

Widening the net: Encouraging engagement with self directed e-learning resources



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Learner managed online resources have seen substantial growth in UK higher education in recent years. Online resources can maintain or improve the quality of the learning experience, and the availability of a range of support materials is helpful to a growing and increasingly diverse student population. However, research evidence also indicates a level of dissatisfaction with self directed online learning resources, with issues relating to engagement and participation often coming to the fore. This paper takes the view that this is partly due to the 'disconnect' between teacher managed and learner managed activities, and describes a small scale research project which aims to bridge this gap. This approach links together learner managed e-learning resources and tutor feedback, constructed in such a way so as to minimise the time demands on academic colleagues whilst still providing critical aspects of formative assessment. This design seems to show promise, and the approach is discussed in terms of advantages, disadvantages and opportunities for further development.

Keywords: learning support and scaffolds; supporting large classes; learning designs

Introduction

This paper focuses on the use of learning technologies used in support of a Legal Practice Certificate in Law delivered by a UK higher education institution. This programme aims to prepare participants for practice as a trainee solicitor. It is open to those who have completed the initial academic stage of legal training and is part of the pathway to a Masters qualification in law. Part of this programme includes a strand relating to 'Professional Conduct', a pervasive theme that is taught throughout the year. Students are introduced to these concepts of professional identity at the beginning of the programme, concepts which then feature throughout subsequent modules. Examinations seek to evaluate candidates' depth of knowledge through integrative questions, and their breadth of knowledge is assayed through a series of short answer questions on a wide range of topics relating specifically to the theme of professional conduct. Three 'refresher' lectures are given during the summer term as specific preparation for the examinations.

Learning technologies are increasingly used in a range of educational contexts and UK higher education (HE) is no exception. This is in part a response to the *Dearing Report* (NCIHE, 1997) which emphasised the need for growth of technology in higher education, and in part due to the drive to teach an increasing number of students with decreasing resources (Kirkwood & Price, 2005). Significantly, the UK government White Paper, *The Future of Higher Education*, advocated an increase in the use of learning technology (e-learning) in order to provide more flexible learning opportunities in the context of other UK drivers to widen participation (DFES, 2004). The more recently published national e-learning strategy encourages the use of e-learning at all educational levels to "motivate, personalise, and stretch" learners (DFES, 2005, p. 6).

Learning technologies encompass a very broad range of electronic approaches to supporting the educational experience of learners, and self directed online resources seem to offer the potential to support participants at a time, place and pace convenient to the learner. Laurillard (2002) in her conversational framework points to the need for well designed activities to be more than just the transmission of information, arguing persuasively the case for integration, adaptability and interactivity. Feedback and discussion is a crucial dimension to this approach.

However, Conole *et al* (2006) cogently observe that learners tend to appropriate technologies most visibly helpful to their needs, and these could be personal technologies or those that are institutionally provided. Although it is not surprising to see such strategic value judgements being made by learners, it is perhaps more interesting to find instances where institutionally provided materials are underused or even ignored. It is possible that learners fail to see the interconnected nature of knowledge (Saljo 1982), downplaying the symbiotic relationship between taught and learner managed activity. More pragmatically, it may be that activities involving the tutor are given more prominence and accorded a greater level of strategic priority by learners. In extremis this can lead, we argue, to a 'disconnect' between tutor mediated and learner mediated activities and the potential for this is highest where e-learning resources are not sufficiently well integrated into the curriculum. Amongst others, Creanor *et al* (2006) noted in their review of the learner experience that "learners were very aware ... if the e-learning was not well integrated with face to face activities", reporting that some learners felt that these aspects were "completely divorced" from each other.

In this paper we describe a pilot study aiming to bridge this gap, where self directed online resources were introduced into a Legal Practice Certificate programme. These self directed resources were based on a set of self assessment questions. However, tutor involvement was also built into the learning design in an attempt to minimise this 'disconnect' and to supplement student self evaluations of performance with tutor observations and feedback. It was important to ensure that this intervention did not incur a cost penalty in terms of tutor workload or other cost implications. As Gibbs and Simpson (2004) point out: "the trick when designing assessment regimes is to generate engagement with learning tasks without generating piles of marking". This approach was specifically designed with the aim of meeting conditions 4-8 of the Gibbs and Simpson framework for strategic assessment design:

4. Sufficient feedback is provided, both often enough and in enough detail
 5. The feedback focuses on students' performance, on their learning and on actions under the students' control, rather than on the students themselves and on their characteristics
 6. The feedback is timely in that it is received by students while it still matters to them and in time for them to pay attention to further learning or receive further assistance
 7. Feedback is appropriate to the purpose of the assignment and to its criteria for success
 8. Feedback is appropriate, in relation to students' understanding of what they are supposed to be doing.
- (from Gibbs and Simpson, 2004)

Methodology

Self directed online materials were developed to support the three refresher lectures prior to the summer assessment. A bank of sample questions relating to the taught content was devised by the faculty academic. These were divided into three topic sections and were made available over the internet. Questions were released in three stages; with a section comprising five random questions relating to that weeks' taught content being made available for a period of one week.

For each question, both 'hints' and 'help' were offered. Hints comprised a very short (often just one line) prompt, with 'help' comprising more directive advice including references to taught material. Participants were directed to respond to the question using free-form text entered into a text box. After completing their response, their confidence in the entered answer was measured using a drop-down box using a rating scale of 1 (not confident) to 10 (very confident). At that point the model answer was revealed, and participants were then asked to compare their answer, self assess their response and award themselves a mark out of 10 for the quality of their answer. Although there was a field allowing participants to enter their name, this was optional and the use of a pseudonym was permitted. The pages were placed in the public domain outside of the University intranet, permitting truly anonymous access. Figure 1 shows a typical screen showing a single question.

For each participant response, the internet server recorded a number of parameters, including a flag to indicate whether the 'hint' or 'help' button had been pressed. The confidence score, self-mark and the actual answer entered were also recorded.

An administrative interface was developed, which enabled the faculty academic to view this information in two ways. Firstly, it was possible to view each candidate's responses in sequential order. This allowed the faculty member to analyse each participant's performance across each of the five questions drawn for that stage. A second way of viewing data was devised: this sliced the responses in a different manner allowing the faculty academic to view all candidate responses to each question (Figure 2).

Professional Conduct Session Tests
Navigation
1 of 5
?

You are instructed to act for a company to defend a money claim for non performance of a contract. After many months of gathering evidence and on reviewing all the paperwork you take the view that the applicant's claim is without merit but it is not going away. The matter drags on and your client surprisingly proposes to offer a settlement and instructs you that significant funds (in excess of £25,000) will be sent to you to make a payment in to court.

What concerns do you have about this proposal?

Stuck?
HINT
HELP

Rate
Rate Confidence

please enter your answer in the box above and then rate your confidence to reveal the correct answer

Figure 1: Sample question showing layout presented to learners

LPC Online Results - By Question					
Show results by: <u>Candidate</u>					
Question 1					
Candidate	Answer	Hint	Help	Confidence	Score
1	Money Laundering - suspicious instructions. Source of money?	No	No	10	9
2	There are a number of areas of concern here. Firstly, an offer to settle will be the client's decision - the solicitor should make the legal position clear and explain the consequences of making an offer. This should be explained in writing for evidential purposes. Even if the client makes an apparently unwise decision, the solicitor must still follow the instruction. Secondly, however, the solicitor should consider the client's motives in making the offer to settle. There may be sound commercial reasons to bring the lengthy legal proceedings to an end, but given the suddenness of the offer the possibility of money laundering is there as, the money would pass through the bank accounts of the solicitor and of the court. If the client cannot provide a reasonable explanation, then the matter should be referred to the in-house money laundering	Yes	No	3	2

Figure 2: Tutor view showing collated answers from candidates

The approach was piloted with learners during the summer term of 2007 and subjected to evaluation. The aim of this research was to:

- identify the extent to which learners had engaged with the online activities;
- evaluate the integrative nature of this approach from the learner perspective.

Data were collected from a number of sources. The server script recorded usage statistics to gain an indication of the level and type of participation. Tutor observations on the process were informally gathered via email and discussion with the researchers. The learner experience was examined via a series of semi-structured interviews conducted by telephone with an opportunity sample of students during August 2007. In accordance with approved ethical procedures, permission was gained from participating students for these interviews to be recorded and subjected to later analysis.

Results and discussion

Data gathered by the server recorded 13 sessions, with a total of 61 data points (i.e. complete answers to self test questions) being collected, and this appeared to represent a modest level of engagement from this cohort. Those that took part usually identified themselves, with very few choosing to submit anonymously.

Broad observations of data collected suggested that participants had taken the exercise seriously, with detailed and in some cases lengthy answers being posted. Across the 61 questions attempted, there were a total of 4,540 words entered to answer the questions, with each posted comment comprising 75 words on average.

Table 1: Summary of quantitative data

Description	Value
Number of questions attempted	61 (100%)
Number of requests for the 'hint' page	14 (22%)
Number of requests for the 'help' page	7 (11%)
self confidence rating (scale 1-10)	5.03 (median 5, st dev 2.46)
overall score (self mark, scale 1-10)	4.10 (median 4, st dev 2.66)
Correlation between confidence and score	0.66

As can be seen in Table 1, it was surprising to see that 'hints' were not used very often, with only 14 server requests for the hint page. Pages containing more detailed 'help' were used even less: out of a possible 61 times, help was sought only 7 times. The self rating measures of confidence produced some interesting patterns: although the arithmetic mean score of the self confidence rating was 5.03 (scored on a scale of 1-10), it was interesting to see that participants seemed to divide into those with either high confidence or low confidence, and Figure 2 shows a typical response in that respect. Self ratings of overall score were derived from the learners comparison of the model answer with their own and again a 1-10 rating scale was used. This produced a mean score of 4.1, with only a modest correlation (0.66) between self confidence scores and self marks awarded for the answer.

However, the approach received positive praise from the tutor, who pointed to the time saved in terms of providing collated feedback to learners. It was possible to show responses on screen (see Figure 2) and discuss them in the taught session, thereby saving substantially on preparation and assessment time. The value of 'assessment discipline' was also deemed helpful in terms of building learner confidence by demonstrating the scope and breadth of questions used in examinations. The tutor noted the seemingly low take-up of the online resource and suggested that it would be helpful in terms of orientation if some sample questions were demonstrated in class prior to the deployment of the online resources. A minor problem was noted in terms of returning feedback to learners after the last taught session which preceded the final series of online questions, but it was felt that this could be achieved by publishing the final commentary to the internet server for participants to download.

Data gathered from learners proved to be most interesting. The overall tone of learner evaluation was positive with no negative criticism received. The structure and layout received warm praise for being straightforward in terms of navigation, yet during the course of the interviews it became apparent that the function of the 'help' button had been misinterpreted – with participants assuming that this meant help on how to use the online resources as opposed to help about the specific question on display. This was exemplified by the interviewee who reported that "I used the hint and half the time I didn't know it" (this participant subsequently gave up). This may in part explain the low levels of usage of the 'help' pages described in Table 1.

Support for the self rating scale of confidence was somewhat muted, as depicted by the participant who said that he "could see the benefit of it but I personally didn't use it". Similar responses were gained from other participants, suggesting that learners had simply clicked anything on this rating scale in order to proceed to the next step where the model answer was displayed, and this is perhaps consistent with the pattern of responses described in Table 1. Further probing on this theme suggested that although learners were aware of how confident they felt, they were not sufficiently motivated to share this with others. There is an issue relating to ownership and possibly self esteem here which has implications for the use of self confidence rating scales when used in formative manner. In this respect, Gardner-Medwin and Gahan (2003) allude to the potential dangers of constructing a learning situation in which confidence per se is

'rewarded' or 'punished'. Warmer praise was received for the self marking scale as it was consistently deemed to be more useful to compare the entered answer with the model answer and look for points of similarity and difference.

Support for the integrative nature of this project was very positive, with interviewees rating this aspect most highly. For some, the value lay in seeing other participant's answers and listening to tutor comments, with one participant commenting that it was "encouraging when you find that others are having the same problems". This view was amplified by the interviewee who suggested that the tutor contribution was of crucial importance:

... otherwise you are just playing around with the computer whereas when you have <lecturer name> feeding back and you know that he is reading your answers it is much more personal and not just a computer program ... probably the most vital part.

Yet, in spite of this warm praise from interviewees only a modest proportion of the cohort had engaged with the online materials - according to the server recordings of responses. An explanation for this apparent paradox was revealed when one interviewee described how they had used the system: "I used it a few times and then I went through everything again before the exam". This description was completely at odds with the server data, which had recorded only one set of responses from this participant. Further probing on this theme revealed a pattern of usage that was very interesting: "I know that everyone on the course I know used it ... but not everyone submitted it at the end". An investigation of the raw server data (page requests) suggested that this was probably the case.

This poses an interesting challenge, and this interviewee was quick to grasp the tension of needing to share your results in order to gain the value of seeing other participant results in a situation somewhat reminiscent of the 'tragedy of the commons', (a concept originally described by Hardin, 1968). Although this could seemingly be addressed by recording candidate responses as they progress as opposed to at the end, it is our suspicion that the pattern of engagement would change again once this process became common knowledge in the student domain. Although other authors (eg Salmon, 2000) have suggested that this process of 'lurking' is essentially benign, there is clearly a point at which an insufficient critical mass is developed when such engagement is invisible to the learner community. One way of addressing this issue may be to make explicit the purpose of this aspect to learners prior to opening the online resources for use and an anticipatory demonstration of the system may be of value here.

In the closing stages of each interview, participants were asked to identify any potential improvements to the system. Unsurprisingly, most suggested that increasing the size of the question database would be helpful. Some wanted to see the approach adopted in other modules: "I wish I had one of these for each topic ... for employment law, property and so on". Others suggested having questions at varying levels of difficulty so that they could 'test their level'. Although seemingly attractive, this would bring a degree of complexity to the process that may not ultimately prove helpful, and other research has reported that this approach does not always work in the manner intended (Burkill and Yorke, 2007). A simpler way of approaching this may be to demonstrate a series of participant answers that were deemed to be 'inadequate', 'satisfactory' and 'excellent'.

Concluding remarks

A major challenge facing teachers and e-learning designers is how to encourage students to engage meaningfully in online activities, especially when they are largely self directed. This research aims to provide guidance on a simple and seemingly effective method of encouraging engagement by raising the strategic value of such resources.

Raising the quality and quantity of feedback provided is likely to increase the perceived strategic value of online resources. Part of the reason for this approach being welcomed by learners is, we feel, due to the way self and tutor feedback is integrated and shared with the community of learners. For feedback to be effective, it needs to be timely, analytical, constructive and empowering. A critical and often underplayed part of this involves communicating and highlighting key aspects – put simply, there is a need to indicate which parts are important and to explain why (condition 7 of Gibbs and Simpson, 2004). The use of the participant responses in taught sessions reinforced the value of the online content, and it showed that the tutor took a personal interest in the outcome. Perhaps there was a somewhat visceral feel to the feedback in that those participants who answered poorly may have their responses publicly dissected, albeit anonymously. Conversely those singled out for praise gave positive feedback to those operating at this level.

Although self practice questions presented in a format as described here have value to learners, the real strength here seems to lie in the fact that results are shared with a tutor who is then able to comment on these in a subsequent taught session. It is this 'closing of the loop' which we feel is of particular value to the learner experience, as it perhaps comes somewhat closer to the ideals encompassed in the conversational framework described by Laurillard (2002).

One final remark is made in respect of the relationship of this project to the learners' final assessment. It is very likely that this approach was particularly well received as it was directly supporting a forthcoming assessment. It has long been known that students are sensitive to assessment drivers, to the extent that learners may be described as 'cue seekers' or 'cue conscious' (Miller & Parlett, 1974) and we should heed their enduring advice in this respect. To address this aspect, we propose to further develop this approach with a large student cohort in an area that is less strongly associated with an imminent assessment.

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