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DISTANCE EDUCATION IN TRANSITION: ADAPTING PEDAGOGICAL MODELS AND APPROACHES FOR ADULT LEARNERS IN THE DIGITAL WORLD.

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Abstract

There is considerable potential for teaching and learning in Higher Education – particularly that undertaken at a distance – to be enhanced through the use of digital technologies. Information and communication technologies (ICT) can improve access to information and resources and provide new opportunities for communication between students and teachers. This is particularly important for students of the UK Open University (UKOU) who undertake their studies independently, at the time and place that best suits their circumstances. Being geographically dispersed, students seldom have access to an academic library in which they can consult specialist texts and journals, and their opportunities for personal contact with their teachers and fellow students are limited. Internet technologies enable pedagogic models and approaches to be adopted for dispersed independent learners that were previously difficult or impossible to put into practice. However, the potential benefits are unlikely to be realised unless fundamental issues are addressed at an institutional level in relation to teaching practices in DE and the underlying assumptions and educational models.

Introduction

This paper will present an account of qualitative and quantitative research aimed at developing a better understanding of factors that influence independent learners' *actual* use of on-line resources and opportunities for interpersonal communication. In particular, the links between adult students' use of the Internet in everyday life (for social, domestic and work-related activities) and for study purposes are explored. The paper questions the supposition that simply providing easy access to collections of resources and communications facilities will, *in itself*, attract adult learners to make significant and appropriate use of what is available. Further, it is argued that attempts to adapt DE practices are hampered by institutional systems and procedures that are underpinned by assumptions and models of the educational process that are no longer appropriate.

In order to avoid any confusion, I need to clarify that this paper relates to distance education of the kind practiced in the Open University UK and in other dedicated DE institutions. This has developed from 'correspondence education', in which learners studying independently engage with specially prepared materials and are usually separated from their teachers by time as well as by location. It is significantly different from the 'extended classroom' form of DE prevalent in the USA: that form builds upon teacher-led classroom-based activities that are available to campus-based and/or dispersed individuals or groups of learners.

One or More Generation Gaps?

A few years ago, a survey of US campus-based higher education reported that some colleges and universities were experiencing "an Internet generation gap between professors and students in terms of their Internet usage interests or abilities" (Jones, 2002 p. 9). While issues about the practices of 'digital natives' and 'digital immigrants' (Prensky, 2001) are also of concern in distance education (DE) with its greater diversity of learners' ages, there is another far-reaching 'generation gap' that needs to be addressed. A dissonance exists between the presently espoused aims of distance higher education and many current practices. Those practices are formed and constrained by institutional systems and procedures that have their foundations in particular assumptions and models of the educational process. Adaptation of DE for the early 21st century requires more than an updating of technical skills and competencies in order to embrace new means of delivery: it needs a fundamental reappraisal of the underlying assumptions and goals in relation to teaching and learning in the current context.

Not long after the Internet was introduced into higher education in western countries, Nipper (1989) predicted the development of 'third generation' distance education. Its main characteristics would be (i) a greater emphasis on the use of communication technologies to facilitate dialogue between the participants in the educational process, and (ii) the establishment of on-line learning communities. He maintained that a more organic approach to teaching and learning would be possible, in contrast to what he argued was the largely one-way flow of packaged knowledge and instruction from teachers to learners inherent in 'second generation' distance education (i.e. a largely one-to-many process

involving multiple media). Crucially, Nipper was proposing that Internet technology should not be used simply as a new delivery mechanism: the shift to third generation DE represented a *qualitative difference* between the educational models employed.

In recent years reference has been made to 'fourth' and 'fifth' generations of DE. These also reflect a preference for social constructivist learning theories allied to the emergence of new web-based tools and Internet features. The Internet provides various means by which it is now possible to remedy the lack of interpersonal communications that has been "the Achilles heel of distance education" (Guri-Rosenblit, 2005, p. 475).

However, despite the *potential* for ICT to have a transformative impact upon DE practices in the UKOU and in similar institutions, the *reality* is somewhat different. I suggest that to a large extent there is a DE 'generation gap' – between the educational model that implicitly underpins many institutional policies, procedures and practices and that which informs the rhetoric of DE in the 21st century.

The Legacy of 'Second Generation' Distance Education

Kirkwood and Price (2006) identified six factors that both influence current policies and practices in DE and act to impede effective adaptation in that sector. Here I want to briefly consider three of them.

1. Continuing influence of historical models

Many essential aspects of UKOU teaching and learning were devised 40 years ago and were fashioned by the social context and technological infrastructure that existed at the time. The assumptions underlying the UKOU approach and methods determined the educational use of technologies and shaped the academic practices. These have had widespread impact, influencing many DE providers around the world (Keegan, 1996). Yet how appropriate is that model for the current social context and technology infrastructure in the UK and elsewhere? How well does it accommodate current expectations about lifelong learning and new demands in terms of the knowledge, skills and competencies relevant for the information age?

For example, the 'Industrial Model' of DE (Peters, 1983) is still prevalent and enables economies of scale to be achieved. It separates the *preparation* of educational materials and resources, from the interaction of students with those materials and with their tutor. The production processes for course materials at the UKOU are still largely underpinned by this concept. In essence, the 'Industrial Model' gives preference to the one-way flow of information and ideas – from experts/teachers to learners – with only limited opportunities for dialogue to take place. It fits well with the use of transmissive media, particular when in a form that permits storage for multiple presentations (i.e. in print, broadcast or on disc or cassette).

2. Appropriateness for a changing environment

The original UKOU model required course materials to be designed as self-contained, to enable and support study by independent learners who had limited access to library and/or laboratory facilities. Students had no need or incentive to use anything other than the materials provided in order to successfully complete most course modules. Developments in ICT, especially the World Wide Web and other Internet technologies, have resulted in an information explosion that has radically changed availability and eased retrieval. For most people the issue is not now one of getting access to information, but of evaluating and selecting from the vast quantities that can now be obtained.

Most course modules are still designed for dispersed learners, largely studying alone, and with assessment that rewards their individual efforts. While the university does not discourage communication between students, its academic purpose remains imprecise and ambiguous and many learners are unconvinced of any benefits to be gained. In an increasingly networked society, it seems appropriate to question the continued dominance of such an individualistic educational model. What role is there for communication technologies that are now prevalent throughout the wider social context and could enable and support co-operative and collaborative learning?

3. Current policies and practices for ICT adoption

Technology-driven e-learning policies and strategies have tended to be adopted in both distance and campus-based higher education. While much has been done to develop the technological systems and infrastructure, little attention appears to have been paid to examining educational practices and pedagogy. Recent reviews of ICT implementation in western universities (for example Collis & van der

Wende, 2002; Holtman & Courtney, 2005; Zemsky & Massey, 2004) indicate that although course management systems and Learning Environments have been widely adopted, significant changes in teaching and learning were uncommon. ICT has mainly been used to supplement existing teaching practices rather than to stimulate an appraisal of the adequacy of prevalent pedagogical methods and the underlying assumptions and educational models. Very often it is the presentational aspects of ICT that are enthusiastically adopted, particularly in DE where there are well-established procedures for the development of transmissive materials.

Professional development for academic staff has frequently been technology-led, aimed at developing the technical competencies of teachers ('How to ...'), rather than inviting them to consider the academic purposes to be served ('Why ...'). Getting teachers to explore why they and their students might (or might not) benefit from particular uses of ICT would necessitate them reflecting upon their existing assumptions and teaching approach (Kember & Kwan, 2000; Trigwell & Prosser, 1996) to develop a better understanding of their practices within the wider context of a changing environment.

So what impact are these factors having upon the adoption of ICT for teaching and learning at a distance? There is a growing body of evidence demonstrating that simply adding opportunities for distance learners to use ICT in their studies is, *in itself*, insufficient to transform the educational process and outcomes. ICT is used either in ways that reinforce transmissive educational models, or in support of novel practices that are poorly understood both by teachers and their students. The research supports the conclusion that

although ICT can *enable* new forms of teaching and learning to take place, they cannot *ensure* that effective and appropriate learning outcomes are achieved. It is not technologies, but educational purposes and pedagogy that must provide the lead, with students understanding not only *how* to work with ICT, but *why* it is of benefit for them to do so. (Kirkwood and Price, 2005, p. 257)

Accessing Resources and Accessing People

Throughout the higher education sector, campus-based students and distance learners are increasingly able to get on-line access to a range of amenities. The Internet enables DE institutions to offer their students two important elements of higher education that were previously difficult to make available: access to the facilities and resources of an academic library and opportunities for frequent interpersonal communication. On-line resources are progressively being introduced within courses or within services provided for students by university libraries. All UKOU students with Internet access can make use of the OpenLibrary on-line facilities and a substantial number of course modules include links to high quality external electronic resources. Communications facilities are made available to higher education students and staff, often through some form of integrated Learning Environment. Dedicated asynchronous computer conferences or forums are now included as part of most UKOU course modules, with synchronous on-line communication being made available for certain subject areas. However, data from research and evaluation studies indicates that the extent to which UKOU students use these on-line facilities varies enormously between course modules.

On-line resources

Kirkwood (2006) analysed data from a survey with more than 16,000 respondents to investigate the extent to which UKOU students made use of on-line library and other resources in their studies. At the level of individual courses, the proportion of students who had actually accessed the on-line OpenLibrary facilities during the study year ranged from 6.3% to 94.8% across 122 modules. Those who had accessed at least once the customised database of links to quality assessed external websites for their course ranged from 0 to 76.4% across 61 modules. Several explanations for this variability were examined, of which only one was found to demonstrate high statistical significance – the pedagogic design of the course module. A large proportion of students made use of the OpenLibrary facilities or the recommended links to external websites where a module included one or more of the following features:

- a) a dissertation or extended project,
- b) a project element,
- c) explicit reference to the use of on-line information resources (i.e. not listed as 'further reading' or 'optional').

Most people learning with the UKOU have only a limited amount of time available for academic study. Usually they have paid work and/or domestic responsibilities that have a higher priority. To survive in the system these students have to be selective and the assessment requirements of a course module play a significant role in guiding learners' choices (Kirkwood, 2003). The data from this investigation supports the existing evidence that teachers need to actively encourage students to make use of specialist on-line resources: simply making them available for students to use is not sufficient to ensure their uptake (Calverley & Shepard, 2003; McDowell, 2002).

Interpersonal communication on-line

High variation has also been found in the extent to which distance learners' use of opportunities for communicating with their fellow students. Studies in various DE institutions have determined that simply making two-way communication facilities available is unlikely to be sufficient for the attainment of worthwhile teaching and learning outcomes. This was particularly evident when opportunities for on-line discussion were simply added to existing courses that had been designed with a pedagogic model that is incompatible with teamwork and collaboration (Erich *et al.*, 2005; Fung, 2004; Kear, 2004). Any course that has been designed for study by individual, solitary learners and adopts a didactic approach to teaching leaves little prospect for the pedagogic potential of communications media to be exploited. One of these researchers found that:

There was no evidence that any collaborative group learning had taken place among students of [this postgraduate course], and the formation of a learning community was not observed. From this perspective, the intention of promoting collaborative learning among distance learners through on-line discussion was not really successful. (Fung, 2004, p. 147)

Dialogue with other students must be an integral part of the design and relate to the pedagogy of the course and to assessment. For example, if a course adopts an active, constructivist approach – being concerned with promoting critical thinking through the exploration of multiple perspectives, with problem-solving and inquiry, or with developing inter-personal skills – the achievement of the course aims would be severely impaired if ample opportunities for dialogue to take place were not available. Further, if the assessment of students' contributions to discussion or collaborative working focuses upon and rewards the processes as well as the products of group interactions, students are likely to participate in an appropriate manner. Even if a course has been designed to maximise the pedagogical potential of on-line communication, students might still fail to participate appropriately if the assessment requirements are not aligned with the desired outcomes (Fox & MacKeogh, 2003).

In terms of both forms of access made possible by the Internet, the data suggests that DE students' use of on-line resources and computer-based communication is more closely related to the pedagogic design of courses and to assessment practices and requirements (reflecting underlying models of teaching and learning), than to the increased availability through ICT of information sources and communication opportunities *per se*.

Living and Learning in a Digital Environment

In order to achieve a better understanding of the complex environment within which adult distance learners undertake their studies, it is necessary to look beyond institutional boundaries. It is crucially important to align DE practices with changes in both the wider educational and social contexts. DE practitioners must be aware of the wide range of factors that influence and mould the learning processes of their students in an increasingly digital world. A recent qualitative study of UKOU students aimed to help develop such an understanding by investigating *how* and *why* adult distance learners use Web resources and facilities while undertaking their normal coursework (Kirkwood, 2005). It sought to examine not only issues related to the academic context of the undergraduate course(s) being studied, but also any personal, domestic and employment-related experiences and circumstances that were relevant.

Adult students are not averse to using the Internet to acquire information that they feel will be of benefit to them, even if their teachers do not recommend this explicitly. While sometimes this happens in response to specified activities and/or assessment requirements, it can also occur when the 'self-contained' materials are found to be unclear or deficient. Other factors might also be significant. This study provided evidence that what distance learners give their time and attention to while studying is determined by a range of contextual factors, both academic and non-academic.

The Table below shows the range of factors that influence adult students' use of the Internet that were identified from the interview study. Some acted as an *incentive* for Internet use, while others provided a *disincentive*. Several of these factors co-existed for any individual learner: in some cases factors reinforced one another, while in other cases the *incentives* tended to outweigh the *disincentives* or vice versa.

	Incentives	Disincentives
<i>Factors that relate to an individual's context and circumstances:</i>		
Personal Circumstances - Domestic	Housebound or living in a remote location – overcoming isolation.	Family commitments – little time available for unnecessary activities.
Personal Circumstances - Employment	Occupational need to keep up-to-date. Unemployed or retired – time available to pursue personal interests.	Full-time work – little time available for unnecessary activities.
Extrinsic or Intrinsic Orientation to Study	Internet used to support existing <i>intrinsic</i> interests and pastimes.	<i>Extrinsic</i> orientation – doing only what was necessary to get the qualification.
<i>Factors that relate to the educational context:</i>		
Technical Aspects	Pre-existing familiarity and competence – gained through course(s), employment, etc.	Problems with software and systems provided by the university.
Pedagogic Design of Course	Activities with explicit reference to use of external Web resources. Lack of clarity or perceived deficiencies in materials provided (negative effect).	Optional specification of external Web resources.
Course Assessment	Assignments and/or project that make explicit reference to use of external Web resources.	Only the course 'package' is assessed – no need to refer to external Web resources.

Significantly, all of the participants reported the influence of assessment requirements in determining which aspects of the course get studied. Most made selective use of course materials and learning opportunities, including which Web resources (if any) got accessed. Distance learners are not alone in responding to assessment demands when deciding what to give attention to; one study of blended learning for campus-based students reported that:

Again and again learners emphasised the role of the marking scheme in their decision to use ICT resources. Without adequate reward structures, students were unlikely to access online resources or tasks, despite recognising that that they would assist their preparation for the final exam at the end of the semester. (Concannon, Flynn & Campbell, 2005, p.509)

Conclusions

While digital technologies offer considerable potential for improving DE, the findings from both quantitative and qualitative studies suggest that it is not technologies *per se*, but a wide range of contextual factors that are important in determining whether and how students use ICT in their learning. Most adult distance learners will use the Internet for personal, domestic, social and employment purposes as well as for educational goals. Distance educators can exert influence by ensuring that the pedagogic approach and the assessment strategy are aligned and provide the impetus for authentic and worthwhile learning activities involving the use of ICT. However, the necessary adaptations to teaching practices are likely to be constrained to a greater extent by

inappropriate institutional models, systems and procedures than by the technical competency of academic staff. To survive in a changing environment, developments in DE must strive to review and reassess the assumptions and models that underpin teaching and learning practices and pay greater attention to educational issues appropriate for adult learners in the early 21st century.

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