developing world such as Moja and Cloete (2001: 247) have raised fears that weak regulation and the perception of higher education as a lucrative global export could lead to developing countries being viewed as mass markets for the dumping of low quality knowledge. Hall (2001), drawing in particular on the example of the World Bank's African Virtual University, has raised concerns that virtual education in combination with forces pushing higher education towards further commodification may harden the divide between high quality, high cost learning available to the elite, and standardized low quality packages of information delivered at low cost with little interactivity or national relevance to many parts of the developing world. They note that such initiatives are likely to stunt indigenous capacity in research and education.

Commodified approaches to learning also often place a very large reliance on learning resources, simply because this is the simplest and easiest option. They can also represent an attempt to teacher proof delivery which can be important if institutions are attempting to use less qualified, less experienced and thus cheaper staff. While it is likely that some texts will be more effective than others, it should be clear that the provision of appropriate texts, in whatever format, is unlikely to be effective by itself. There are limits to what can be acquired even by the very able by passively engaging with texts. Noble (2002) has argued that the one utterly unambiguous result of a century of education research is that that quality education is necessarily a labour-intensive process which depends upon a low teacher-student ratio and significant interaction between the two parties. This is the essential problem for commodified models of virtual education. Commodified systems tend to be lean systems that strip away all those elements which are not strictly necessary. The end result tends to be an atomized model that focuses on individual students as consumers of knowledge. This means that activities in which teachers adjust to the needs of individual students, as well as group work, which develops social and interpersonal skills and fosters peer group learning, tend not to be designed in. In addition, commodified systems avoid spending money on social facilities, which promote peer interaction, on the grounds that they are not strictly necessary for learning.

Commodified virtual education is generally unable to provide active learning opportunities such as experimentation and real world and simulated problem solving.

The problems with this for organizations which are anxious to turn a profit from higher education is that such models are complex, unpredictable and expensive, and they often require a great deal of local knowledge and networks to set up and maintain. The process of feedback to students is also altered. Feedback is rolled up into formal assessment systems, in the worst cases reducing it to the results of computerized multiple choice tests. There may well be a role for such tests in certain subject areas as part of formative feedback on progress, but they are no substitute for the detailed, qualitative feedback required for high quality learning. Second, because of the close links between commodified systems and the view of students as consumers, the emphasis is placed on students producing feedback to staff on their teaching 'performance', rather than the reverse. Such an approach is very susceptible to surface as against deep processing (Marton & Säljö 1984, Biggs 1987, Ramsden 1998). Finally, if one accepts the argument that much learning develops by the process of supportive challenge of existing ideas, and the introduction of measured risk, then approaches which stress commodified education processes are unlikely to produce high quality, flexible graduates. The process of introducing measured risk into the learning process is a time consuming and skilled process and almost wholly resistant to the process of commodification, which tends to change the pedagogical dialectical relationship between teacher and student into one between producers and consumers of knowledge. In addition, risk is the antithesis of the safe, pre-packaged 'product' that is at the heart of the commodified exchange.

There is also a growing recognition that the virtual university presents some special quality assurance issues, because often there are a number of different components: the technology suppliers; the content suppliers; and the student support system. This raises questions even in large global ventures like Universitas 21. Ryan and Stedman (2002: 25) argue that "it is unclear how U21 pedagogica, the accrediting body of the U21 universities, can call on sufficiently wide expertise to validate proposed programmes without the deep expertise that a comprehensive university uses in its usual accrediting procedures, which proceed from departmental level, where the expertise resides, through the various academic bodies of the university."

One of the most striking pieces of evidence that casts doubt on the effectiveness of commodified education in its virtual form, is the actual or near collapse of many virtual learning ventures in higher education (Ryan & Stedman 2002, Levis 2003). The failures have included university ventures like Fathom, NYU Online, and eCornell; partnership ventures between private organizations and universities like Cardean, Pensare and Quisic; and partnerships between universities like Western Governors University. Although some of the problems might be attributable to the bursting of the 'dot com' bubble, most commentators believe the failures occurred because of more fundamental problems. Levis (2003) provides a good summary of the reasons for failure. Foremost among the reasons is a failure to grasp what is entailed in successful learning. By and large the failing institutions used a mechanistic model of learning predicated on the need, as they saw it, to deliver more information, more quickly and more cheaply to the students. They tended to go for scale rather than

quality, and they made the fatal mistake in not understanding that people generally do not want to study alone. Levis even goes as far as to argue that "learning cannot be 'digitized', indeed it is an intensely human activity", and "eLearning is only really effective for certain kinds of well-motivated, self-disciplined adults" (Levis 2003: 1).

If this is the conclusion gained by looking at the evidence of unsuccessful ventures, we believe that the same conclusions can be drawn by looking at successful ventures into virtual learning in higher education. The two most quoted examples of success are the University of Phoenix in the USA, and the Open University which is based in the United Kingdom but which in fact has a presence in most European Union countries and in over 30 non-European Union countries. The Open University's success comes about partly by paying a great deal of attention to how students learn, not by being obsessed with the technology, but by creating successful communities of learners supported by a committed band of part-time tutors. The University of Phoenix has a very similar model. Although Phoenix makes good use of technology in the delivery of its programmes, its secret lies in its ability to blend eLearning with face-to-face instruction. A typical Phoenix student will in fact find themselves in a class from time to time where the staff-student ratio is less than 10:1.

The same conclusions are arrived at when one considers the most successful elements of virtual learning. Carnevale and Young (2001) argue that the most popular and successful forms of virtual learning are those which most closely approximate face to face learning: that is videoconferencing, television broadcasts and tele-conferencing. There is evidence that student attrition rates climb when the mode of instruction is wholly at a distance. Chen (2001) reports that attrition can be as high as 60 to 80 per cent in asynchronous non-award online generic programmes in IT and business. More generally, attrition rates tend to climb when programmes are dominated by generic teaching material that is delivered on-line.

Perhaps the unkindest cut of all is the evidence that even when students have graduated from such programmes some employers are reluctant to hire them, apparently believing that such students are unlikely to be as good as their face-to-face counterparts. Phillips (2001) reports a US survey by Vault.com that found that 37 per cent of human resource officials were reluctant to employ students with on-line graduate degrees.

## Conclusion

In conclusion, we need to make clear that we are not reconstructing a mythical golden age of teaching and learning in higher education. Our argument is not that traditional higher education has all the positive qualities of effective learning that we have outlined, and the commodified education does not. We know enough about the traditional experience of higher education to know that the quality of what is offered varies enormously. In any case, the dichotomy between traditional and commodified higher education is too stark. It is also not inevitable that virtual education and

commodification go hand in hand. On the contrary, we would argue that, carefully handled, the right blend of conventional and eLearning can produce a richer and more rewarding learning environment than either face-to-face or eLearning can by themselves. Some of the positive features are that eLearning does not have to be synchronous and it can produce learning materials in a multi-media format which can benefit learning. Devices like streaming video and animations can sometimes do things that are impossible in a lecture theatre or crowded laboratory. If students respond to assignments on-line and these, along with tutor feedback, are also available on-line, then it could well be argued that this significantly improves the quality of that student feedback so vital for effective learning. In addition, the use of web links and the internet opens up a very rich vein of learning resources for students. What we have argued is rather that commodification inevitably sets up certain pressures to force higher education along certain pathways, and these pathways are, in general, inimical to high quality learning in higher education. Our suggestion is that close inspection of the virtual dimension in higher education reveals that attempts to commodify education usually fail because the essence of high quality education cannot be easily commodified, at least not under the present set of conditions that hold in most parts of the world.

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