Article

E-learning and educational diversity

Dawn Forman, Lovemore Nyatanga and Terry Rich

This article discusses the nature of electronic learning (E-learning) and argues for its centrality to educational diversity and the shift from teaching to learning. It is argued that E-learning is the new wave strategy that sits comfortably with other strategies developed for the 21st century. As such it challenges the traditional 'banking concept' of education, where the teacher is seen as the font of knowledge as long as students acknowledge this and are eager to absorb the teacher's vital knowledge. The article argues that E-learning should replace what Freire (1994) calls the backing concept of education, which is at odds with other 21st century approaches such as lifelong learning, open and flexible learning and the accreditation of prior learning (APL) to name only a few. In suggesting the shift from the traditional approach to E-learning, the article acknowledges issues of quality assurance and the need to maintain not only standards of achievements but also the comparability of those standards. Strategies for developing E-learning material and maintaining standards are discussed. McKey (2000) and Salmon's (2001) model of E-learning development and management are used to show how E-learning works in practise. The article then focuses on the role of E-learning as a catalyst for educational diversity, freedom to learn and equality of opportunity. While E-learning encourages diversity it paradoxically creates programmes that are more specifically tailored to the market needs than traditionally validated programmes. This is seen as very good in terms of addressing specific needs, for instance, specific knowledge and skills for a particular market. The learners or students in that particular market will feel that their specific needs are recognized and addressed, and will thus see the E-learning programme as having relevance for them. The article concludes by asserting that adequate resources, particularly learner support, will distinguish quality or good programmes from bad ones. © 2002 Harcourt Publishers Ltd

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Introduction

Ball (1990) summarized his vision of education in the 21st century by suggesting that teaching and learning must move towards more innovative and inclusive ways. He suggested that active participation must replace passive learning. Such a vision, although not altogether novel, recognizes contemporary educational themes that include:

- Electronic distance learning (E-learning)
- Accreditation of prior certificated and experiential learning (APCL/APEL)
- Lifelong learning (LLL)
- Open and flexible learning
- Widening participation.

The above trends challenge the traditional 'bucket theory' or the banking concept of education (Freire 1994). According to Freire (1994), the banking concept of education assumes the lecturer deposits knowledge into the needy, passive and empty-headed student. This further assumes the lecturer owns the knowledge and can deposit it almost as a special favour to those who attend classes.

Those of us that are true traditionalists, subconsciously, justify the banking concept of education by accusing modes of learning such as E-learning, APCL/APEL and lifelong learning of diluting academic standards. But if those standards are clearly articulated and auditable, then the argument ought to be about comparability of how well all students meet learning outcomes. From the book *Pedagogy of the Oppressed* (Freire 1994), it can be seen that traditionalists cannot support E-learning because it goes against their basic educational assumptions. The banking concept captures the traditionalists' fundamental assumption that renders the teacher as the necessary active person. In this context, the teacher teaches and the student learns, and what has not been taught cannot possibly be learnt. The relevance of Freire's argument is that the banking concept is at the heart of oppression, alienation, discrimination and student disempowerment. Below are some of the assumptions of the banking concept, modified from Freire (1994), p. 54:

- The teacher teaches and students are taught
- The teacher knows everything and students know nothing
- The teacher talks and the students meekly listen
- The teacher chooses what to deposit and students store the deposits as given
- The teacher chooses the programme content and the students (who were not consulted) adapt to it
- The teacher confuses the authority of knowledge with her/his professional authority, which is set in opposition to the freedom of the students
- The teacher is the subject of the learning process, while the students are mere objects
- The teacher acts and the students have the illusion of acting through the action of the teacher
- Students' assumed ignorance is the justification for the teacher's existence.

Although expressed in its most extreme form, the banking concept of education is at odds with E-learning, APL, lifelong learning and any claims to what Rogers (1983) calls freedom to learn. For purposes of this article, the critical point is that the outright rejection of any freedom to learn away from the control of the teacher also signals a rejection of experiential learning, active learning, equal opportunity and educational diversity.

The meaning of E-learning

Khan (2001) sees E-learning as synonymous with web-based learning (WBL), Internet-based training (IBT), advanced distributed learning (ADL), web-based instruction (WBI), online learning (OL) and open/flexible learning (OFL). E-learning recognizes the dawn of a new era in educational provision. It acknowledges the challenges of diversity in programmes as well as the diversity of learners. Through innovative use of modern technology, E-learning is not only innovating education and making it more accessible, but also addressing the historical allegations of abuse and poor quality levelled at its predecessors such as correspondence courses and mail-order education. Assuming that the sceptics based most of the past allegations on selective attention, the message of ensuring the highest possible standards and quality must remain a priority. Unlike the 20th century correspondence courses, current institutions follow agreed policies and codes of practice. For instance, there are codes of practice for providers of E-learning. These require institutions to articulate:

- The institution's vision or mission in relation to E-learning
- The learning material produced
- Expertise in developing materials
- Infra-structure for enhancing quality (annual monitoring cycle)
- Examples of good practice.

According to the Institute of IT Training (2001), if one takes any of the above five suggestions for scrutiny the required standard will include at least the following:

- Adequacy of learner support
- Interactive nature of the material
- User friendliness of the navigation system
- General media quality
- Technical ability and quality.

All these standards have to be satisfied as a condition of seeking accreditation as a provider institution.

Resource implications of learner support

In order for these standards to be met, the supplier of the learning experience must provide the infrastructure to support the student and this must take into account any contact the student may have with the supplier.

Administration

Normally the supplier will be a further or higher education institution, and therefore the interactions will be with administration, technical support and finance, indeed most departments of the institution, not only the academic or tutor as is often thought to be the case. McKey (2000) indicated that in an online environment the 'total student experience' needs to be considered, and describes the infrastructure support required as having four levels as shown in Fig. 1.

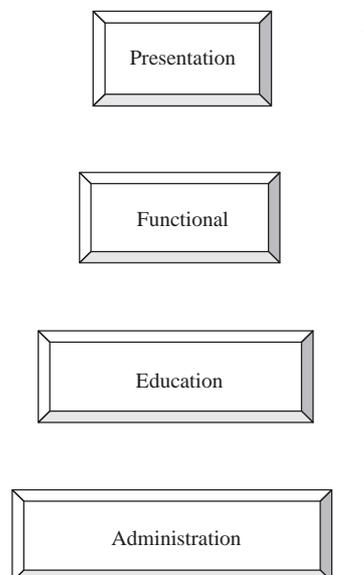The administration would be provided in accordance with an agreed service level agreement, which ensured a customer care focus was maintained at all times. The administration would provide a 'one stop shop' for the learner, linking with the central services such as finance, quality assurance, online library, marketing and initial contact with the academics.

Education

McKey's coordination hierarchy encompasses the learning materials, which would be provided in accordance with performance standards. The materials would be designed to maximize learner interaction and provide the flexible mode of delivery to account for the learning styles of the individual. The programme of study would lead the learner gently through the learning environment, encouraging them to engage not only with the materials in on line format but research materials associated with the study and other WEB based materials. Encouragement would also be given to learn through the interactions with other learners through chat rooms and discussion boards. In essence the materials should be designed to maximize the use of the new learning medium.

Functional

The functionality of the materials should be defined and enable the learner to effectively achieve their goals. The logistics, technical specifications and navigation should cater for the learners' needs to give both experience and satisfaction to the learner.

Presentation

The presentation of the learning environment, including administration, student information systems and the learning materials themselves, should prove a major marketing tool for the institution. If built with that in mind, it will engage the learner from the outset. The total learning environment must therefore be geared towards learner access irrespective of gender race or disability, and cater for a range of learning styles.

In essence, the factors to support the 'total student experience' of the learner for an online module need to be considered long before the learner embarks on a course of

Fig. 1 Four coordination levels (based on McKey 2000).

study. The materials themselves also need to be developed long before the learner enrols. The tutor therefore needs to plan ahead and have materials ready for the end of the learner's programme of study even before they start on day one. Indeed, many of the traditional processes that an academic has undertaken need to be reconsidered. Rather than being a deliverer of learning, the academic, e-moderator or e-tutor as they are now being called, is a 'manager' of the learner's experience. Salmon (2001) describes the process of managing online learning as having five stages, shown in Fig. 2.

Access and motivation

This stage starts well before the student embarks on the programme of study. For many E-learning students, irrespective of background, the distant mode of study will be new and thereby cause some anxiety. At this stage, it is vital that a good interface is provided. In McKey's model, a good interface means a good marketing approach that motivates as well as reassures the student about the realities of E-learning. Good communication supported by appropriate demonstration material should put the student at ease. At this stage, introductions to the facilitators of E-learning together with the introduction to other students studying the programme at the same time or those who have recently completed their period of study would take place.

Online socialization

This denotes the process by which new students become familiar with E-learning and its electronic communication. All enrolled students will need E-mail addresses and access to the Internet. Both tutors and students can post messages on the electronic bulletin board or E-mail forum. A list of frequently asked questions (FAQ) may also be useful to most students. The use of programme bulletin board and E-mail has the potential of creating a much more cohesive multicultural learning community.

Information exchange

This stage would seek to provide bridges between cultural and social diversities. Information exchange provides a user-friendly means of discussing the learning taking place and the learner's own experience of the programme. During the informal exchange stage, the learning process is parallel to social activities that build networks and teams that facilitate sharing of information and broaden the student's access to concepts and knowledge. Both teachers and students learn from one another and there is reciprocal influence. This is a sharp contrast to the banking concept, where only the teacher is the active participant.

Knowledge construction

During knowledge construction, the E-learning teacher merely acts as a facilitator. Each student

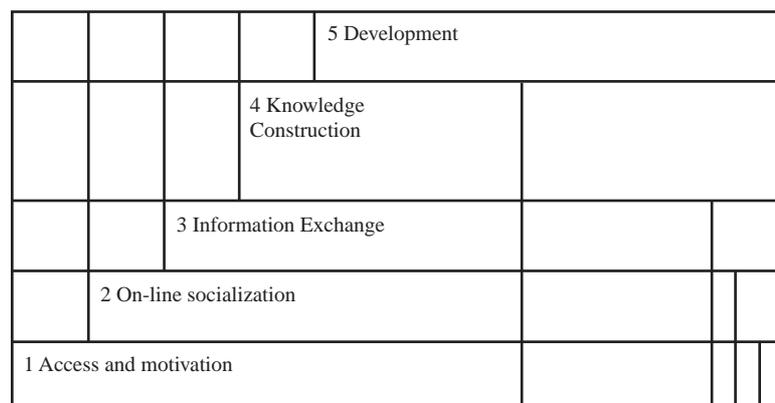|			5 Development		
			4 Knowledge Construction		
		3 Information Exchange			
	2 On-line socialization				
1 Access and motivation					

Fig. 2 Stages of online management (adapted from Salmon 2001).

is able to translate theory into practice and those students with comparative experiences will continue to build their knowledge using a variety of electronic communications.

The development stage

This stage affords the E-learning facilitator the supportive role that involves responding to individual and group queries. Linking back to McKey's model, intrinsically the five step E-learning model describes the essential processes within its 'Education' level. The hierarchical nature of McKey's model emphasizes the need for perhaps up to 80% of the infrastructure at the Administrative and Educational levels. The reverse application of this 'Pareto' principle may historically have been the case, with 'Presentation' and 'Functionality' having been the prime driving forces perhaps associated with a learning resource focus rather than an educational medium. Widening participation and linkages to life long learning can only be achieved if the administrative and educational functions are sufficiently comprehensive and robust and due regard is paid to 'training the trainers', E-tutors of the future.

E-learning and learner diversity

For each E-learning programme, it is logical to assume there will be a market with specific characteristics. Programmes will need to specifically address the needs of the learner. Trends in USA suggest that E-learning will increase from 31% in 1998 to 90% by 2007 (Edelson 2001). The advent of academic alliances such as the Global University Alliance (GUA), Commission of European Communities E-learning action plan, suggest E-learning and educational diversity are here to stay. The E-learning action plan was commissioned May 2000 with the aim of designing tomorrow's education. One of the key objectives of the E-learning action plan is to make lifelong learning the driving force behind a cohesive but diverse society. E-learning is seen as having the capability to promote real employability and adaptability of the workforce as outlined in the European

Employment Strategy. In America, the growth of E-learning reached 116% between 1994 and 1997 alone (Edelson 2001). The creation of the Global University Alliance (international collaboration of about 12 universities – see *http://www.GUA.com*) also suggests that educational diversity, through E-learning, holds the future. In recognizing the diversity of programmes and the student population, GUA for example, continuously strive to maintain a high quality service by:

- Assisting students in selecting their programmes
- Guaranteeing a secure and reliable access to chosen programmes of study
- Assuring up-to-date and most effective technology for the delivery of programmes
- Guaranteeing technical support through out the duration of the programme
- Combining E-learning with the occasional face to face interaction 'clicks and mortar delivery'
- Assuring 24-h academic support for each and every student on its programme
- Assuring quality in all its programmes.

Such a commitment ensures individualized support. Each student gets the support appropriate to his or her needs. Each student feels in equal part of the diverse educational system along the cohesive lines suggested by the European E-learning action plan. Programme and learner diversity is not to be seen as a form of idealism or educational romanticism. It is as real as current traditional programmes, except that the mode of delivery assumes students are proactive, and they have skills to study independently (also see under APCL/APEL). Not every students can benefit from E-learning programmes, in fact, institutions must avoid setting students up to fail by not checking their commitment and preparedness to study through E-learning. Ideally, E-learning students must have:

- The ability to make choices and decisions about what to study and how to study
- The ability to plan study schedules carefully, taking into account other demands such as work and social life
- Self discipline to follow own plan of study

- The ability to question and evaluate theory and practice
- The ability to challenge one's own knowledge and the views of others
- The ability to plan and prioritize study and to keep a balance between study and other demands
- Sound information technology (IT) skills as more and more learning now takes place through electronic mails, bulletin boards, video or telephone conferencing, and the Internet
- Sound communication skills, both written and spoken, as these are the main vehicles for interaction and assessment
- The ability to work alone or in-groups and be less dependent on the teacher or other people.

The entry criteria should not just consider the necessary entry credits, but must also take most of the above into account. This will no doubt help bring the expectations of the programme closer to that of the potential student. If the expectations are made clear right at the start, the chances of success are as good, if not greater than the traditional programmes.

The role of APCL/APEL

The acronym APL (Accreditation of Prior Learning) will be used to mean both APCL and APEL. By definition, APL is the process by which credit may be given for past learning and achievement (Open University 1990, Simosko 1991, Nyatanga et al. 1998). Essentially, APL seeks to give credit where credit is due (Nyatanga & Dann 2001). Like E-learning, APL recognizes that learning can, and does take place in classrooms as well as outside of classrooms. It does this without necessarily arguing about how, when, and where such learning occurred. The key issues about the candidate's ability to identify and quantify past learning for purposes of accreditation. In this sense, APL supports the philosophy of E-learning, lifelong learning and open and flexible learning in ways that put the individual before the organization. Here the individual takes prime responsibility, first for claiming credit for

their prior learning, and second, for planning the mode and speed of their study.

Multimedia APL profiling

Institutions committed to E-learning are seriously considering the use of interactive APL to support their admission procedures. Multimedia APL, developed along the lines as discussed earlier, will have the same quality checks, but will additionally offer potential learners the opportunity to assess their own preparedness to study before making a formal application. This approach works when APL material is linked to programmes that have clear entry requirement accompanied by learning outcomes of the prerequisite programmes or knowledge. The intending learners then use the stated prerequisites as a basis for assessing the relevance of their prior learning. When the intending learner has found a programme that best matches his/her prior learning, then they can electronically, or manually send their application to be considered for admission through APL.

Diversity of educational provision

Diversity of access to education is not synonymous with increasing access. It is more about the ideology of globalization and equality of opportunities, choice and freedom to learn. Implicit within the diversity ideology is the belief that as many people as is practicable should have the opportunity to succeed. Such success is further determined by the quality of the educational provision and the support afforded to each learner. If the support is first class, then one major advantage becomes very obvious. The institution will get to know their E-learning learners as individuals and not just by learner number. Both the learner and the institution build an academic rapport that facilitates achievement as well as enjoyment of the programme. The E-learning learner is normally studying from long distance, in the comfort of their natural habitat, yet feeling integrated into the ethos and interactions of their chosen institution. E-learning, when well orchestrated, can

eradicate feelings of alienation and discrimination some learners experience from time to time. In addition to building good support systems, E-learning programmes will have the advantage of being compared against similar programmes for better or for worse. Overall, this comparison or competition is very good even though it can be very bad for programmes with poor evaluations. Here the learner or consumer takes responsibility for judging all aspects of their programme. This may result in a type of academic Darwinism where only the fittest programmes survive.

Lifelong learning

The past 10 years have seen, at least in UK, a shift from teaching to learning. The shift to lifelong learning appears to embrace self-learning more than teaching. It is at the heart of Ball's (1990) demand for active rather than passive participation. For the purposes of this article, lifelong learning means two things: (a) continuous formal learning to better one-self, and (b) continuous experiential learning. The assessment of the former type of learning is less problematic as it is embedded within the assessments afforded to the programme being undertaken. The second is more problematic unless APL is accepted as one of the most authentic ways of assessing it.

Conclusion

The article has suggested that E-learning is an important development in education. It recognizes the shift from teaching to learning and puts the learner before the institution. Institutions, equally, have to change their mental set and move away from traditional learning modes to more innovative, and participative ones. The shift to active learning also means that only those learners who have acquired skills to learn how to learn will be most suited to all the approaches discussed in this article. In terms of learner characteristics, those that are likely to succeed will have the following attributes:

- Have the organizational skills to manage academic as well as other social responsibilities

- Have an ongoing spirit of inquiry necessary for exploring new information
- Have a sufficient independence to work alone as necessary
- Engages in lifelong learning and has the ability to identify and quantify such learning for necessary assessment.

In terms of the institution, there is a need to have in place, clear standards and quality processes. This applies to all aspect of educational provision, including relevant APL processes. The development of E-learning materials, like other validated programmes, has to be quality assured with evidence of ongoing monitoring and evaluation. The adequacy of learner support has been discussed as an issue that distinguishes good programmes from poor ones.

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