

SO WHAT DIFFERENCE DOES IT MAKE? – STRATEGIES FOR ENHANCING/ASSURING THE IMPACT OF E-LEARNING PROJECT INITIATIVES

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Abstract

This paper describes the institutional initiatives of a university in Hong Kong to support, develop and embed e-learning. In particular, it examines the strategies used to enhance and ensure quality outcomes when investing ~US\$3,000,000 in 43 e-learning projects from 2006-2012. It outlines the guiding principles behind the university's e-learning development and analyses the significance of piloting, evaluation and formal reporting as well as the value of professional, technical and instructional design support. Finally, the paper considers constraints and challenges, and reflects on successes and the need to evolve and adjust approaches in response to technological, social and cultural change.

Introduction

Supporting and embedding e-learning in institutions of higher education can be a complex exercise. Ensuring that quality outcomes are achieved is even more difficult (Laurillard, 2002; Li, 2009; McNaught, Lam, Cheng, Kennedy, & Mohan, 2009; Wilen-Duagenti, 2009). This paper examines strategies employed to support the implementation of funded e-learning projects in The Hong Kong Polytechnic University. These actions were taken in line with university initiatives to promote blended learning and the greater use of technology in the support and delivery of courses. Based on local experience and literature from the wider international field of e-learning in higher education, a process for scaffolding and assisting project development, evaluation and management has been evolving since 2002.

This paper reports on key factors in the process of designing, developing and implementing the projects. It closes with reflections and suggestions for future practice.

Designing

Key factors in the initial stage of deciding upon and designing specific e-learning projects were (a) the establishment of clear criteria for designing and reviewing all project proposals, (b) the provision of several forms of assistance to academic

staff who were drafting project proposals, and (c) a transparent review process for approving projects.

Criteria

The announcement that millions of dollars are available to teachers in a university can draw a lot of attention. Therefore it was important to work with various stakeholders to agree upon criteria that would support the original aims of the funding as well as increase the likelihood of successful completion. The ultimate aims of the organization in providing the funding generated the first list of potential criteria. A review of the literature on project management in general and e-learning projects in particular was conducted to add to the list of potential criteria. Previous experiences of seasoned professionals in supporting education development projects from several higher education institutions led to additional criteria.

The list of potential criteria then was revised through a process that involved several stages of consultation with stakeholders. Key stages included collecting comments from academic representatives of each faculty in the university and receiving formal approval of a shortened organized list from the senior leadership that was also providing the funding. The reality that a large amount of funding was already in place and ready to be disbursed heightened interest in this process. The list of criteria was considerably improved by practical suggestions from practicing academics who thought in terms of what would and would not encourage teachers like them to apply for the funding and help them complete the project successfully.

The finalized list of four criteria with supporting sub questions is presented in Table 1. The first major criteria area of *intended learning outcomes* was linked to the main aim of the funding. The institution had made a decision to have e-learning initiatives be pedagogically rather than technologically led. The second main criteria area related to project *deliverables*. Proposed deliverables were judged on their likelihood of ability to help students achieve the intended learning outcomes. Other sub questions under deliverables, such as sustainability and scalability, were drawn from good practices elsewhere. The third criteria area of *process* incorporated recommended practices for increasing the likelihood not only of project completion (such as timelines), but also improving quality (through piloting and evaluation of actual implementation with students). Finally, the fourth criteria area of *cost/benefit analysis* was useful in selecting among a competitive field of applicants so that funding could ultimately serve a larger number of students.

Table 1

Criteria and Supporting Questions for E-Learning Projects

<p>Intended learning outcomes</p> <ul style="list-style-type: none"> • Are they clearly stated? • Are they well defined? • What is the intended impact of project on <u>student learning outcomes</u>? 	<p>Project Process</p> <ul style="list-style-type: none"> • Is there a clear plan for piloting/prototyping? • Is the plan for conducting the project clearly defined including timelines and resources? • Is there a clearly defined evaluation plan, including impact on student learning outcomes?
<p>Project deliverables</p> <ul style="list-style-type: none"> • What will be created? • When will project deliverables be used? • How will these be used and what will be their impact on student learning? • Are project deliverables sustainable and capable of adaptation for re-use over time? • Are these deliverables scalable for serving a larger number of students in different subject/programme areas and/or transferable for implementation in other PolyU contexts? 	<p>Costs / Benefits Analysis</p> <ul style="list-style-type: none"> • How many students will benefit from the proposed project? • How much in terms of funding is required? • What are the time and people resources required? • Is alternate or additional funding source available? • If specialized equipment or software is required, what is the purchase or license cost?

Project Design Assistance

As another intention of the University was to use this funding opportunity to build the knowledge and skills of teachers in the area of e-learning, a “hands-on” approach was explicitly offered during the call for proposals. The intention was for the proposal writing process to help teachers internalize project design and management principles along with the experience of successfully implementing e-learning resources for their own students so they would be able to continue to introduce learning innovations throughout their teaching careers.

All potential Project Leaders and their team members were offered a variety of resources and forms of assistance. These included:

- *Written guidelines*, which briefly explained the rationale for each item requested on the proposal form;
- *Model proposals* of earlier successful projects, which provided examples of how each principle had been applied to a specific learning situation in the University;
- *Hands-on workshops*, in which Project Leaders and their teams could start drafting their proposals, receive immediate feedback and learn from peer’s differing approaches to the same proposal items; and
- *One-on-one assistance*, in which professionally trained Learning Designers worked with leaders and their teams to design the project plan and draft the proposal.

Many of the successfully funded projects took advantage of more than one of the above resources. In particular the one-on-one professional assistance was welcomed by many project teams. In fact, in most instances this initial assistance developed into a longer term working relationship as successful proposal teams requested the continued support of the Learning Designer after funding was received.

This approach of clearly articulated criteria combined with assistance was perceived as different from customary grant proposal processes in which academics write grant proposals and submit them into essentially a “black box” from which they hope to “get lucky” and be funded.

Review Process

A further step in reviewing and refining ideas to ensure the quality, viability and usefulness of proposed projects was to establish a Steering Group to review all applications in relation to the criteria. This panel was comprised of academics representing each Faculty as well as other stakeholder groups in the University. Through this group, recommendations were made to approve, reject, or allow for proposal resubmission after addressing a list of concerns. All approved proposals received written feedback containing both general advice to all projects as well as recommendations specific to their particular project. By having a panel such as this, which included a range of academic staff, additional authority and substance was given to decisions made regarding which projects would go ahead. Having an independent panel was especially important as so many of the Project Leaders and their teams had already developed a positive working relationship with the Learning Designers who had supported them and were working with them in the role of advocate.

Over a period of three years more than HK\$25,000,000 (US\$3,200,000) was awarded to 43 projects. Although the majority of proposals were submitted in two separate calls in 2006 and 2008, a number of projects were also accepted on a rolling basis as an opportunity to use e-learning was identified. As of December 2011, 34 of the 43 original funded projects have reached completion. The remaining 9 projects are expected to complete in 2012. The submitted Pilot and Completion reports of these projects provide extensive data on the process, experiences and impact of these projects on the staff and students who have participated in them.

It is important to note that not all of the proposals were funded. The “hands-on” approach to proposal development resulted in a number of Project Leaders deciding that what they wanted to do did not fit within the criteria. In these cases teachers willingly decided not to submit their proposals. There were also 15 submitted proposals that were not approved.

Developing

Key factors in the development stage included: (a) provision of professional learning design assistance, (b) a requirement to pilot early in the project

development process, and (c) availability of specialized design, programming and multimedia assistance.

Learning Design Assistance

Every funded project was assigned a Learning Designer. As previously mentioned, in a majority cases the Designer was already familiar with the project team as s/he had worked with them on the proposal. All project teams were free to develop their own preferred working relationship with the assigned Learning Designer. It was understood that at a minimum the Learning Designer would be first point of contact for questions and should receive draft versions of the required pilot and completion reports to give feedback prior to formal submission. In actuality, Learning Designers often assisted in working with the project team to design the pilot study, many projects included the Learning Designer as regular team members for meetings, and in several instances co-published on the project.

This model of assistance was provided as an indication of respect for busy academics' time. The academics were teachers who were functioning both as subject matter experts and practitioners who understood the needs of their students and the context within which students must learn. The Learning Designers provided relevant information about useful resources and made suggestions on effective practices for the project team's consideration.

Piloting

To conduct a pilot in a project is self-evidently a good idea. Above all, it enables feedback from the most important end user: the student. Part of the process of the project proposals was a commitment by those seeking funding to conduct a pilot run of deliverables quite early in project with student feedback and evaluation. The target was to pilot a portion of the deliverables within the first six months. Another condition was that projects that were successful in being funded had to submit a pilot report to the responsible funding body/agency. Then only after review and endorsement of the pilot report would a second and final tranche of money be released. In the first instance projects would receive approximately half of the money allocated.

Piloting proved to be significant in ensuring quality of deliverables and keeping projects on track with timelines. The requirement of a pilot put pressure on to get something done in a set time frame. It also provided a logical framework for thinking through and justifying changes in project plans and processes. Many changes were made to deliverables on the basis of implementing a pilot run. While there was an initial reluctance by many participants to plan a pilot and an evaluation, the usefulness of this approach was quickly appreciated by those involved and frequently described as a very positive learning experience. After piloting projects proceeded with more confidence, and often there was less need for Learning Designer involvement after this stage. From the perspective of project management and support it was seen that being initially clear on the types of learning and teaching impact being aimed for was very important in maintaining focus and progress.

Central Support Team

The amount of project funding ranged between US\$22,000 and US\$330,000. This was enough to employ one full time employee for a minimum of one year in the case of smaller projects, to employing as many as three employees for almost three years for larger projects. However, from the beginning of this endeavor it was assumed that it would be unlikely for projects to be able to hire staff that would possess *all* the skills required to successfully develop and implement the project. This assumption was partially addressed by automatically providing the assistance of a Learning Designer on a limited part time basis as described earlier, as well as the services of an Evaluation Officer, which is described later. But e-learning projects also tend to require a range of technical skills that teachers should not be expected to develop and perform themselves.

Therefore, a Central Support Team of six employees was established with skills in graphic design, multimedia development (especially video shooting and editing), programming in a variety of languages, and proficiency in using learning management systems. Over time this group also developed proficiency in specialized areas as called for by projects and the University such as survey creation, virtual worlds and iPhone application building.

It should be made clear that this Central Support Team was using only a portion of members' time to support the 43 projects, and intentionally provided support *only* in areas that the project employee did not possess and could not efficiently develop. By far the larger portion of their time was devoted to several hundred unfunded smaller projects that were being created for teachers' use in subjects and for working on University-wide initiatives. However, Central Support Team assistance was, at one time or another, provided to just about every one of the 43 funded projects.¹

The availability of a stable team possessing a wide range of the skills required in e-learning projects has proved invaluable over the years for the projects. In addition to filling in gaps in project employee skills sets, one of the most prevalent challenges reported by Project Leaders is difficulty in finding, and then keeping, suitable staff. As the hiring process can take at least three months, Central Support Team members would help in the initial stages of projects before project employees were in place. They also covered developing projects when employees left. As the project deliverables needed to be ready at specific times of the year for use in specific courses when they were offered, it was essential to fill in the gaps in employment so that resources would be ready to use with students at the appropriate time.

Implementing

Key factors in the implementation stage included: (a) establishment of a framework to guide evaluation, (b) the provision of professional evaluation assistance, and (c) the explicit expectation that even early versions of deliverables be used with students.

Evaluation Framework

Like piloting, conducting an evaluation is widely recognized as a good idea but is not consistently put into practice. Significant investments of resources, with busy academics' time and effort ultimately being more costly than the initial monetary investment, deserve reflection and opportunities for making improvements. It is however not possible to evaluate every aspect of a project. In some way, priority areas to focus on in an evaluation must be selected (Ehrmann, 1997).

Several measures were taken to ensure that evaluations would be conducted. The first was to establish the expectation by requiring a description of a plan for evaluation (including schedule and likely methods) within the written proposal. A second measure was to indicate areas of focus. These areas are: (a) quality of deliverables, (b) impact on student learning outcomes, (c) impact on learning process, (d) impact on teaching, and (e) other evaluation findings. This evaluation framework was developed after reviewing the evaluation information provided in the Pilot Reports of the first tranche of funded projects. It was decided that including the five evaluation areas of focus within the Pilot and Completion Reports for all projects would help keep the focus on the primary aims of the funding (impacting students' learning) while streamlining the conducting of and reporting on evaluations. A third measure was to require evaluations at both the pilot and implementation stages.

Evaluation Assistance

As evaluating was a required element of all funded projects, it stood to reason that support should be provided in a way similar to how both learning design and technical development support were also being made available. The support structure at the University included appointing one full time Evaluation Officer. The intent was for this Evaluation Officer, along with Learning Designers with backgrounds in evaluation, to assist project teams in developing appropriate evaluation plans. Hands-on evaluation workshops as well as one-on-one consultations were provided. Evaluation resources (including instrument templates for surveys and focus groups) were created that project teams could then modify to meet their specific interests. Assistance was also provided in carrying out data collection and analysis. However, ultimately determining what the data meant and deciding upon the appropriate following actions always remained the responsibility of the Project Leaders.

Actual Use with Students

As will be evident from what has already been described, actual use with students was required and use early on in the project process was strongly encouraged. While this requirement seems obvious, internationally there is a track record of significant numbers of e-learning initiatives never making it to actual implementation with the intended learners. This single expectation may have in fact been the "magic pill" for the high rate of project completion as well as effectiveness of the deliverables created in the present setting.

Almost all project teams expressed reluctance to first try out what they were developing on their students. They were concerned that the initial efforts were not

fully developed, and that what they were creating was not yet “good enough”. However, early trials with students, usually within the first six months of the project as part of the required pilot, turned out to provide great motivation and increase the confidence of project teams. In some instances project teams became converts to the power of piloting as a tool for identifying useful improvements that could be made earlier in the development process. Many teachers became comfortable with using portions of the deliverables while they were still under development in their courses – in effect adopting an action research philosophy.

Review and Reflect

As we move towards the final stages of completing all projects under the initiative discussed here, additional factors that have had an influence on success and impact include: (a) documentation designed to assist quality assurance and thoughtful feedback, (b) expecting and accommodating change as a positive and formative process, and (c) encouraging the reporting of challenges and difficulties encountered in the projects.

Documentation

Project documentation was intentionally designed to reinforce the original aims, check on adherence to criteria, and encourage review and reflection on the basis of data collected through evaluations. All projects as a condition of accepting funding agreed to produce written proposals, pilot reports and completion reports. In some instances progress reports were also submitted. These four documents were structured to collect information in specific areas (e.g. project objectives, student learning outcomes being addressed, evaluation results, etc.) and carefully matched for consistency.ⁱⁱ

Intentional Change

Projects can and should change and evolve over time. Newer technologies may appear a year into the project that would be more useful than what was originally proposed. Insights gained from piloting with students should result in changes in plans. Projects were able to make changes to the proposal through submission of a one page Change Request Form. The principle was to make intentional changes on the basis of data, new information or experience acquired, rather than to allow “drift” of the original aims.

Learn from Challenges

In both Pilot and Completion Report forms there were specific areas where project teams were asked to “identify problems or issues encountered that impacted on the progress of the project (if any).” Perhaps surprisingly, much direct and honest feedback from e-learning practitioners was obtained in this way. Many common issues were logistical, administrative or technical, such as cumbersome financial procedures within the institution or the difficulties of advertising and hiring appropriate project support staff. Learning about constraints and things that did not work well, so affecting project progress, is very valuable information. It is an institutional benefit from which real lessons can be

garnered for improving present systems and processes and for conducting future projects.

Closing Thoughts

So what difference have the factors described in this paper made for these e-learning projects? We are happy to report that as of the writing of this paper 34 projects have submitted Completion Reports. Our Learning Designers are in contact with the remaining projects, and all appear that they will be able to complete in 2012. *All* completed projects thus far have working deliverables that have actually been used with students. And of the 25 projects that have undergone a review for quality from a committee of their peers, 100% have received a rating of “Satisfactory” or higher for both quality of deliverables created and on an overall rating on the quality of the project. A showcase of these projects is currently under development and can be viewed at <http://eldss.edc.polyu.edu.hk/showcase>.

We can see in the e-learning project initiatives discussed a “modified centralized approach” (Csete, Shun, & Evans, 2011) in the sense that there was involvement both of members of the centralized support unit, and faculty leadership, responsibility and participation. Funding of the projects gave Project Leaders, who were all academic teaching staff, a degree of autonomy to employ and manage their own project staff. However the projects’ requirements, reporting framework and support structure enabled a degree of centralized control and oversight. This arrangement has produced productive relationships in which faculty and support staff have collaborated and learned from each other for the mutual benefit of learning and teaching innovation and enhancement.

Having contributed to creating growing awareness, confidence and e-learning expertise in many areas of the University, support strategies are now changing. Since the original e-learning initiatives began in 2006 much has changed in educational technology. The rapid advance of Web 2.0 (and beyond) communication and creative media has been built on easy to use software that allows almost anyone to author materials for the Web without specialized skills or training. Possibilities and potential for engaging in e-learning are now much more accessible and less costly. The support team is currently aiming its services at a far wider audience among the University teaching staff as e-learning begins to move towards mainstream acceptance and expectation rather than unusual and specialized innovation. We are arriving at the situation where, “it is neither practically useful nor intellectually defensible to see technology as separable from the normal, everyday activities of university students and staff” (Ellis & Goodyear, 2010). This change in institutional culture is gradual compared with changes in the surrounding technology and society but it is happening, even if more slowly than many of us would prefer. Our challenge is to stay flexible and perceptive enough to be able to make change an opportunity rather than an obstacle that will benefit all who are engaged in learning and teaching.

Notes

1. A final count confirming prevalence and nature of Central Support Team usage will be conducted after all projects complete.
2. According to the commonsensical meaning, the term *complex* is more often associated to what is *difficult* and *intricate*.
3. forms are available at <http://eldss.edc.polyu.edu.hk/forms>
- 4.
5. An interdisciplinary approach regards the transfer of methods from one discipline to another (Nicolescu, 1997).

Transdisciplinarity indicates knowledge that is constructed *between* disciplines, *through* disciplines, and *beyond* all disciplines, at the same time. Its goal is the comp¹ A final count confirming prevalence and nature of Central Support Team usage will be conducted after all projects complete.

¹ All forms are available at <http://eldss.edc.polyu.edu.hk/forms>

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ⁱ A final count confirming prevalence and nature of Central Support Team usage will be conducted after all projects complete.

ⁱⁱ All forms are available at <http://eldss.edc.polyu.edu.hk/forms>