

# Institutional Strategies for Embedding Blended Learning in a Research-intensive University

**Carmel McNaught & Paul Lam**

Centre for Learning Enhancement And Research, The Chinese University of Hong Kong  
[carmel.mcnaught@cuhk.edu.hk](mailto:carmel.mcnaught@cuhk.edu.hk) & [paul.lam@cuhk.edu.hk](mailto:paul.lam@cuhk.edu.hk)

## **Abstract**

*This paper, set in the context of The Chinese University of Hong Kong (CUHK), demonstrates how systems-level thinking can allow universities to gain maximum benefits from the investment (time and money) that is put into eLearning. A model of drivers that influence the growth of blended learning at CUHK is presented and mapped to a number of strategies used by the University's eLearning Service – namely: 1) revamp of the University's eLearning platforms, 2) a range of support services, 3) seminars and workshops, 4) support for courseware development, 5) promotion of eLearning, and 6) research on new strategies and technologies. Strategic planning involving reflection on all the strategies together has allowed the University to move forward in promoting blended learning.*

## **THE CONTEXT**

This paper provides an analysis of the factors that have influenced the growth of blended learning at The Chinese University of Hong Kong (CUHK). CUHK is a traditional, comprehensive, research-intensive university with a bilingual tradition and a collegiate structure. There are approximately 10,500 undergraduate students, of which approximately 90% are Hong Kong Chinese (though in 2000 the figure would have been close to 100%); 2,000 research postgraduate students; and over 4,000 students in taught postgraduate programmes, a number that is increasing quite rapidly. CUHK is a strongly campus-based university and eLearning is often an adjunct supplement to the face-to-face teaching and learning (T&L) environment at the University. We are trying to move in the direction of a genuinely blended model (Graham 2005) where on- and off-line strategies work together to enhance students' learning environments. Overall, there are some excellent eTeachers and some good examples of eLearning. At this stage, however, there is a clear underutilization of the potential of the web to support T&L, though this is the case in almost all universities.

CUHK is a devolved university, with significant decision-making occurring at department and faculty levels. The online learning system reflects the diversity of this devolved culture. There are a significant number of educational websites hosted on faculty or department servers. A more corporate university might have a 'cleaner' more centralized eLearning infrastructure; however, this has not been in keeping with the culture of the University in recent years.

## **A MODEL OF DRIVERS THAT INFLUENCE THE GROWTH OF BLENDED LEARNING**

A model of drivers that influence the growth of blended learning was described in an earlier paper (McNaught 2008). In this model, the factors of most relevance to the context of our University are commitment of senior management, allocation of time, and a positive cost-benefit decision by teachers that their investment is likely to pay off. These factors can be framed as a set of competing drivers (both internal and external to the University). An adapted and extended version of the model is in Figure 1.

Factor	Coordinated and supported eLearning		Laissez faire approach	
1. Senior management	←-----		-----→	
	<i>Internal drivers</i> <b>1I+. Evidence of institutional research.</b> Evaluation is required for all grants at CUHK (McNaught, in press) and eLearning is monitored (Lam, Keing, McNaught, & Cheng 2006). <b>1I&amp;E+. New student information system.</b> All Hong Kong (HK) universities are in the process of upgrading legacy systems. CUHK is implementing a PeopleSoft system.	<i>External drivers</i> <b>1E+. External quality audit</b> – government-sponsored under the auspices of the Quality Assurance Council (UGC 2009)	<i>Internal driver</i> <b>1I-. Culture of a face-to-face university</b>	<i>External driver</i> <b>1E-. Good external rankings</b> at present
2. Time	←-----		-----→	
	<i>Internal drivers</i> <b>2I+a. Changing students profile.</b> Rapid change in the nature of the student population – more students from Mainland China, more exchange students. <b>2I+b. Students as ‘digital natives’</b> , as evidenced by a recent on-campus survey (McNaught, Lam & Lam, in press).	<i>External driver</i> <b>2E+. Changing curriculum.</b> HK is switching to a four-year undergraduate (Ug) curriculum in 2012. This will increase Ug student numbers by one third all at once. There are major curriculum and infrastructure implications.	<i>Internal driver</i> <b>2I-. Commitment to a university research life.</b> Expectations of commitment to research and to campus life in a collegial, research-intensive university. If there are a number of competing agendas, teaching may get low priority.	<i>External driver</i> <b>2E-. Frenetic city</b> with a just-in-time philosophy. In general societal expectations are conservative and are often inhibitors of change.
3. Teachers' decisions about change	←-----		-----→	
	<i>Internal drivers</i> <b>3I+a. Local support:</b> recognition for departmental liaison staff and free provision of student eLearning helps <b>3I+b. Change in policy for promotion:</b> teaching now counts much more than previously.	<i>External driver</i> <b>3E+. Strong push for outcomes-based approaches (OBAs) to T&amp;L in HK.</b> Significant funding is attached to OBA work.	<i>Internal driver</i> <b>3I-. Peer groups in departments.</b> Research/ engagement in T&L (inc. eLearning) is often considered as a ‘soft’ academic option.	<i>External driver</i> <b>3E-. Benchmarking within the discipline</b> is more important than within the global educational community

Key:  
I – internal driver. E – external driver  
+ – supporting the growth of eLearning. - – maintaining the current situation

**Figure 1.** Internal and external drivers impinging on decisions about directions for eLearning (after McNaught 2008, p.53)

## ENACTING THE MODEL IN PRACTICE

In this paper the strategies used to enhance the positive drivers and overcome the negative drivers will be described and evaluated. Specifically, the strategies used by the University's eLearning Service in the last three years (2006–09) are:

1) revamp of the University's eLearning platforms, 2) a range of support services, 3) seminars and workshops, 4) support for courseware development, 5) promotion of eLearning, and 6) research on new strategies and technologies. These strategies are explored in Table 1.

The University's eLearning Service is a collaboration between colleagues in the Information Technology Services Centre (ITSC) and the Centre for Learning Enhancement And Research (CLEAR).

Main strategies	Specific strategies	Examples of enhancement of positive drivers	Examples of overcoming negative drivers
1) Revamp of the University's eLearning platforms. A steady rise has occurred in Moodle and WebCT course websites – see Figure 2.	Launch of centrally maintained Moodle in 2006	<i>2I+b. Students as 'digital natives'</i> Many of our Moodle sites are much more interactive and incorporate more Web 2.0 tools	<i>3I-. Peer groups in departments</i> In some instances whole departments changed to Moodle and so there was no 'soft' perception of eTeachers.
	Upgrade of WebCT to provide easier content upload, a new links annotations feature, new quiz question types, additional grading options and a more user-friendly interface.		<i>2I-. Commitment to a university research life</i> In view of the overall status of teaching it was more strategic to keep WebCT. The infrastructure maintenance of two platforms is better than conservative backlash.
2) A range of eLearning support services	Faculty visits to all eight faculties with senior management present	<i>1I+. Evidence of institutional research</i> These were good opportunities to show evidence of the growth and success of eLearning at CUHK.	<i>3I-. Peer groups in departments</i> With senior management support, the 'soft' perception is diminished.  <i>3E-. Benchmarking within the discipline</i> Strategic mention of eLearning at prestigious universities was possible at these meetings.
	Enhancement of course outlines. Over 700 individual course designs have been reviewed and reports given to teachers. The integration of 'e' and 'non-e' strategies has been encouraged.	<i>2E+. Changing curriculum</i> The new curriculum in 2012 has been a great opportunity to promote rethinking and renewing course design.	
	Walk-in clinic. Not very active but ~50 teachers have come in for personalized consultations. Typical topics are given in Note 1.	<i>3I+a. Local support</i> Personalized support is worth the investment as advice seems to be more actively used.  <i>3E+. Strong push for OBAs to T&amp;L in HK</i> OBA is quite new in HK and strategies such as ePortfolios are gaining interest.	<i>1I-. Culture of a face-to-face university</i> Exploring how eLearning can enable and enhance relationship building is important at CUHK.
	eLearning Assistants (eLAs)	<i>2I+b. Students as 'digital natives'</i> We have found it relatively easy to train and employ our own students as part-time helpers. We now have funding for some full-time recent graduates as eLAs.  <i>3I+a. Local support</i> Teachers do the educational design work and value the technical support.	<i>1I-. Culture of a face-to-face university</i> Teachers value personal help in their own offices.  <i>2E-. Frenetic city</i> Teachers leave routine technical work till the last minute and need technical support.
	More extended consultations and small projects. A key emphasis of all projects is evaluation using a model described in Lam and McNaught (2008).	<i>3I+b. Change in policy for promotion</i> We have evidence of how teaching can support promotion and can share this with teachers. We have a growing number of publications jointly authored with teachers.	<i>1E-. Good external rankings</i> While research predominates in rankings, there are some 'good university' guides where T&L is important that can be cited.  <i>3I-. Peer groups in departments</i> A formally framed project has more status with peers.
	A virtual eLearning Resources Centre, including a photo gallery, access to learning objects, tools, top-ten tips and a FAQ collection.	<i>2E+. Changing curriculum</i> The site at <a href="http://www.cuhk.edu.hk/eLearning/">http://www.cuhk.edu.hk/eLearning/</a> is continuously being developed.	

3) Seminars and workshops	Topics cover training in the use of online tools and systems, as well as exploration of learning theory and pedagogical strategies.	2E+. <i>Changing curriculum</i> See other comments about 2012.  1I&E+. <i>New student information system</i> Good training will be essential in the next phase of implementation.	1I-. <i>Culture of a face-to-face university</i> Some training is by online courses but CUHK teachers appreciate face-to-face discussion.
4) Support for courseware development	Framing projects for accessing internal and external funding sources	2I+a. <i>Changing student profile</i> 2I+b <i>Students as 'digital natives'</i> 2E+. <i>Changing curriculum</i> All of the three factors mentioned here have been supported by formal projects.	3I-. <i>Peer groups in departments</i> A formally framed project has more status with peers. We try to encourage publication.  2I-. <i>Commitment to a university research life</i> Appealing to scholarship does work. Solid evaluation data is essential.
	Successful completion of development projects. Examples are in Note 2.	3I+b. <i>Change in policy for promotion</i> Sharing evidence of how teaching can support promotion is useful.  1E+. <i>External quality audit</i> We used the records to good effect in the recent audit of CUHK.	1E-. <i>Good external rankings</i> In HK, grant success is used as an indicator by the government funding agency.
5) Promotion of eLearning	eLS@CU Newsletter. See <a href="http://tinyurl.com/cbt27a">http://tinyurl.com/cbt27a</a>	2E+. <i>Changing curriculum</i> See other comments about 2012.	3I-. <i>Peer groups in departments</i> HK is a culture where media exposure is valued.
	Departmental eLearning Liaison Persons (eLLPs)	3I+b. <i>Change in policy for promotion</i> Some ELLPs have felt this supported their (successful) cases.	1I-. <i>Culture of a face-to-face university</i> See other comments in this category.
	eLearning Expo. See <a href="http://www.cuhk.edu.hk/eLearning/expo/">http://www.cuhk.edu.hk/eLearning/expo/</a>	3E+. <i>Strong push for OBAs to T&amp;L in HK</i> We plan to add several more of the Expo displays to the OBA eLearning site at <a href="http://www.cuhk.edu.hk/eLearning/eLoutcomes/">http://www.cuhk.edu.hk/eLearning/eLoutcomes/</a>	1I-. <i>Culture of a face-to-face university</i> See other comments in this category.
6) Research on new strategies and technologies	Learning Activity Management System (LAMS)	2E+. <i>Changing curriculum</i> See other comments about 2012.	
	Web-conferencing solution (Adobe Breeze)	2I+a. <i>Changing student profile</i> There is a small but growing number of international collaborative courses.	3I-. <i>Peer groups in departments</i> Web-conferencing is used for research as well as teaching.
	eBooks	2I+b. <i>Students as 'digital natives'</i> Published papers support an awareness of the skills and challenges our students have.	
	Mobile learning and teaching	2I+b. <i>Students as 'digital natives'</i> Published papers support an awareness of the skills and challenges our students have.	
	eAssessment	2E+. <i>Changing curriculum</i> See other comments about 2012.	2E-. <i>Frenetic city</i> EAssessment is only popular in large classes where time saving is significant.
	Reporting on the growth of eLearning at CUHK	1I+. <i>Evidence of institutional research</i> 1E+. <i>External quality audit</i> 1I&E+. <i>New student information system</i> All of the three factors mentioned here have relied on the longitudinal data we collect about eLearning (Lam, Keing, McNaught & Cheng 2006).	2I-. <i>Commitment to a university research life</i> Appealing to scholarship does work. Solid longitudinal data is essential.

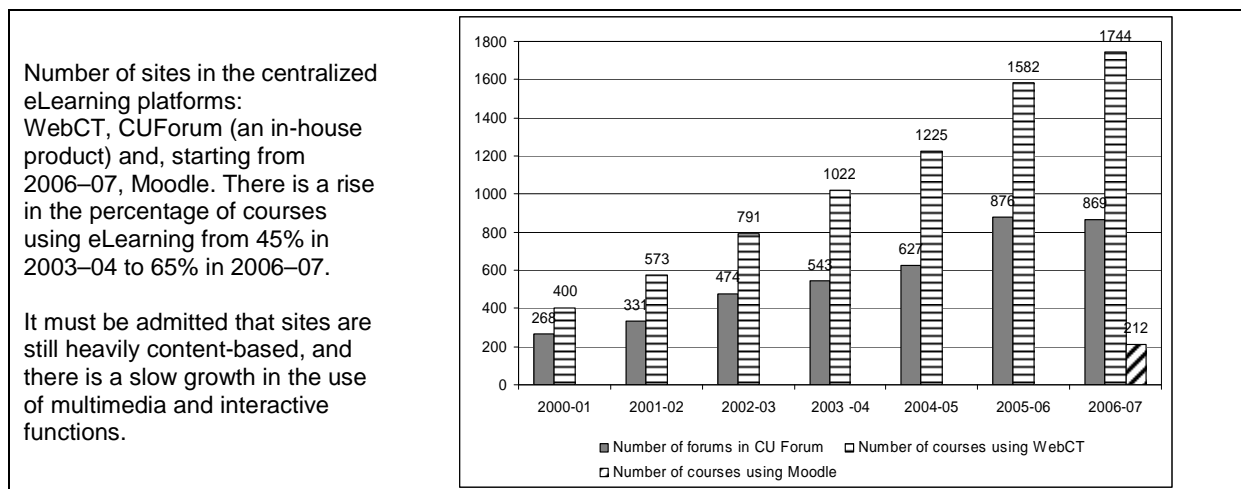
Note 1: Some common topics discussed in the clinic are:

- How to incorporate different functions of WebCT and Moodle to both save teachers' time in managing the course and to fulfil different teaching needs? (e.g. assignment dropbox, online assessment, discussion forum)
- How can eLearning help to improve learning outcomes and optimize pedagogical efforts?
- How to facilitate student group activities more effectively by eLearning?
- How can eLearning facilitate international collaboration with other universities?
- What are tips in using PowerPoint and Acrobat?
- How to use cases on eLearning platforms to facilitate students' learning?
- How can assignment be designed to foster students' reflection on subjects of studies?
- How could training workshops be arranged for individual academic units serving their special needs on eLearning?
- How should courses on eLearning platforms be administered at departmental level?
- How can the new technologies/ functions for eLearning (e.g. blog) be used in course teaching to enhance students' learning experience?
- How can peer review activities be set up on eLearning platforms?
- Consultation in designing and conducting different online assessments.
- Consultation in courseware development design and production (e.g. online video lectures, 3D simulations, interactive games)

Note 2: Examples of projects are:

- a comprehensive libel litigation database for the School of Journalism and Communication;
- a highly interactive online game for the School of Law;
- an online language learning platform for Japanese Studies;
- a Chinese Culture Teaching Materials Repository for the Office of University General Education;
- a web course with flash animated exercises on English pronunciation for the English Language Teaching Unit; and
- a web course with video-enhanced virtual laboratory on teaching microbiology for Nursing;
- a simulation game of the treatment of Cardiac Arrest for Department of Anaesthesia and Intensive Care;
- a online courseware for teaching Thematic Melodies of 20<sup>th</sup> Century Theoretical Physics for Department of Physics;
- a interactive courseware package for learning Putonghua online for the Independent Learning Centre;
- a flash-animated courseware for teaching Human Physiology for Department of Physiology; and
- a courseware for teaching biochemistry/ biotechnology for Department of Biochemistry.

**Table 1.** Strategies used in promoting and supporting eLearning at CUHK, considered in terms of a number of competing drivers



**Figure 2.** Growth in eLearning at The Chinese University of Hong Kong

Overall, it can be seen that an overarching model supports the design of a specific suite of strategies to use in promoting and supporting eLearning. One needs to contextualize support strategies within an overall framework in order to optimize the resources available – both funding resources and human resources. Without this reflection and holistic thinking, we do not believe that we would be able have achieved what we have achieved in the last few years. In addition, the cumulative effect of a number of strategies working together, reinforcing each other, is important.

## ACKNOWLEDGMENTS

Funding support from the University Grants Committee in Hong Kong is gratefully acknowledged, as is the contributions of colleagues across the University.

## REFERENCES

- Graham, C.R. (2005) Blended learning systems: Definition, current trends, and future directions. In: Bonk, C.J. & Graham, C.R. (eds.) *Handbook of blended learning: Global perspectives, local designs*. San Francisco, CA: Pfeiffer. pp.3-21.
- Lam, P., Keing, C., McNaught, C. & Cheng, K.F. (2006) Monitoring eLearning environments through analyzing web logs of institution-wide eLearning platforms. In: Markauskaite, L., Goodyear, P. & Reimann, P. (eds.) *Who's learning? Whose technology?* pp. 429-440. Proceedings of the 23rd annual Australian Society for Computers in Learning in Tertiary Education 2006 conference, University of Sydney, 3-6 December. Available from <[http://www.ascilite.org.au/conferences/sydney06/proceeding/pdf\\_papers/p62.pdf](http://www.ascilite.org.au/conferences/sydney06/proceeding/pdf_papers/p62.pdf)> [Accessed 30 April 2009].
- Lam, P. & McNaught, C. (2008) A three-layered cyclic model of e-learning development and evaluation. *Journal of Interactive Learning Research*, 19(2), pp.313-329.
- McNaught, C. (in press) Ensuring that external funding for teaching development grants supports internal quality assurance processes. Proceedings of the Australian Universities Quality Forum (AUQF) 2009, Alice Springs, Australia, 1-3 July 2009.
- McNaught, C. (2008) Towards an institutional eLearning strategy: The long journey. In: Nair, C.S. (ed.) *Evidence based decision making: Scholarship and practice* pp.43-55. Proceedings of the Australasian Higher Education Evaluation Forum (AHEEF) 2008, 2-3 October. Melbourne: Centre for Higher Education Quality, Monash University. Available from <[http://www.cuhk.edu.hk/clear/download/Paper/proceedings\\_version.pdf](http://www.cuhk.edu.hk/clear/download/Paper/proceedings_version.pdf)> [Accessed 30 April 2009].
- McNaught, C., Lam, P. & Lam, S-L. (in press) Digital natives are not necessarily willing mobile eLearners. *International Journal of Excellence in eLearning*.
- University Grants Committee (UGC) (2009) Quality Assurance Council. Available from <<http://www.ugc.edu.hk/eng/qac/>> [Accessed 30 April 2009].
- Many of the publications resulting from the work of the eLearning Service can be found at <<http://www.cuhk.edu.hk/clear/staff/Carmel-4.htm#top4>> [Accessed 30 April 2009].