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E-LEARNING, DEMOCRACY, AND SOCIAL EXCLUSION:

Issues of Access and Retention in the United Kingdom

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I was at the Mathematical School, where the Master taught his pupils after a Method scarce imaginable to us in Europe. *The Proposition and Demonstration were written on a thin Wafer, with Ink composed of a Cephalick Tincture. This the student was to swallow upon a fasting Stomach, and for three Days after eat nothing but Bread and Water. As the Wafer digested, the Tincture amounted to his Brain, bearing the proposition along with it. But the success hath not hitherto been answerable, partly by some error in the* Quantum *or Composition, and partly by the Perverseness of Lads, to whom the Bolus is so Nauseous, that they generally steal aside and discharge it upwards before it can operate; neither have they yet been persuaded to us so long as Abstinence as the Prescription requires.*

—Jonathan Swift
Gulliver's Travels, quoted in Simpson (2002)

T he search for new methods of learning to reach disadvantaged groups clearly has a long history. Some older—much older—readers of this chapter may remember the "teaching machines" of the mid 1960s. These were clunky electro-mechanical devices that displayed text and questions and took the user along various branches in response to particular answers. These machines were going to revolutionize learning but had disappeared without a trace by the end of the 1960s.

A similar revolution was going to be initiated by educational television—ETV—on which millions in various currencies were spent in various countries but to little eventual effect (Tiffin & Single Rajasingham, 2003).

Of course the internet will be different . . . While reading this chapter you might like to ask yourself the following questions:

- How far is it legitimate or feasible for governments to attempt to use the Internet as an instrument of increasing social justice?
- In particular, how successful might e-learning be in helping overcome "social exclusion" in society? Might it be more effective than conventional educational methods?
- If e-learning is effective in initially helping the educationally disadvantaged to access education, will it also be effective in retaining them in learning? Or will an apparently open door really be a revolving door?
- Will it be possible to make e-learning effective in both access and retention at a cost that maintains its supposed advantages over conventional learning?

E-LEARNING IN THE UNITED KINGDOM

As in the United States, there is much interest in the United Kingdom in online or e-learning (I shall use the term e-learning to embrace both networked and non-networked computer use). Indeed the two countries share a very common level of Web access—55% of the population having Internet access in the United Kingdom as against 57% in the United States.

The interest in the United Kingdom arises in part from the expectation among higher education institutions that e-learning will both increase efficiency by bringing down costs while enhancing students' learning experiences. These

assumptions are particularly prevalent in distance education institutions. The biggest distance education provider in the United Kingdom—the United Kingdom Open University with 175,000 part-time students—will require all its students to be online by the beginning of 2005.

However, it is not clear how quickly the interest in e-learning is being translated into practice as data are hard to come by. There are even signs that the "dot-edu" bubble is deflating with the imminent winding down of the British e-university, the U.K.eU, which was launched in 2000 with £60 million ($100 million) of government money but only succeeded in attracting around 900 students. A few other U.K. universities have been more successful, but it seems unlikely that the total number of students studying at degree level online is more than a few score thousand. At lower levels, enrollment data are equally hard to come by; the U.K.'s biggest e-learning provider, the government sponsored "LearnDirect" offers 400 courses (many of just a few hours' duration) and claims more than a million enrollments since April 2000. But revealingly, the total number of online tests taken between April 2003 and April 2004 is only about 13,000, which may suggest that many learners are only lightly engaged with the operation.

The "Widening Participation" Agenda

But interest in e-learning is also driven by the U.K. government's objectives to increase efficiency and reduce costs as well as widen participation in U.K. higher education to close to U.S. levels. The declared target is that 50% of the U.K. population should have some kind of higher education experience by 2010 (compared with 60% currently in the United States). This target is set in part by economic considerations; as conventional industries disappear or are transferred to the developing world the U.K.'s future is seen as lying in a better trained workforce working in high-tech industries. In addition, the current Labour government retains enough of its social democratic origins to want to address a "social justice" target and e-learning is seen as an important resource for achieving that target.

In its consultation document "Towards a Unified E-learning Strategy" (2003) the government stated that e-learning had the "potential to revolutionize the way we teach and learn." The document claimed that e-learning could contribute towards the Government's objectives for education: raising standards, improving quality, removing barriers to learning and participation in learning,

preparing for employment, upskilling in the workplace, and ensuring that all
learners achieve their full potential. Underlying these aims is the often unspecified
but important objective of reducing the costs of education.

Overcoming Social Exclusion

Widening participation can only be achieved by increasing the number of
students coming forward from underrepresented groups. The U.K. government
recognizes that there are groups in the population which are excluded to a
greater or lesser extent from participating fully in society and gaining benefits
from it. Such groups are typically the poor, the educationally disadvantaged,
the physically and mentally disabled, immigrants, single-parent families, the
unemployed, some ethnic minorities and so on. There is much overlap between
those groups, and as yet, no clear definition of the blanket term used to describe
them—the "socially excluded."

Indicators of social exclusion relate to economic activity, employment,
housing, health, and other factors. Health is a particularly important factor as
there is evidence that socially excluded groups not only have poorer health but
also get less healthcare than better-off groups. This is referred to by some writ-
ers as "the inverse care law" of health care. It has been argued that a similar
"law" applies to education, and certainly in the United Kingdom, the middle
classes are substantially overrepresented in higher education. (This phenome-
non is used by the government in its argument for the introduction of higher
university tuition fees in 2006. It is suggested that it is no longer fair for
middle-class students to benefit from education that in effect is subsidized
through taxation from working class people who do not benefit to nearly the
same extent).

E-Learning and Social Exclusion

The development of online services and the trend toward the "information
society" will leave groups without access to the Internet even further excluded
from the ability to exercise democratic rights and claim the full benefits of that
society.

Clearly, if the Internet has potential to increase democracy, then it must
enable socially excluded groups to access society's benefits to a much fairer
level. In particular, it must allow them to access education as the key to the

other benefits. Thus the consultation document suggested that e-learning could overcome geographical isolation and remove barriers to learning imposed by characteristics such as disability, previous negative educational experience, or monolingualism in minority languages.

However there is as yet very little evidence to support the contention that e-learning will help overcome social exclusion or widen participation. In 2003 the U.K. government funded a project to research this issue "Overcoming Social Exclusion through Online Learning" run jointly by the UKOU and the National Institute for Adult Continuing Education (NIACE). It is too soon for any results to have emerged, but an international literature survey conducted by the project found very little material that addressed the issue directly or at any depth. Much published work was found to be either very abstract or focused on very specific initiatives and did not explore wider issues of how e-learning might promote social inclusion (McGerty, 2003).

The Financial Benefits of Distance Learning

Even if e-learning was found to be successful in promoting access to education, would it have an effect on those students who had participated? There is some evidence of the financial benefits of traditional distance education to students. Woodley and Simpson (2001) surveyed the earnings of a number of UKOU graduates before and after graduation. They found an average increase of about 7% in earnings. Although this may seem small, the overall benefit to graduates over a working lifetime is considerable. Using Woodley and Simpson's figures, I calculated that the return on the investment in their course fees for students could be up to 2,000% over their lifetime. Further calculations suggested that the comparable figure for conventional graduates was much lower—around 350%—largely because of the loss of earnings during study that conventional graduates experience compared with distance education graduates who are generally able to continue with their employment while studying.

More important, Woodley and Simpson (2001) found that the growth in the earnings of distance education students was greatest for those who had entered the university with the lowest qualifications—that is, those most likely to have been drawn from the socially excluded. Thus there is some evidence that distance education can overcome social exclusion, but this evidence does not yet extend to e-learning.

ACCESS AND RETENTION IN E-LEARNING

In addition to social exclusion issues, there are two closely related topics that are critical to the development of e-learning—access and retention. Without access to e-learning, there will be no disadvantaged students to retain. Without retention the open door offered to disadvantaged students will be a revolving door that ushers them out as fast as they come in.

Access to E-Learning in the United Kingdom

Clearly access to online learning requires a reasonable level of both physical and psychological access to a computer with Internet facilities.

Physical Access

Until now, physical access suggests a computer linked to the Internet via a fixed phone line, although the advent of Wireless Application Protocol (WAP) links by which the Internet can be accessed via a wireless link from particular locations has changed that. It is not yet clear what effects such access might have.

The 55% of U.K. households with access to the Internet tend to be in higher socioeconomic groups. In addition, the growth of the number of households with computers appears to have slowed recently and might even have peaked. Recognizing this, government strategy has been to increase access to online facilities in various ways, particularly through the development of "Learning Centers" or "People's Network" centers in libraries. These are public locations where free access to networked computers is available and there are now more than 7,000 such centers over the United Kingdom. Together with facilities via libraries and educational establishments it means that even quite remote communities have some kind of Internet access. Resources at such centers vary, but most offer the opportunity to surf the Internet, use e-mail, and undertake various courses offered from various sources, such as "LearnDirect" mentioned above.

To some extent, therefore, physical access to ICT is available via such centers to most of the U.K. population. However the simple statistics do not take into account difficulties experienced in accessing such centers such as transport and child care costs together with the need to be well organized to book

facilities where necessary for the length of time needed. This latter constraint can be significant—it may be possible to study for short periods and take short (1- to 5-hour courses) at a center; it can be much more difficult to study longer courses. In a recent study in the UKOU (Driver, 2001), a small group of students without computer access were enrolled to study an online course through a learning center. The course required them to be online for 7 to 8 hours a week for 30 weeks. This proved to require levels of organization beyond the abilities of students who had to try to fit their own availability around that of the opening hours of the center. In addition, there were firewall problems. In any event, none of the students completed the course.

Of course well-organized centers will overcome some of the technical difficulties experienced by learners by having IT support available, although this will be at a cost. Additionally, most courses offered at centers are much shorter than the example above so that such constraints are less important. However, the cost of developing such courses are high; it appears that for LearnDirect courses the costs can be as much as 30% higher than conventional distance education packages of correspondence materials. Research by Hulsmann (2000) also suggests that e-learning is no cheaper for institutions than conventional distance education, which vitiates some of the motivation for developing it in the first place.

Psychological Access

By "psychological access," I mean the need for potential students to be motivated to access the technology and to overcome possible anxieties about using it. Clarke (2002) in a survey of online learning and social exclusion found that many socially disadvantaged adults in the United Kingdom neither used the technology nor were interested in it. Their previous poor experiences of education left them unconvinced of the value of education to their lives, a feeling that was compounded their major doubts about the value of ICT to them together with a fear (or at least a profound lack of confidence) in using the technology. It can be argued that this is a diminishing problem and that as children who are exposed to computers at school or have used computer games mature, this technophobia will vanish. This may be true to an extent, although it is not clear how far familiarity with online chat rooms and games will enable would-be students to tackle e-learning. In any case, it will be some years before the generation familiar with computers from school form the majority of the population.

Access to E-Learning Internationally

The position in the United Kingdom of low access among underprivileged groups is replicated worldwide. Indeed the differentials in access in the developed world are small compared with those between the developed and developing world. In a recent survey reported in the *Guardian* newspaper (November 27, 2003) the International Telecommunications Union (the UN communications agency) ranked 178 countries on their ability to exploit the digital revolution based on infrastructure, education levels, Internet users, and other criteria. The top of the rankings is dominated by Scandinavian countries—Sweden is highest with a ranking of 0.85—but with Far Eastern countries rising fast; Korea is fourth. English-speaking countries have slipped since 1998–the United Kingdom has fallen three places and the U.S. five. However these changes are trivial compared with the position of African countries—for instance, Burkina Faso with a rating of 0.08 and Niger bottom at 0.04. Thus the international distribution of IT resource follows that of wealth, and it is hard to see changes in that resource in the near or middle future. Such countries will be excluded from the wealth-building activities that are occurring in countries with better IT resources such as India (0.32) and China (0.43), where IT work outsourced from developed countries is a growing source of income.

Retention in E-Learning

As suggested earlier there is little point in widening access to educational courses of any kind if the subsequent retention on that course is so low that most of the students fail or withdraw.

This will also be true of e-learning, and yet it is surprisingly difficult to get reliable data on dropout from e-learning courses. This may be one of the consequences of the higher level of competition in Web-based education; providers are no more likely to admit to high dropout rates on their products than automobile manufacturers are to admit to low reliability in theirs. And in any case, there can be difficulties in comparing retention rates for institutions with different policies and structures. For example, one well-known online university has a policy of de-registering those students (without any fee refund) who fail to log onto the university's Web site a specified number of times per week. Another university has a "flagship" online course that was recently press-released as having a more than 90% success rate. This it turned out was the percentage of active students who passed the final assessment and did not take

into account the large number of students (up to 60%) who had withdrawn before that point.

What evidence is available about retention rates in e-learning suggests that the rates are often lower than in conventional distance education. Some of this evidence comes from the United States where online learning has been around longer and is more widespread. In a recent survey (2002) of 4,100 online learners the Corporate University Xchange Inc. found a dropout rate of 71% ("Open Learning Today," June 2002, quoted in Simpson, 2003).

Other evidence tends to be anecdotal—informal conversations with colleagues in the field in the United Kingdom suggests that dropout rates of up to 90% from some e-learning courses are not unheard of. An Australian colleague in a recent e-mail also notes that online learning in his institution has a higher dropout rate than conventional distance education and so on.

Given that there is little evidence available about dropout in e-learning it is not surprising that there is also little evidence for higher dropout amongst educationally disadvantaged students. But as in conventional distance education there are clear links between dropout and low previous educational qualifications (Simpson 2003) it would be very surprising if that were not also true for e-learning. Clarke (2002) suggests that dropout rates in distance education tend to be associated with factors such as lack of confidence, fear of failure, underdeveloped learning skills and isolation. Since all these factors are most likely to be associated with educational disadvantage it would be reasonable to assume that such students dropout at a much faster rate than students from better backgrounds.

Causes of Lower Retention Rates in e-learning

Once again there does not appear to be much research into the reasons for low retention on e-learning courses as distinct from conventional distance education. Clearly, many of the reasons will be similar, but if dropouts from e-learning are higher, then characteristics of the technology must be involved.

In situations like these it is not a bad idea to listen to the customer. The following is adapted from comments made by an online student writing in Australia but they could apply to e-learners anywhere:

Advice for web-based educators:

- "take a web-based course yourself"
- "warn students they have to be good typists as well as computer users"

- "don't overload—in my experience it takes one and a half times as long to cover material online as in a hard copy"
- "costs are not negligible: amortised purchase costs can come to $1000 a year if you are paying them all yourself"
- "asynchronous discussions can be boring—delays between postings can kill the spark. And joining an online conference can be disheartening—too early and you don't want to be first to post, too late and it feels like butting in"
- "technical problems are always possible—breakdowns, viruses and updates can create problems"
- "and software is not completely reliable—crashes in conventional software are still common and uploading specialist software and using it can be fraught with difficulties" (Bishop, 2002)

In addition, I have just received an e-mail from a student who writes, "If you sit at a pc all day at work then doing it in the evening as well can not only be very fatiguing but positively harmful." I have also just been speaking to a student at my own institution who enrolled for an online Spanish course that involves a sophisticated system in which synchronous phone conversations and illustrations on a computer screen are possible. She told me with some frustration that she had now spent 5 hours on the course, roughly half an hour of which she had spent speaking Spanish. The other four and a half hours had been spent trying to get the software to work.

Of course, it's unwise to draw too many conclusions from such informal and casual material. Yet most dropping out from distance education courses is very heavily "front-loaded"—it occurs at the very beginning of a course. If the usual barriers of entering learning are compounded with extra hurdles of skills requirements, software familiarization, and technical problems, then the initial dropout rate is likely to be higher.

There is of course the supposition that many of these problems will disappear as software becomes more reliable and a generation that is familiar with computers from school moves into adulthood. Neither of these suppositions is completely convincing; it seems unlikely that software and hardware problems will vanish completely—virus and spam show little sign of waning. Automobiles have been with us for more than 100 years but still break down, crash, and run out of gas. And children still emerge from school without basic skills of various kinds.

The only solution to these problems at the moment seems to be more student support—help lines, tutors, online support, and so on. But such support is expensive, and for students from educationally disadvantaged backgrounds, it will probably have to be proactive as they are less likely to seek support before they dropout. Proactive support will be more expensive than reactive support and—as suggested earlier—will be in danger of eliminating still further one of the most important reasons for promoting e-learning—its supposed lower costs.

Promoting E-Learning Retention

Are there then ways of overcoming retention problems in e-learning at reasonable costs? Tiffin and Rajasingham (2003) argue that the advance of the technology itself will develop in ways that will provide the answers. For example, they hypothesize the introduction of what they call JITAITS—"just in time artificial intelligence tutors"—which will pop up like Microsoft's animated paperclip when needed. Among other ideas they suggest is to promote student and tutor interaction students by using "avatars"—online simulacra of themselves to visit virtual classrooms for support.

It does seem likely that imaginative answers like these will be needed if e-learning is to have any success in fulfilling its potential for overcoming social exclusion. Or it may be that answers will lie in the creative use of other forms of technology. For example, there is also much interest in "m-learning" using mobile devices such as palmtop computers and WAP-enabled mobile phones that can access the Web. These may become important not least because the ownership of mobile phones in the United Kingdom and Europe generally is higher than the ownership of computers and the capital costs lower. But although there have been projects on m-learning, there is little evidence as yet as to how it might work effectively. Most m-learning relies on access to the Internet at some point, and perhaps it will find a role in promoting proactive contact with students to enhance retention.

CONCLUSION

So far there seems little evidence that e-learning will help solve the problems of social exclusion in either developed or developing countries. We will need, as

Robins and Webster (2002) note, "to be sceptical about the hype surrounding the idea of a virtual university." We will also need at the same time to be aware that, as one of the contributors to their book Martin Trow writes, "The future will see a combination of traditional and distance learning rather than a replacement of traditional forms. But the short history of the computer has provided us with many surprises, some of them even welcome."

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