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Evaluating the Impact of an eLearning Strategy on the Quality of Teaching and Learning at The University of Hong Kong

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Abstract

Universities worldwide – The University of Hong Kong (HKU) included – have made a significant investment in eLearning. The major rationale for this investment has to do with the use of technologies to enhance teaching and learning. This raises the very obvious question concerning how an institution might go about evaluating the impact of the eLearning strategy on the quality of teaching and learning. In this paper we discuss this question from the perspective of the key performance indicators in HKU's eLearning strategy and from the perspective of asking the question concerning what a more robust evaluation programme would look like. The two perspectives should prove to be valuable for readers in institutes of Higher Education interested in strategic and operational eLearning issues.

Introduction

Institutes of Higher Education have made significant investments in eLearning where eLearning often equates to purchasing a Learning Management System (LMS) (Jones & Muldoon, 2007; Salmon, 2005). Strategic drivers for this kind of investment can differ as between universities. For example, the driver for a university that operates predominantly in terms of face-to-face teaching might be enhancing the quality of teaching and learning and / or to offer students greater flexibility in terms of where and when they learn. Universities that operate primarily in terms of distance teaching will be driven by the need to have a robust delivery and communication platform to support their distance students. No matter what the reason for the investment, the investment itself is significant in terms of initial costs and ongoing costs. In business terms there must, therefore, be a return on investment. This return might be measured in terms of market share for distance universities. Whilst not mutually exclusive, a university operating predominantly in terms of a face-to-face teaching model – and HKU is such a university – might measure the return in terms of improvements in the quality of teaching and learning. There are three issues here. First, the concept of quality teaching is a difficult one to pin down. Secondly, even when the concept of quality is defined, it can be challenging to measure quality. Third, implementing an eLearning strategy and introducing an LMS into the quality equation adds another dimension to the question of what constitutes quality in teaching and learning.

Quality Teaching and Learning

It is not immediately obvious what we mean when we talk about teaching and learning quality. Therefore, the term needs to be defined. When we say that a course is a quality course we are broadly making a judgment that the course is fit for purpose where the purpose is institutional purpose. This understanding accords with the Hong Kong's Quality Assurance Council (QAC) – a semi-autonomous reporting to Hong Kong's University Grants Committee body – Audit Manual which states that,

“The main objective of QAC quality audits is to assure the quality of student learning in UGC-funded institutions. The audits are intended to assure the UGC and the public that institutions deliver on the promises they make in their role and mission statements. A QAC audit is therefore an audit of an institution's Fitness for Purpose in teaching and learning” (Quality Assurance Council, 2008, p.10).

According to the QAC Audit manual the most important purpose of a university is to enable students to achieve the educational aims and learning outcomes (Quality Assurance Council, 2008, p.6.). In this case we would define a quality course as a course that enables the students to achieve the educational aims and learning outcomes. However, being fit for purpose is a necessary but not sufficient condition of a quality course. That is, helping students to achieve educational aims does not necessarily mean that the course is a quality course. Quality also has something to do with the student learning experience (Joint Information Systems Committee, 2007). The reason for this is that students may achieve educational aims but have a very negative experience on the course. This could be the case if students do not feel sufficiently supported or if students are taught in a purely didactic fashion. This fact is also recognized in the QAC audit process.

The QAC, through its audit process, aims to give confidence, in general, to students and their parents, employers and sponsors, that our institutions provide a quality and internationally recognised student learning experience (Quality Assurance Council, 2008, p.3.).

If we add the student experience to the definition of quality then quality has to do with the course being fit for purpose and with students having a positive experience. With respect to LMS use we must therefore think about quality enhancement having to do with using the LMS to help students to achieve learning outcomes and with contributing to a positive learning experience for students. Unfortunately it is often the case that the LMS fails in both respects (Jones & Muldoon, 2007; Salmon, 2005; Steel, 2007; Zemsky & Massy, 2004). One of the key reasons for the failure is that pedagogy has not changed resulting in the LMS being used as a file repository for e.g. PowerPoint presentations.

Quality assurance can be carried out in a number of ways and we will be looking at quality assurance later in paper when we consider how to evaluate the impact of HKUs eLearning strategy.

The University of Hong Kong's eLearning Strategy

There are two aspects of HKU's eLearning strategy that are pertinent for this paper. The first aspect relates to the stated aims of the strategy with respect to achieving three different levels of eLearning that might broadly be called basic, intermediate and advanced. The second aspect relates to the current key performance indicators that are being used to judge the success of the eLearning strategy. With respect to the relation between the levels of eLearning and the KPIs it is not clear that the stated KPIs provide an effective way to measure eLearning achievements at all three eLearning levels defined in the strategy. Secondly, the current KPIs do not provide a means for measuring enhancements in teaching and learning quality that might occur as a result of putting the strategy into operation. This is of course a serious issue and one that needs to be addressed. In the remainder of this paper we will unpack the issues identified in this paragraph and suggest that there is a way forward in terms of providing KPIs that will effectively capture all eLearning activity that might take place within HKU. We will also suggest that it is possible to measure improvements in teaching and learning quality. This, however, is a complex and time consuming undertaking requiring a program of work.

We said in the previous paragraph that the HKU eLearning strategy refers to three different levels of eLearning achievement: basic, intermediate and advanced. At the basic level teaching and learning is assisted by technology for efficiency and cost-effectiveness. Here we are talking about, for example, making course outlines and reading materials available through the LMS. At the intermediate level teaching and learning are enriched by the use of technologies. Here we are talking about, for example, enhancing opportunities for active learning within and beyond the classroom, provision of links to digital library resources, provision of just-in-time formative and summative feedback. At the advanced level teaching and learning are brought to new heights through the use of technologies. Activities at this level include internationalization of the curriculum and collaborative teaching & learning within HKU courses and with overseas universities. There are two points that we need to note about these different levels. First, each of these levels can be realized at the same time in the same or different contexts. For example, any particular department might be delivering courses at more than one level at the same time. Equally, different departments across the university might be achieving at the various different levels. Secondly, the eLearning strategy does not proscribe which technologies are to be employed to realize each of the different levels. However, at the time of writing, the primary eLearning focus at HKU is Moodle which became the LMS of choice at HKU during 2011. Whilst Moodle is the technology of choice it is clear

from research in the UK that student preferences with respect to use of technologies extend well beyond the use of the LMS (Joint Information Systems Committee, 2007). There are very good examples of the use of alternative technologies for enhancing teaching and learning at HKU (Doherty, 2012) but the issue of how to capture quality enhancement that results from use of alternative technologies is something to be borne in mind as we develop an evaluation program.

Given the investment by HKU in Moodle, HKU is obviously interested in gathering statistics about Moodle usage that will indicate the extent to which Moodle is being used in the Faculties for teaching and learning. The Computer Centre currently reports on Moodle usage to a senior working party within the University. The report focuses on the three activity levels within Moodle. Level one Moodle activity relates to one-way transmission of information from teacher to students and the data is gathered as "the total count of Moodle files and folders in the Moodle courses. If we relate data at this level to the eLearning strategy then it seems clear that the data provides an indication of whether or not teaching and learning is being assisted by technology for efficiency and cost-effectiveness. Level two Moodle activity relates to two-way interaction between teachers and students and the data is gathered in terms of the total count of Moodle assignment, quizzes and choices in the Moodle course. In terms of the eLearning strategy the case could just about be made that this data indicates whether or not there are, for example, opportunities for active learning within and beyond the classroom, provision of links to digital library resources, provision of just-in-time formative and summative feedback. Level three Moodle activity relates to interaction between the teacher and students and among students and the data is gathered in terms of the total count of Moodle forum, chat and wiki activities in the Moodle courses. Whilst the first two reporting levels arguably correlate with the first two levels of the eLearning strategy, it is not clear that level three data provides evidence of success at level three of the eLearning strategy. For example, level 3 data does not provide an indication of the extent of success with respect to the internationalization of the curriculum and collaborative teaching & learning within HKU courses and with overseas universities.

Quantity and Quality

HKU's eLearning strategy states that the aim of eLearning is "to enhance students' learning experiences through the creative, appropriate and effective use of technologies". If we think about the data that is currently being reported then we can see that the data provides no indication of whether or not the students' learning experiences are being enhanced. The only thing that we do know from the reported data is that teachers are doing certain things – posting files, setting up discussion forums, establishing wikis – in Moodle. It is important to know what teachers are doing in Moodle because this kind of data can help in identifying whether or not Faculties are making use of Moodle. However, we need to be absolutely clear that the data tells us nothing about whether the

quality of teaching and learning is being enhanced. The following example will help to illustrate this point. The files posted in Moodle for any particular course might encourage students to engage in active learning. For example, the files could contain a reading list and a set of questions to enable students to prepare for a “flipped” learning experience (Oblinger, 2012, p232) in which the lecture time is used to engage students in conversations /critical analysis about what has to be learned. Equally however the files might be PowerPoint slides that were used in a traditional passive lecture in which students consumed information presented by the teacher. The logical outcome here is that we need alternative measures that tell us something about whether teaching and learning is in fact being enhanced.

HKU has two instruments that are used to evaluate the student learning experience. The first instrument – known as the Student Experience of Teaching and Learning (SETL) questionnaire – is delivered at a course level. The second instrument – known as Student Learning Experience Questionnaire (SLEQ) – is a program level questionnaire that is delivered to all first and final year students. At the time of writing HKU is considering adding the following three items to the SLEQ questionnaire: (1) The Learning Management System Moodle was easy to access and use; (2) eLearning has been effective in aiding learning in courses in my discipline; and (3) eLearning has been effective in aiding communication in courses in my discipline. Once again, it seems important to gather data at a course and program level with respect to what might be happening as a result of implementing the eLearning strategy. However, if we return to the stated aim of the eLearning strategy – “to enhance students’ learning experiences through the creative, appropriate and effective use of technologies” – then it seems clear that these items will not provide sufficient evidence of whether or not the student learning experience has been enhanced.

We have already noted that the QAC understanding of quality has fitness for purpose (students achieving learning outcomes) and the student learning experience as core aspects of the definition of quality. Whilst both aspects of quality are important to the QAC,

“the audit process is particularly concerned with the ways institutions articulate and measure the student learning outcomes they expect or aspire to” (Quality Assurance Council, 2008, p.11).

Furthermore the audit process will seek evidence that the outcomes are in fact being achieved. This fact seems significant with respect to the eLearning strategy because any eLearning enabled course will potentially have to show how the use of technologies contributes to students achieving the intended learning outcomes. Any particular course may also have to show that the student learning outcomes are in fact being achieved as a result of the use of any particular technology.

A Program of Evaluation for eLearning

The logical outcome of what we have said so far is that HKU needs an alternative way to determine whether or not the eLearning strategy has been successful. The approach that is taken will have to have at least two features. First, the evaluation instruments will need to be developed in relation to the stated aims of the eLearning strategy. Secondly, the evaluation instruments will need to capture data that evidences whether or not teaching and learning have in fact been enhanced by the use of technologies. These aims can be achieved through having a multi-faceted evaluation program across a sample of courses (Frydenberg, 2002; Herrington, Herrington, Oliver, Stoney, & Willis, 2001; Kennedy, 2003). The evaluation program might have the following features: an in depth student questionnaire regarding perceived usefulness of technologies in any particular course; an in depth analysis of use made of Moodle including for example analyzing content, discussion forum postings, wikis and blogs; and focus group interviews with students regarding Moodle usage in any particular course. This program of evaluation would potentially provide evidence for the success or otherwise of the eLearning strategy because the analysis of Moodle content and activities could be carried out in terms of, for example, established criteria for making judgments about the quality of student learning.

One of the key issues with the suggested program of evaluation will concern the selection of the courses to be evaluated. One way to select courses would be in terms of work done by the eLearning Pedagogical Support Unit (EPSU) to support eLearning initiatives. The EPSU sees evaluation of these courses as necessary; however, evaluating only these courses would not provide a balanced picture of the state of eLearning at HKU. Rather the evaluation would evidence what happens when a dedicated eLearning Unit works with academics to improve and enhance teaching and learning through the use of technology. Thus, whilst these evaluations will be carried out they need to be supplemented with additional evaluations. Our current thinking is that we might select courses against level one, level two and level three activities reported for Faculties using the Moodle statistics. Selecting courses in this way should provide a truer picture of whether or not the eLearning strategy has in fact resulted in enhancements to teaching and learning. The reason for this is that course selection would be random in the sense that nothing would be known in advance about the supposed quality of the courses.

If we accept that this approach can provide evidence for the success or otherwise of the eLearning strategy then we are left with two questions. First, how many courses would need to be reviewed in order to make a judgment concerning the eLearning strategy. We will be consulting with a statistician on sample size for this evaluation program. Secondly, how might we identify eLearning innovations carried out independently of Moodle and independently of the EPSU? This second question is important because we are already aware of examples of good eLearning practice that have been developed outside of Moodle and independently of the EPSU. To some extent these cases will be

identified serendipitously through relationships between the EPSU and colleagues across HKU. However, we will need to do something more formal such as querying with colleagues through a bulk email or through approaching Associate Deans Teaching and Learning for information about eLearning developments at a Faculty level.

Concluding Remarks

The aim of this paper was to specify what needs to be done in order for HKU to make a judgment about the eLearning strategy. The evaluation approach set out in this paper does provide the potential for gathering data to support such a judgment. However, this approach is complex and would require commitment over an extended period of time. The commitment would start with sourcing / creating appropriate evaluation instruments for each of the evaluation approaches. There would be a program of work to be carried out at the end of each semester. The data would have to be analyzed and reports written concerning the state of eLearning for any particular course. Conclusions would need to be drawn and reported to the various committees and working groups at HKU. When the steps are spelled out in this way it is not clear that the EPSU has the resources to carry out an evaluation program of this sort. One way to remedy this would be to apply for funding to put research assistants in place for six months. The assistants would be able to take care of each step in the evaluation program and – all things being equal – HKU would end up with evidence for the impact of the eLearning strategy on the quality of teaching and learning at HKU.

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