



Weapons of mass instruction? The rhetoric and reality of online learning

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Abstract

Purpose – Explores the development of online learning in UK higher education as a case study to illustrate the difficulties created by an over-reliance on technology push and a failure to understand and respond to market needs.

Design/methodology/approach – Draws on a variety of published secondary sources and the authors' own experience of working with the UK e-University (UKeU).

Findings – Argues that the development of online learning as a substitute for more traditional forms of delivery has been limited. For both e-learning in general and for the UKeU in particular, the comparatively limited adoption of online learning beyond the campus-based model is explained by failure to understand the market and a focus on what is technologically possible rather than what customers want.

Research limitations/implications – Presents a single case study developed from secondary sources and personal experience.

Practical implications – Models of online learning that exclude any face-to-face contact may have limited market opportunities, but blended models offer considerable potential both on and off campus. Investments and development costs of online learning are such that reusability or recycling of learning material has to be built into the production process if the benefits are to be fully realised.

Originality/value – Previous studies of e-learning in the UK have not been driven by a marketing perspective. This study therefore delivers valuable intelligence for marketing educators considering their own options for investing in online learning development. In general, it provides further evidence of the importance of using market intelligence to inform the development and launch of product and service innovations.

Keywords E-learning, Learning methods, Marketing, United Kingdom

Paper type Case study

Introduction

The term “weapons of mass instruction” has been used in a variety of educational and related contexts (Butson, 2003). In its most common usage, it refers to a pedagogy that has an extensive impact on a mass audience. It is most commonly, but not exclusively, associated with online and e-learning. There are two basic models of online learning; the campus-based model sees the online medium as a complement to traditional delivery modes while the distance-based model sees online learning as a substitute for traditional forms of delivery. The latter may be in either a blended form (mixed media, including print, CD-rom, DVD and so on, or a combination of these with some face-to-face contact) or pure play (exclusively online, with all learning materials supplied via the internet). The second of those varieties is the primary focus of attention in this paper.



Online learning as an alternative to traditional forms of delivery has been presented as a solution to the myriad challenges facing the higher education sector. It allows universities to access the mass international market, particularly in Asia, without requiring costly investment in a campus infrastructure. It promotes greater efficiency in course delivery, supports a greater diversity of pedagogic approaches, increases flexibility for learners and offers extensive opportunities for interactivity. Indeed in much the same way as the internet-created opportunities for mass customisation in the delivery of goods and services, e-learning has been heralded as a means of mass personalisation of the education process. The reality has been rather less promising. The extent to which mainstream universities have adopted e-learning as an alternative delivery mode has been limited, student resistance has been significant, and the UK's high-profile £62m investment in online learning failed when the UKeU was wound up in 2004.

This paper explores the development of online learning specifically in the area of marketing and argues that an over-dependence on technology-push and an uncritical assessment of market potential goes a long way towards explaining why the reality has failed to live up to the rhetoric. In particular, using the UK's e-University as a case study, the paper highlights how a failure to gather and fully utilise relevant market intelligence can have a negative impact on the implementation of innovative approaches to learning. The paper begins with a brief discussion of the development of online learning in UK higher education with particular reference to the delivery of marketing education. This analysis highlights a slow rate of adoption for stand-alone delivery. A case study of the now defunct UKeU is presented as an illustration of the nature of the problems which have bedevilled online learning and the paper closes with a discussion of future strategies for successful implementation.

The development of online learning in marketing

In principle, there are very good reasons why higher education institutions in general, and business schools in particular, should adopt online learning, and these have been extensively voiced in a variety of different media (Gibbons and Wentworth, 2001; www.multimediamarketing.com; www.learningpeaks.com). In general terms, they can be classified as either commercial or pedagogic or a mixture of both.

Commercial reasons for adopting online learning are widely cited, with arguments based around both costs and revenue (HEFCE, 2000; Twigg, 2003). On the cost side, arguments revolved around efficiency in relation to both physical infrastructure and staff time. Education could be provided to a much larger group of students without the need for extensive investment in physical infrastructure; material developed by staff could be delivered to a much larger audience than would be possible face-to-face and online communication could be quicker and more focused than the off line equivalent.

In particular, it has been argued that the adoption of a "granular" approach (Wiley, 2001) structured around "learning objects" and "reusability" would ensure that once online material had been developed to achieve a particular learning outcome, it could be made available for re-use in different contexts, thus obviating duplication of effort by different teachers. Dividing material into discrete and independent "chunks" of learning (the granular approach) would create the opportunity to re-package collections of "learning objects" (small portions of study including some information and activity) into different modules and courses in what is sometimes likened to a "pick'n'mix" approach to education: see, for example, Kraan (2004).

In revenue terms, there was arguably an even more compelling argument for the adoption of online learning: see, for example, Low and Mavroidis (2002). Business and business-related subjects are in high demand worldwide and online delivery provides a means of accessing mass markets internationally. Students who cannot afford the time or money to study abroad can access international education cost effectively via the internet, giving universities access to a market and a revenue stream which they could not previously serve. Certainly, the evidence from the experience of online providers in the USA (HEFCE, 2005c) suggested that significant market opportunities existed and the continued strong financial performance of private sector organisations including market leaders such as Apollo (owner of the wholly online University of Phoenix), ITT Educational Services and DeVry suggested that these markets could be served profitably (Stokes, 2003). The US experience also pointed to strong market demand, with annual revenue growth of more than 30 per cent for the top ten publicly-traded higher education companies reported in 2004 (Farrell, 2004).

Pedagogic arguments revolve around the benefits of multimedia, the ability to effectively support a greater variety of pedagogical styles and the opportunity to enhance the degree of personalisation and interactivity to a level far greater than might be possible in large face-to-face classes (Williams, 2003). Particular benefits include the potential for students to participate in valuable discussion and group work activities across national and cultural divides, and to access tutors or other tutorial help systems whenever they need them, from their homes or workplaces. Students can work at their own pace or at times which suit them and set their own targets for achievement (Twigg, 2003). It can also be argued that in order to create such online materials, authors need to spend time structuring and rationalizing their offering to a degree that is less often done for face-to-face teaching with the result that the learning experience and materials may be more consistent and even superior to those associated with that form of delivery.

Despite compelling commercial and pedagogic arguments for online learning, the US experience has yet to be replicated elsewhere. In particular, for UK providers, predicted high levels of demand for such courses have failed to materialise. Although online learning has become increasingly popular as a complement to traditional forms of delivery, it has failed to really develop as a substitute. There are a number of explanations for this outcome. Online learning is a major innovation; students face a high degree of perceived risk. The experience is qualitatively different and the portability of their qualification may be open to question, for many national governments still refuse to recognise distance learning qualifications: see, for example, UNESCO (1997). Not surprisingly, potential students have been cautious, and have either been unwilling to incur the extra cost of studying face-to-face or have delayed their study plans.

Costs have proved to be a cause for concern, for predicted efficiency gains are very heavily dependent on economies of scale. The fixed costs of both development and marketing are high, requiring substantial up-front investments and comparatively long-term payback periods. The US experience, where some private sector providers such as the University of Phoenix (an entirely online institution) have been remarkably successful, emphasises the importance of large-scale marketing expenditure (Carnevale, 2005; McCowan, 2004). And even in that more developed market there have been a number of high profile failures (MacLeod, 2002). Development costs are equally significant, with estimates varying between \$5,000 and

\$12,000 per hour's worth of online material and figures of up to \$1m being quoted for a 30 hour course (HEFCE, 2005b). Finally, not everyone is convinced about the pedagogic benefits of online learning. For example, the UK's Open University (a solely distance-learning institution) has been keen to point out that the medium itself is less important than the way in which teaching is approached (Laurillard, 2001) and the constructivist approaches so commonly associated with online learning are considered to be equally effective in an offline environment. Furthermore, the concept of "learning objects" (small pieces of study material directed at single learning objectives) has been subject to considerable criticism. Butson (2003), for example, has speculated that, as weapons of mass instruction, they are effective in explaining what to think but have limited value in helping students understand how to think.

Given some of these difficulties, it is perhaps unsurprising that the growth in online learning in the UK as an alternative to traditional forms of delivery has been slower than originally expected at the end of the 1990s. Table I shows that an extensive web-based search identified a total of 62 degree programmes offered at a distance in the areas of marketing and general management, in the UK. Traditional paper-based distance learning remains the dominant mode of delivery with only 39 per cent of courses having a formally specified element of online learning. The extent of adoption of online learning seems to be greatest among the public-private partnership arrangements, although the relatively small number of such courses makes generalisation difficult.

Kultchitsky and Leo (2003), investigated Singaporean business students' preferences concerning the choice of online versus on-campus study, and those of international students for study in Australia, UK or North America. They found that the most significant determinant of student choice was the mode of delivery, followed by course fees and then employment prospects. The students demonstrated a very strong preference for face-to-face delivery over internet learning, with the hybrid model in between. The UK was the preferred destination, followed by North America with Australia third, but the differences between the three were not regarded as significant. Thus, the attraction of studying at a UK University was a positive incentive to join the UK's e-University, while the mode of instruction was a clear disincentive.

Case study: the UK e-University

The case of the UKeU provides an illustration of many of the challenges associated with the reality of implementing online learning, particularly in the context of stand alone programmes. More generally, it provides a very clear illustration of the problems associated with technology-push approaches to innovation, which fail to recognise the importance of understanding the marketplace and specifically the needs and

Type of provider	Total distance learning courses	Total with online elements	Total PG	Total MBA
Private sector	18	5 (28)	6 (33)	2 (11)
Public university with private sector partner	9	7 (78)	7 (78)	5 (55)
Public university	35	12 (34)	23 (66)	14 (40)
Total	62	24	36	21

Note: Figures within parentheses are percentages

Table I.
UK distance and online
provision of marketing
and general management
courses, June 2005

expectations of prospective customers. Although the experience and the course activity associated with the UKeU extended beyond the domain of marketing education, the lessons from this case are of considerable relevance to marketing educators, both for purpose of their own product development and also as an illustration of the dangers of being “product-oriented”. The material on which this case study is based derives from public sources most notably the Higher Education Funding Council of the UK (HEFCE, 2005b, c), government documents, press reports and the authors’ own experience of working with the UKeU in course development[1].

Recognising the importance of scale and the need for a much more co-ordinated approach to the development of online learning, the government announced the establishment of the UKeU in February 2000. The organization was given a grant of £62m for the development of online learning during the period 2001-2004, and was expected to attract significant matched private sector funding.

Proposed partners in the project were drawn from both public and private sectors. The potential public-sector partners included the UK government itself, some overseas governments, the various education funding councils and regional bodies, the BBC, all the British universities, the British Council (which promotes British education overseas) and the British Library. Not all of these actively contributed to the organization. As for private sector partners, it was hoped that venture capitalists might become involved and that placements and secondments might be provided, that IT partners would help in the development of the platform, and that some of the universities might become involved commercially. In the event, there was minimal interest from the private sector; only Fujitsu and Sun Microsystems, who put £5.6m into the project, became involved. Although almost all UK universities signed up to the project, several provided online courses on their own platforms and many others did not become involved at all, possibly because they were waiting to see how the project subsequently developed.

The role of the individual universities in the project was multi-stranded. They were essential to its existence as providers of content and pedagogy, with the guarantee of quality being supplied by their individual awards and reputations. They were also responsible for the development process and for the provision of tutor support during delivery. Assessment of student performance to standards matching those applied to face-to-face courses was also provided by the participating universities, with an emphasis on validity and reliability of assessment across the board. The UKeU in turn provided the delivery platform, consultancy support to university staff, administrative systems for application and registration, and – perhaps most significantly – marketing support. The UKeU also provided the initial investment to support course development and expected payback according to an agreed business plan. In effect, it not only acted as a distribution channel for courses provided by selected UK universities but also extended its role into the management of students, pedagogy and the provision of a platform and learning management system (LMS).

The decision was made early in the project to concentrate at first on postgraduate and continuing professional development courses, with undergraduate courses being developed once the platform and institution were consolidated. In the event, two foundation degrees were also included in the programme from 2003. The first tranche of courses was selected in 2001, with three to be fast-tracked out of 11, all MSc courses, using the UKeU’s new platform and based on a granular or learning-object approach. Further courses were expected to build on clusters of subject areas and universities,

emphasising “public good” courses and the opportunity for widening participation to students with various disadvantages and disabilities. Part of the role of the UKeU in promoting the project was to enable the exchange of granular units of learning between universities thus building critical mass within the UK higher education sector.

The platform from which courses would be delivered and students would be supported required an extensive range of features. Existing virtual learning environments, such as web CT and Blackboard, did not match the UKeU’s desired specification and a dedicated platform was designed and constructed from scratch. The intention was to use shareable courseware object reference model (SCORM) to provide students with complex directed-learning experiences.

Following the initial fast-track launch of three courses, the UKeU launched a further 16 undergraduate and master’s degree courses in late 2003. Recruitment was expected to exceed 5,000 by the end of 2003 (the original target had been 12,600). In the event, there were only 900 students recruited by that date. In 2004, with extensive criticism of the costs associated with the project and the poor levels of recruitment, HEFCE decided that the UKeU experiment had failed, and the company was wound up. Those universities which had developed courses for the UKeU platform were able to transfer to their own platforms and continue to deliver their courses. The requirement to repay initial investments was waived, but participating universities were left without the marketing support that had been seen as one of the primary benefits of working with the UKeU.

Case analysis

The reasons for the failure of the UKeU experiment have been extensively researched: see, for example, Connole *et al.* (2005) and HEFCE (2005b). In many respects, the UKeU experience encapsulates the problems and challenges associated with the overall development of online learning as an alternative mode of delivery. Despite best intentions, it was a supply-led operation, driven by what was technologically possible rather than what was commercially feasible given the nature of the target market. Market research and market intelligence were inadequate and levels of demand and willingness to pay were over-estimated (Education and Skills Committee, 2005). The initial plan forecast student numbers in excess of 100,000 after six years, reaching 250,000 after ten years. There was no attempt to utilise the knowledge and experience of the British Council, and a heavy reliance on anecdotal evidence and personal contacts. It was perhaps indicative of the low significance attached to marketing that the function was not represented at board level and that, when the director of corporate marketing resigned at an early stage, he was not replaced.

When the research which led to the development of the UKeU was undertaken, it was noted that any recommended targets for student intakes were dependent on the business being “led by market factors rather than being producer led” (HEFCE, 2005c, Chapter 3, p. 5). Subsequently, the approach of inviting individual universities to bid for funding for courses that they wished to offer or develop meant that the realised business model was very much supply-driven. Although all funding bids had to include a market assessment, there is no evidence to suggest that these were seriously evaluated for market potential[2].

Indeed, of the £50m spent by the UKeU, only £4.2m supported sales and marketing and no formal market research was undertaken to assess the nature and level of

demand or student preferences regarding the nature of online learning (HEFCE, 2005c). In contrast, reported marketing expenditures for the University of Phoenix (admittedly a much larger organisation) were estimated at \$74m in 2002 (Stokes, 2003). Driven by a belief in the potential of technology to deliver a new and unique learning experience, rather than any detailed market intelligence, the UKeU focused exclusively on the “pure play” approach (everything online) with any paper-based learning support actively discouraged.

In contrast to very limited marketing expenditure, estimates suggest that the UKeU spent some £20m on the development of its platform and LMS. The underlying aim of the latter was to provide learners with a complex, rich learning experience that would be genuinely multimedia, and in which their learning could be tracked and facilitated by experienced staff, following the shareable courseware (or content) object reference model. The decision to use this “granular” approach determined much of the method used by content providers in writing the material for courses delivered through the UKeU. However, the purpose of SCORM in theory was to facilitate “complex directed-learning experiences” which might ultimately enable learners to navigate or be navigated through a huge well-charted array of learning options. Because of the limitations of the legal rights ownership of participating universities and their costs, registration and accreditation procedures, such an ambitious goal was likely to take considerable time to reach and could only have been achieved if individual universities proved to be committed to it in the long term. However, the granular approach to designing course materials meant that once an author had designed a way to teach to a particular outcome, no-one else within the UKeU needed to design to that outcome again, because each item of learning would be tradeable within the UKeU participating organizations (in theory, at least).

The platform represented a huge investment and was core to the UKeU strategy; getting the platform right was seen as essential and a guarantee of successful recruitment (Education and Skills Committee, 2005). In reality its attractiveness to member universities was limited, with many preferring to use their existing virtual learning environments. When the majority of courses were launched in Autumn 2003, only 200 of the 900 students were actually using the UKeU platform (Smithers, 2005).

Garret (2004) highlights a similar set of issues underlying the failure of the UKeU, but points to a further problem: unrealistic expectations, not just only on the part of the UKeU but also of HEFCE. He suggests that “In other circumstances, the 900 students recruited by November 2003 to the handful of programs then available would have been judged quite respectable.” Subsequently, both the Scottish Interactive University and the University of Liverpool have had a measure of success with their own online initiatives. The UHI Millennium Institution in Scotland (formerly the University of the Highlands and Islands) has also made notable progress with online learning at a distance.

A further question which was raised in the minds of some participants in the project was why the development of the UK’s flagship online learning institution was carried out without explicit reference to the Open University. As the UK’s leading higher education distance learning provider, it might have been expected to have exactly the understanding of the market that would be needed. Politically, it may have been difficult to for the UKeU to have been seen to have a different relationship with one specific university, but the opportunity to benefit from the experience and understanding of the older institution was lost.

Conclusions and implications

The failure of the UKeU is unsurprising, presents a classic case of product orientation, and highlights the importance of good market research and intelligence in successful innovation. A technology-driven organisation with limited understanding and awareness of what its market really wanted (whether students or collaborating universities) and an overwhelming desire to “build a better mousetrap”, the UKeU lacked a clear brand and a clear position in the market. And yet, there must be a concern that in bemoaning the failure of this initiative we risk throwing the baby out with the bath water. Online learning has made considerable strides as a complement to existing face-to-face delivery. While the blended approach seems likely to be the dominant model for future developments (HEFCE, 2005a), the survival and success of a range of public and private sector providers provides an indication that there is a market for online delivery as an alternative to campus-based learning – perhaps not in its pure play form but rather through a careful blend of online materials, tutor support, paper-based material and face-to-face contact. For business schools, the challenge may be how best to exploit this opportunity. There is no point in rushing to develop courses for which there is no proven demand, but it would be a pity to assume that the UKeU’s failure to recruit students means that there is no demand.

Given the significant investment required to develop online material, even when using a blended approach, a long-term perspective is essential, as is some degree of re-usability. The ideal of courses built completely from a range of re-usable learning objects may prove difficult to achieve both pedagogically and organisationally. It is perhaps more realistic to aspire to a form of recycling, in which material developed for one context can be used in another with minor adjustments, at most. Recycling learning material spreads the costs of producing online material across multiple uses. However, to be effective, it should be built into the development process rather than a decision that is taken once the material has been developed. Most obviously, material developed for distance students can be recycled to support on campus flexible learning and vice versa. One benefit from the UKeU’s decision to focus on “learning objects” was that the concept of re-usability was integrated into the course development process.

Accordingly, material developed by the authors for a UKeU funded online MSc has already been reused to support on campus delivery and for other off campus courses, and it is anticipated that there will continue to be interplay between face-to-face and pure play and the development of on campus hybrid modules that utilise the most effective elements of the online modules.

Notes

1. The authors were involved as managers and authors in the development of a proposal to the UKeU for a standalone, online master’s programme which was subsequently funded as part of the first funding round. The course was developed and launched in 2003 and subsequently transferred to the University’s own platform when the UKeU was wound up. The course still runs but recruitment has been disappointing.
2. In our initial course proposal we proposed very conservative numbers of students for an online MSc in Tourism and Travel Management. We were strongly encouraged to revise our targets upwards significantly although we did not do so. A launch target of 20 students was not met and our subsequent modest growth rates failed to materialise.

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