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Aller au sommaire du numéro

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Résumé de l'article

Before the creation of the United Kingdom Open University (UKOU) - its Charter was given in 1969 and the first students were admitted in 1971 - the full-time residential model of higher education was pervasive, with part-time and distance modes of study seen as separate and inferior. The UKOU demonstrated the effectiveness of distance learning but also, because of its success, in some ways inhibited change in the mainstream tertiary sector. As social and political pressures on the sector grew, higher education providers were forced to innovate and models of "open learning" offered ways forward. As a result, the distinction between "distance" and "face-to-face" delivery rapidly eroded during the 1990s. However, barriers still remain to a more radical approach to provision as a whole.

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The Hybridisation of Conventional Higher Education: UK perspective

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Abstract

Before the creation of the United Kingdom Open University (UKOU) its Charter was given in 1969 and the first students were admitted in 1971 - the full-time residential model of higher education was pervasive, with part-time and distance modes of study seen as separate and inferior. The UKOU demonstrated the effectiveness of distance learning but also, because of its success, in some ways inhibited change in the mainstream tertiary sector. As social and political pressures on the sector grew, higher education providers were forced to innovate and models of "open learning" offered ways forward. As a result, the distinction between "distance" and "face-to-face" delivery rapidly eroded during the 1990s. However, barriers still remain to a more radical approach to provision as a whole.

Key terms

Open learning, distance learning, barriers to innovation, communications and information technology, learning environment

Introduction

Any attempt to summarise a UK perspective on the topic of hybridisation is bound to be both partial and personal. This contribution is inevitably influenced by the author's roles in several key UK organisations developing open learning during the 1970s and 1980s, including the National Extension College, the Open University, the Open Tech Unit of the Manpower Services Commission, and the Open College. During the late 1980s, the author was involved in implementing change within a higher education institution; his current role offers a more general perspective of hybridisation across the sector. The partiality is sharpened by a surprising lack of literature on the influences of these open learning initiatives on mainstream education and training (though some web references are included at the start of the References).

Before the creation of the OU in 1970, the main target market for higher education providers in the UK was full-time students, aged 18 (for most institutions this remains the main target market). Universities were designed as residential

institutions to initiate young students into a distinctive social and learning experience. Even the newer universities established in the mid 1960s (such as York and Essex) were basically collegiate institutions usually set to one side of their towns and cities to offer a traditional social and academic experience (though they did begin to innovate in terms of the curriculum).

There were other routes. The University of London had for decades operated its external degree scheme, catering to adult students in many parts of the world capable of learning largely on their own and seeking London degrees. Some of these students signed up for classes (as part-time students) with providers offering preparation for London awards, whilst many learned at a distance, relatively unsupported, with little in the way of learning material (usually only a reading list) (Bell and Tight, 1995).

One of the constituent colleges of the University of London (Birkbeck) specialised in the education of part-time students via evening class provision. Many of the regional colleges and newly designated polytechnics were also active in this type of delivery.

These differing routes to higher education attracted varying degrees of attention and prestige (Scott, 1995). The full-time student experience was the norm and of highest status; part-time provision was much a second best; while the distance route was largely invisible (even though many thousands of students sought to prepare themselves by this mode).

The Open University

The creation of the UKOU changed this landscape. Rarely does the creation of a new educational institution attract such attention. The launch was given great publicity and quickly claimed as a major coup for the Labour government. Subsequent commentators claimed it was perhaps that government's greatest achievement.

In many ways the UKOU was radical. It was open to adults regardless of background or previous qualifications. It was committed to teaching such students at a distance (whatever their subjects of study). Its curriculum was innovative (often multi-disciplinary). It used a range of media both for transmission of course content and for supporting students. The curriculum and its delivery were the responsibility of course teams which included as full members, not only academics but also educational technologists and broadcasters. Given such innovation, it is not surprising that the existing academic community was disconcerted and sceptical. It was claimed that adults would be unable to learn in their homes and that university degrees would be devalued.

Unlike other distance and part-time provision, instruction offered by the UKOU

was visible – literally so, in the lounges of the nation's television viewers. Its provision was officially labelled "open learning." With its carefully orchestrated use of a variety of media (face-to-face, postal, telephone) to ensure accessibility and consistency wherever in the UK the student happened to be based, the OU also set new standards in supporting distance students.

The UKOU proved itself remarkably quickly. First of all, in market terms the numbers of undergraduate students learning with the UKOU grew: approximately 20,000 in 1971; 60,000 in 1981; 75,000 in 1991; and 134,000 in 2000. The UKOU has now secured a remarkable proportion of the total UK part-time undergraduate market in a number of curriculum areas: 79 per cent in mathematical sciences, 68 per cent in biological sciences and 60 per cent in social, economic and political studies (data from the 1999-2000 year of study). Secondly, the OU has proved the quality of its provision, scoring significantly better in assessment of its courses than many other conventional universities: twelve of the 19 quality assessments carried out since 1993 have either been judged excellent (using the initial method of classification) or have scored at least 22 out of the 24 available points (using the later method of scoring).

The UKOU was not the exclusive provider of open learning. Other traditional universities offered distance options (more often called "distance" than "open"); the universities of Leicester and Sheffield are examples. "Openness" in terms of access was a concern of many of the polytechnics that in the late 1980s and early 1990s became "new universities." Both types of provision (distance and open) continued. But, it could be argued that the UKOU's success was a disincentive for other universities to commit major resources to develop the open and distance learning field. The perception existed that students who wanted this form of education should enrol in the special institution set up for that purpose.

Open learning

In the late 1970s, the UK government began to take a further interest in what were still known as "alternative" modes of provision. Carrying out a project on "open learning systems" (Davies, 1977), the then Council for Educational Technology (a semi-governmental body) uncovered many such schemes that operated not only (or mainly) in higher education, but also in further education, organisational training – and even in schools (Lewis (Ray), 1984). The project produced a more sophisticated analysis than the usual simple opposition of "conventional/face-to-face" and "distance" education. It identified three models of provision, categorized according to the geographical location of the learner in relation to the provider: distant, local and centre-based. In distant provision the learners might never physically visit "the centre," whereas in local provision learners could attend occasional sessions organised by a provider. In the third

type of provision, learners were studying on-campus, but flexibly – for example in a learning centre or workshop rather than in conventional classes.

The favoured term to characterise these three modes was "open learning." Initially the phrase was used somewhat broadly to describe a student-centered approach, aimed particularly at lessening the restrictions implied by the fixed time, pace and place of most conventional provision. But the term needed elaboration: what did these three different models have in common? How could one term, "open learning" be applied to such diverse provision, including cases where students were studying on a campus, but not conventionally?

Gradually a definition of "openness" developed. At the heart of this was learner choice: putting decisions about learning into the hands of the learners themselves. Choice could be over the context in which learners studied: time, place and pace of learning; or over matters closer to the curriculum itself, such as content, learning method or nature of assessment. This choice was bound to be relative: students could be provided with *more or less* choice (Lewis, 1984).

This definition brought into the fold other provision than that traditionally designated "distant." It challenged the compartmentalisation of what had always been considered different modes of provision. The breadth of the definition of "open" also moved debate from the mechanical process of "delivery" into wider issues of the curriculum and how students learned. This view of open learning, and the debates it occasioned (Rumble, 1989; Lewis, 1990; Nation, Paine and Richardson, 1990) could be said to have helped stimulate the hybridisation that is so much a part of the current picture.

Open learning thus moved the student into the centre of the picture. Work in the UK during the 1980s also brought the needs of other stakeholders into prominence, particularly employers, through such government-funded initiatives as the Open Tech Programme and the Open College. The main effect of these initiatives was felt in the training and further education sectors, rather than in higher education. In higher education the demands of the professions for more flexible education provision were however also apparent – for example in physiotherapy and nursing (Humphreys and Ham, 1994; Jones and Rushforth, 1996; Quinn, Phillips, Humphreys and Hull, 1997; Allison and Tinson, 1999; Dearnley and Matthew, 2000). The effects on higher education were also seen in the way around 20 polytechnics got together (without any external funding) to create the Open Polytechnic (now the Open Learning Foundation) in the 1980s, to share materials and expertise in broadening the basis of their provision along "open learning" lines (Hardy, 1991).

Though the language and approaches of open learning continue to spread throughout higher education provision, it is still the case that government-funded initiatives are set up in uneasy relationship to the mainstream. Current UK examples are the University for Industry (mainly at the further education level) and the e-University (in higher education). Though both make use of existing institutions

the activity seems distinct from their core business.

Pressures for Hybridisation

The barriers between different types of provision have continued to dissolve through the 1990s. A number of pressures have challenged higher education institutions to review their provision in the direction of greater openness. We can distinguish five here:

- 1. Continuing stakeholder demands for accessible provision
- 2. Increasing diversity of students in higher education, and in particular the involvement of new groups
- 3. Recruitment pressures on institutions
- 4. Need to maintain quality
- 5. Increasing resource constraints on higher education institutions

With respect to continued and growing demand for provision that is accessible, distance forms of provision grew up originally because the needs of some groups were not met by conventionally designed education. Such needs are now much more widely recognised. As well as the groups well-known in distance education – such as women at home with children, the disabled, and those in mobile occupations – the learning needs of people in employment are increasingly important in a society which requires its population to engage in the constant renewal of skills and knowledge. Employers are now much more likely to support their staff, not just in developing the skills immediately needed at work, but also on programmes that build a general and continuing capacity to go on learning. Employers as stakeholders demand provision that suits their own needs for convenience and cost-effectiveness as well as the needs of learners themselves.

Easier access to learning is also being demanded (somewhat ironically) by students who are supposedly learning full-time, on campus. Given increasing financial pressures resulting from the cessation of maintenance grants and the imposition of tuition fees, conventional full-time younger students are behaving increasingly like part-time distance learners, funding their way through university to pay fees and living expenses. Traditionally part-time employment was a part of vacation life; now it is eating into term-time. Hence students sometimes cannot attend lectures because they are working in supermarkets, pubs,

restaurants or other places of casual employment. Other ways than physical attendance at classes and tutorials thus have to be found to sustain the learning of such students. Case studies published by the Open Learning Foundation (Appleton, 1996; Bashir, 1998; Grannell; Halton and Parker, 1996; Harrigan and Wade, 1995; Harris and Stoney, 1996; Lisewski, 1994; Perry, 1995; Perry and Simpson, 1996; Stokes, 1994; Whitehead, 1995) provide further analyses of these pressures and of the responses higher education institutions are developing in response.

Further pressure to expand provision is the increasing diversity of students studying in higher education. The current UK government has set a target to increase higher education participation towards 50 per cent of those aged 18-30 by the end of the decade and within this target has put particular emphasis on recruiting students from groups considered disadvantaged and currently under-represented in higher education.

The impact of this new target has yet to be fully felt but it is likely to lead to at least the following challenges:

- Curriculum development to create programmes that appeal to these new student groups
- Changes in the ways in which students learn and are assessed
- New ways of delivering the curriculum, particularly those using communications and information technology (C&IT)

The MacFarlane Report (Committee of Scottish University Principals, 1992) was the first major document to stimulate discussion of the kind of learning environment needed to respond to these challenges; its points were revisited and re-emphasised by the Dearing Report (National Committee of Inquiry into Higher Education, 1997).

Government targets are thus setting universities the challenge of meeting the needs of an increasingly diverse body of students. At the same time, these targets are leading to competition to recruit students, there are signs that the growing number of places made available is not being matched by the number of students wishing to study in higher education. Under new pressure to fill places, universities are responding by becoming more student-centred. We are beginning to see universities become more aware of their markets and sharper in developing curricula and methods of delivery that meet student needs.

Another pressure is the need to maintain quality, defined in a number of ways, including the percentage of students who successfully complete their courses, degree results, and a more general perception of the quality of the learning experience enjoyed by students. Currently, course subjects are reviewed regularly by the UK Quality Assurance Agency (QAA), in its quest to contribute to three

purposes: (1) effective use of public money (accountability); (2) enhancement of the quality of learning and teaching; and (3) provision of information, for example to help students when applying to university and employers when recruiting. In QAA reviews, judgements are made about the following aspects of quality: curriculum design, content and organisation; teaching, learning and assessment; student progression and achievement; student support and guidance; learning resources; and quality management and enhancement. Scores range from one (Not acceptable quality) to four (Makes a full contribution to attaining stated objectives). This method of "subject review" is currently in the process of change, and the quality arena remains hotly contested (Barnett, 1992 and 1994).

The increase in participation rates inevitably triggers discussion of the "more means worse" kind, but the MacFarlane Report asked more profound questions about the quality of the learning environment for all students. In particular, the report advocated the need to employ technology more systematically to support individuals learning at different rates and with different needs. There are also pressures from student perceptions of quality. As students increasingly have to pay directly for their education, they are making more use of publicly available information on quality (seen, for example, in various "league tables") and are making more demands once they are enrolled.

These pressures are converging at a time of reduced resource. Between 1989-1990 and 2000-2001, there has been a real term reduction of 38 per cent in unit funding for higher education (excluding capital). This has stimulated discussion of the potential of wider use of technology to address the challenges, especially given the increasing power of C&IT and its permeation of spheres of activity other than the educational.

Conclusion

These pressures have led to a picture that is much more diverse than previously. It is best seen in terms of a spectrum. At one end, universities are developing provision that has most of the characteristics of distance learning: the intensive use of learning materials, distant tutors and (at best) infrequent attendance at centres. At the other end of the spectrum, traditional education proceeds much as it always has, recruiting largely from traditional student groups with high prior conventional academic attainment. These two extremes are characterised by Rumble (1992) as "distance teaching universities" and "campus-based universities."

But the growing area, and for this paper the most interesting, is the gap between these two extremes. This is not "mixed mode" or "dual mode" (Rumble, 1992) provision as these terms are usually understood; they imply separate and parallel

face-to-face and distant (alternative) provision. What we are now seeing is the gradual, largely unplanned and ad hoc development of a range of delivery methods, often overlapping, used by students in different circumstances. (See the analysis of institutions: "learning and teaching strategies in HEFCE, 1999" and the subsequent advice to institutions in HEFCE, 2001.)

Hybridisation has accelerated with developments in C&IT. Traditional distance learning materials have always been used by students on conventional courses (witness the widespread but often covert use of Open University printed materials) but web-based materials can more easily and flexibly be made available for students learning from different locations and on different terms. Other uses of technology for on-campus students are equally useful to those studying off-campus, for example the use of bulletin boards and discussion groups, electronic tutorials and (pre-eminently) email as a means of reliable, convenient and in-expensive contact between students, tutors, and student and academic services. As King puts it: "one clear consequence of the new technologies is that the range of teaching options available on- and off-campus, which have represented almost polar opposites, will blur substantially" (King, 2001, p. 55).

In the mid to late 1990s, the Open Learning Foundation commissioned studies of the hybridisation of UK higher education (Lisewski, 1994; Stokes, 1994; Harrigan and Wade, 1995; Perry, 1995; Whitehead, 1995; Appleton, 1996; Edwards, 1996; Grannell, Halton and Parker, 1996; Harris and Stoney, 1996; Hopkins, 1996; Perry and Simpson, 1996; Richardson, 1996; Bashir, 1998; Richardson, 1998; Thompson, 1998). These studies show the range of such approaches across all areas of the curriculum, and the variety of delivery methods in use.

Issues

But, as an analysis of the above cases shows (Lewis, 1997), a number of issues remain, which are not unique to the UK. The results of King's (2001) analysis of the situation in Australia, is remarkably similar. To make full use of new technology and build a new learning environment to meet the needs of all student groups requires a clear strategic vision in addition to imagination and energy from those who interact with students. In the UK, the status and rewards for lecturing and learning support staff are perceived as low and the sector is characterised by continued nervousness about what the future may bring. In spite of initiatives to raise the status of learning and teaching, these activities still rank below research and arguably also below other activities such as consultancy and other work with companies. Typically, the energy of managers tends also to flow more towards these higher status activities than to learning and teaching.

In spite of the activities of the Quality Assurance Agency, it can be argued that change in learning and teaching has been incremental and at the level of techniques rather than action arising from a more radical assessment of the learning environment. We have seen the gradual modification of the status quo, under pressure, rather than proactive development of new learning and teaching arrangements as part of a longer-term strategy.

Students themselves often act as a conservative force. Their expectations are often of traditional teaching, using methods (e.g., lectures) and assessment arrangements (e.g., exams) with which they are familiar. Distance teaching organisations are used to tackling these expectations proactively and helping students to adjust to a different way of learning.

The way forward thus requires the learning environment to be considered more analytically, much as the MacFarlane Report recommended some ten years ago (Committee of Scottish University Principals, 1992). Higher education institutions need to analyse their markets (present and future) and consider the kind of learning environment needed to meet these needs cost-effectively. They need to develop a strategy to make available resources and approaches that support students in whatever mode they are learning: full-time, part-time or at a distance. This means looking not just at technology but also at all other aspects of the learning environment, including:

- Curricula (defined not just in terms of content but also the methods by which students learn)
- Role of teachers and other staff (new roles and skills will be needed, new posts created, and the barriers between existing roles will be blurred as team-working is increasingly used)
- Physical and virtual learning environments (universities' estates will need adapting, with more open access learning or resource centres, more flexible spaces for learning, and arrangements for supporting students whose contact with the campus are solely electronic)
- Learning material in a range of media, serving a variety of student needs and going beyond mere transmission of information, with special consideration of the role of electronically transmitted material.

Finally, but most importantly, universities need to review the role of students themselves, for students are the most important resource of all in the learning environment. Universities have traditionally been seen as communities of scholars. Whether this ideal has been consistently achieved must be open to question. The emphasis in higher education on curriculum content moves students into a passive role: absorbing information (the basis of the traditional lecture). The emphasis has now shifted to seeing students more as customers, but this can be an equally limiting role. They need to be viewed more as participants in their own learning and that of their peers: "students are not simply consumers of education. They are also producers of it" (Fitzgerald, 1996, p. 12). This

perhaps offers a way of reinstating the old ideal of learners as active scholars, along with their teachers.

All of these issues raise the question of resources. Creating a higher education environment that supports learning across different delivery methods require the prioritisation of resources. Teachers typically like to add new resources and techniques to those that exist: to retain lectures whilst also disseminating information electronically, to offer face-to-face tutorials alongside electronic equivalents. But this incremental approach is unlikely to be sustainable. Resources will need to be reallocated to support new activities and grow new methods of supporting student learning. Substitution is much more painful than addition: hence the need for a strategy for change.

References

- Allison, A. and Tinson, S. (1999). The academic development programme: making higher education accessible for nurses. *Open Learning*, 14(1), pp. 38-45.
- Appleton, D. (1996). Implementing open learning in business studies. London: Open Learning Foundation.
- Barnett, R. (1992). The idea of higher education. Buckingham: Open University Press/SRHE.
- Barnett, R. (1994). Limits of competence. Buckingham: Open University Press/SRHE.
- Bashir, T. (1998). Supporting learning through IT and the Internet. London: Open Learning Foundation.
- Bell, R. and Tight, M. (1995). Open universities in nineteenth century Britain. *Open Learning*, 10(2), pp. 3-11.
- Committee of Scottish University Principals (CSUP), (1992). Teaching and learning in an expanding higher education system (known as "the MacFarlane Report"). Edinburgh: CSUP.
- Davies, T. Charles (1977). Open learning systems for mature students. (Working Paper 14). London: Council for Educational Technology.
- Dearnley, C. and Matthew, B. (2000). A group of nurses' experience open learning: exploring the impact. *Open Learning*, 15(2), pp. 191-206.
- Edwards, P. (1996). Implementing diagnostic testing for non-specialist mathematics courses. London: Open Learning Foundation.
- Fitzgerald, M. (1996). No mark for effort skews assessment. London: The Times Higher, April 5 issue, p. 12.
- Grannell, M., Halton J. and Parker, D. (1996). Self-managed study in mathematics using text and video. London: Open Learning Foundation.
- Hardy, D. (1991). The Open Polytechnic. Open Learning, 6(2), pp. 55-59.
- Harrigan, P. and Wade, J. (1995). Extending opportunity in nurse education. London: Open Learning Foundation.
- Harris, V. and Stoney, C. (1996). An independent learning project in hospitality management. London: Open Learning Foundation.
- HEFCE (1999). Institutional learning and teaching strategies: A guide to good

- practice. Bristol: Higher Education Funding Council for England (HEFCE).
- HEFCE (2001). Strategies for learning and teaching in higher education: A guide to good practice. Bristol: Higher Education Funding Council for England (HEFCE).
- Hopkins, T. (1996). Using open learning in social work: an implementation handbook. London: Open Learning Foundation.
- Humphreys, J. and Ham, R. (1994). An application of open learning for the UK physiotherapy profession. *Open Learning*, 9(3), pp. 3-8.
- Jones, F. and Rushforth, D. (1996). A consumer survey of an enrolled nurse open learning conversion course. *Open Learning*, 11(1), pp. 64-68.
- King, B. (2001). Managing the changing nature of distance and open education at institutional level. *Open Learning*, 16 (1), pp. 47-60.
- Lewis, Ray (1984). Clwyd local education authority: A-level sociology distance-learning scheme in schools. In *Open Learning in Action* R Lewis (Ed.) London: Council for Educational Technology.
- Lewis, R. (1986). What is open learning? Open Learning, 1(2), pp. 5-10.
- Lewis, R. (1990). Open learning and the misuse of language: a response to Greville Rumble. *Open Learning*, 5(1), pp. 3-8.
- Lewis, R. (1997). Open learning in higher education. *Open Learning*, 12(3), pp. 3-13.
- Lisewski, B. (1994). . pilot project at the Liverpool Business School. London: Open Learning Foundation.
- Nation, D., Paine, N. and Richardson, M. (1990). Open learning and misuse of language: some comments on the Rumble, Lewis debate. *Open Learning*, 5(2), pp. 40-45.
- National Committee of Inquiry into Higher Education. (1997). *Higher education in the learning society*, (known as "the Dearing Report"). London: HMSO.
- Perry, B. (1995). Flexible learning methods for corporate clients. London: Open Learning Foundation.
- Perry, M. and Simpson, M. (1996). Resource-based learning in accounting. London: Open Learning Foundation.
- Quinn, F.M., Phillips, M., Humphreys, J. and Hull, C. (1997). Professional development for nurses: a national open learning partnership. *Open Learning*, 12(1), Feb 1997, pp. 45-51.

- Richardson, J. (1996). Changing courses strategies for changing the HE learning environment. London: Open Learning Foundation.
- Richardson, J. (1998). Horses for courses? converting learning materials for electronic delivery. London: Open Learning Foundation.
- Rumble, G. (1989). "Open learning," "distance learning," and the misuse of language. Open Learning, 4(2), pp. 28-36.
- Rumble, G. (1992). The competitive vulnerability of distance teaching universities. Open Learning, 7 (2), pp. 31-45.
- Scott, P. (1995). The meanings of mass higher education. Buckingham: Open University Press/SRHE.
- Stokes, R.J.S. (1994). Computer assisted learning in engineering at the University of Humberside. London: Open Learning Foundation.
- Thompson, D. (1998). . flexible MBA by Internet. London: Open Learning Foundation.
- Whitehead, K. (1995). . flexible learning initiative at Coventry University. London: Open Learning Foundation.
- For further discussion, the following documents available on the Web:
- Survival of higher education: using new technologies http://www.open.ac.uk/vcsspeeches/lomalinda.html.
- The traditional university is dead: long live the distributed university http://www.fae.plym.ac.uk/tele/longlive.html.
- The OU at thirty: strategies for 1999 http://www.vous.org/vc2.html.

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