

9. Effective E-Learning: Perspective of Adult Learners in Hong Kong

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Abstract. This article examines what constitute effective online learning from the perspective of students in web-enhanced programmes offered in Hong Kong. To investigate the success factors of e-Learning, as well as the role of Internet-based technologies in adult learning in Hong Kong, survey of students studying web-enhanced programmes was conducted in 2005. This survey is designed to 1) investigate students' perception on how e-Learning technologies, student and teacher affect the learning process and 2) the enhancement to learning effectiveness brought by e-Learning. The implications for effective online adult learning in Hong Kong will be discussed. Technology should be used primarily as a tool and a communication device to enable human relationship and enhance interactiveness among learners. Even though student respondents perceived teacher as the imparter of wisdom, and demanded for teacher's presence and heavy participation in the online environment, the new facilitating role of teachers should be promoted. Students should switch from a dependent role to a self-directed role and actively engage in the knowledge construction process in the online environment. The findings will provide useful reference for educators to enhance learning in adult education.

Keywords: *e-Learning, adult learning, web-enhanced learning, distance learning*

1. Introduction

With the rapid advancement of information technology, the accessibility and interactiveness of e-Learning are enhanced and better learning opportunities are available for adult learners. Many literatures focused on the advantage of web-based teaching from the institutional perspective, comparisons of the effectiveness of web-based learning and traditional classroom teaching, as well as benefits of computer-mediated communication. Attention to the issues about online interaction and learning has gained increasing interest in

distance learning. Nevertheless, issues such as the acceptance of the web-based learning mode by students and, factors affecting effective e-Learning are not well studied.

We have conducted surveys in 2002 and 2003 to solicit Hong Kong students' perception of the success factors of web-based learning. Nowadays broadband access to Internet becomes more popular in Hong Kong and more working adults have some experience in different forms of web-enhanced learning and/ or e-Learning. In light of these changes, students' perception of effective e-Learning and the interaction issue was investigated in 2005. As asserted by Moore (1989) there were three major types of interactions affecting distance education. These include interactions with content, interactions with teachers, and interactions among students. As Anderson, *et al.*, (2005 p. 224-225) described, Vygotsky contended that *"the most fruitful experiences in learners' educational processes occur when they interact, in a context, with more experienced partners or teachers who provide an "intellectual scaffold" that helps them perform complex tasks than would not be possible alone"*. The interactions among students, teachers and content that affect effective e-Learning were investigated in our study. The overall findings of the 2002 and 2003 Surveys as well as the 2005 Survey provide useful insights in the investigation of how to maximize the effectiveness of adult learning via internet-based technologies based on students' perspective. The research method and the findings of the 2005 Student Survey are reported in the next two sections, followed by a discussion of the implications for effective online adult learning in Hong Kong.

2. Research Method

To gain a better understanding of the success factors of web-based learning, as well as the role of Internet-based technologies in adult learning in Hong Kong, questionnaires were distributed by mail to students of various information technology award-bearing programmes with different levels of on-line and face-to-face supports in November and December 2005. The Student Questionnaire aims at investigating 1) students' perception on how e-Learning technologies, student and teacher affect the learning process and 2) the enhancements to learning effectiveness brought by e-Learning. Students from four undergraduate programmes and four postgraduate programmes that were operated by the School of Professional and Continuing Education, the University of Hong Kong (HKU SPACE), jointly with universities from Australia and United Kingdom were invited to participate¹. In addition to the distance learning packages and face-to-face sessions, on-line support are used for academic and administration purposes. All adult learners currently enrolled in the mentioned programmes in 2005 as well as the 2004 and 2005 graduates were sampled. A total number of 1357

¹ Bachelor of Computing, Bachelor of Information Technology (Monash University, Australia), Bachelor of Science in Computing and Information Systems for External Students (University of London, UK), Bachelor of Science (Honors) Computer Networks (Middlesex, UK); Master of Business Systems (Monash University, Australia), Master of Information Technology (Charles Sturt University, Australia), Master of Science in Business Information Technology (Middlesex, UK), Master of Science in ECommerce (Middlesex, UK).

questionnaires were distributed. 274 student questionnaires were returned, reflecting a response rate of 20%.

Among the respondents there were 158 responses from the undergraduates group (58%), and 116 responses from the postgraduates group (42%). Most respondents (83.8%) were aged between 21 to 40 (32% with age 20–30, 51.7% is 31–40, 15% is 41-50, 1.5% is above 50). The respondents in general were experienced online and distance learners. 9.9% of the respondents had experience in complete online learning, 52% had experience in web-enhanced distance learning and 16.8% had experience of face-to-face teaching supplemented by online support. Only 21.2% of the respondents did not have any e-Learning experience.

3. Findings and Analysis

3.1 Preferred Learning Mode and Learning Effectiveness

Table 1: The Most Preferred Teaching Mode – Students' Perspective

Teaching Mode	Percentage
Purely face-to-face teaching supplemented by e-Learning	42.1%
Distance learning plus face-to-face tutorials for some subjects and face-to-face lecture for other subjects	22.3%
Distance learning plus e-Learning and face-to-face tutorials	26.7%
Total online learning with some face-to-face supports	5.9%
Total online learning without any face-to-face supports	2.9%

When students were asked if given a choice which teaching mode they mostly preferred, they expressed a strong preference of Mixed Mode Delivery (see Table 1), in which e-Learning only serves as supplement and face-to-face teaching was highly valued. When respondents were asked to give their overall comments about e-Learning and face-to-face teaching, majority of them (79.1%) indicated that better response to enquiries could be achieved in face-to-face classes. The findings about the preferred learning mode are similar to the survey results of Chan and Mills (2000), Lee and Chan (2002), as well as Lee, *et al.*, (2003), which confirm the predominant acceptance of the Mixed Mode delivery as the more preferred mode by the working adults in Hong Kong over pure distance learning and online learning. The results further indicated that Hong Kong's working adult perceived face-to-face sessions as highly valuable

Regarding the advantages of e-Learning, as shown in Table 2 easy access to course information and flexible self-paced learning were viewed as more important than interaction with teachers and other learners. Sharing of information was viewed as relatively less essential. For the disadvantages of e-Learning, respondents ranked the lack of immediacy of

response as well as poor motivation and isolation as the major disadvantages.

Majority of the respondents indicated that e-Learning could help increasing learning effectiveness as it could increase access to learning resources and increase interaction with teachers (See Table 3).

Table 2: Perceived Advantages and Disadvantages of e-learning

Ranking	Perceived Advantages of e-Learning	Perceived Disadvantages of e-Learning
1	* Easy access to course related information anywhere anytime	* Lack of immediacy of response
2	* Flexible management of self-paced learning	* Poor motivation and isolation
3	Able to fully participate in web-based learning environment	Limited social interactions in online learning environment
4	Better interaction with teachers and classmates	Information overload
5	Greater sense of sharing among classmates	Other Disadvantages:
	Other Advantages: -Cost effective way for working adults to obtain overseas university's award	- Inefficient problem explanation (subject such as mathematics) - Limited presentation chance

Table 3: Increase of learning effectiveness via e-Learning

Ranking	Increase of learning effectiveness through
1	Increase access to learning resources
2	Increase interaction with teachers
3	Provide drilling opportunities to practice and test my understanding
4	Increase interaction with peer learners
5	Increase my analysis and evaluation skills
6	Increase access to experts
7	Increase access to teachers

3.2 e-Learning Technology

3.2.1 Essential e-Learning Features

As shown in Table 4, most of the respondents (90.4%) highly ranked web-based subject materials and past papers as essential features for facilitating their studies. Online assignment submission (78.5%), electronic library (72.7%), and e-mail (70.8%) were also considered as essential features. Information downloading and uploading were viewed as more important features than facilitating interactions. These results are similar to the Student Survey result of Lee, Dooley and Chan (2003) in which information gathering, in particular the downloading of subject materials and past papers, was viewed as more essential than

interactions in the online environment.

Table 4: Essential and desirable feature of e-Learning technology

Ranking		Essential Feature	Desirable Feature	No Use
1	Web-based subject materials and Past exam papers	90.4%	8.5%	1.1%
2	On-line assignment submission	78.5%	19%	2.6%
3	Electronic library	72.2%	23.8%	4%
4	E-mail	70.8%	24.4%	4.8%
5	Online quiz with automatic feedback	52.2%	36.3%	11.5%
6	Newsgroup/ Discussion forum	48.2%	37.6%	14.2%
7	Streaming video clips and virtual lecture	31.3%	52.9%	15.8%
8	Chat room	14.7%	40.8%	44.5%
Others:		(1) Administrative resources – course schedule, administrative notice, academic result	(3) Newsgroup with good searching facility	
		(2) Academic resources – Reference and reading link	(4) Online Q&A sessions with teacher	
<i>Note: Essential Feature = This feature is essential for facilitating your studies; Desirable Feature = This feature serves as an optional support only</i>				

Newsgroup was ranked by respondents in the 2002-2003 Student Survey as the third useful online support. However in this 2005 Student Survey, it was the sixth. Only about half of the respondents (48.2%) ranked newsgroup as essential. When respondents were asked to indicate the use of newsgroup in enhancing their learning process, more than half of the respondents agreed that the use of newsgroup could increase the interactions between learners (61.3%), increase access to learning resources (56.5%), and increase the access to and interaction with teachers (56.5%). The respondents' participation rate of newsgroup discussion indicated that most of them only participated in newsgroup occasionally, with only 32.5% posted and read message occasionally, and 25.2% read message occasionally. Active participation was not common among the respondents with only 19% posted and read message weekly. 62.9% of the occasional participants and non-participants stated that participating in newsgroup discussion was too time consuming; 12.1% of them mentioned that it was difficult to express ideas via message posting.

3.2.2 Desirable and Less Desirable e-Learning Features

Streaming video clips and virtual lectures were viewed as desirable optional e-Learning features by 52.9% of the respondents, and 15.8% viewed them as useless. This result could be affected by the lack of previous experience of using the technology as only 29.3% of the respondents had experience in using streaming video clips and virtual lecture. When respondents were asked to indicate the usefulness of streaming video clips and virtual lecture in enhancing their learning process, 50.1% of them agreed that it could help increasing the access to learning resources. Among the listed e-Learning features, chat room was viewed by 44.5% of the respondents as least useful, which is similar to the 2002-2003 Student Survey

results.

3.3 Teachers, Students and Peer Learners

Regarding the online participation issue of teachers, student themselves and peer learners, the respondents strongly believed that teachers should provide more prompts to encourage more responses from students (70.7%). Less participation and intervention of teachers in newsgroup postings were generally not welcomed. Individual learner's self-learning initiative and time management were largely viewed as important (82.7%) for effective online learning. Peer learners' willingness to share and compare information and knowledge in the online environment was viewed as important (79.9%). Building knowledge collaboratively with other learners was also viewed as important (67.2%). 55.7% of respondents viewed that sense of belonging to online community was important. Less than half of the respondents (45.1%) agreed that their active participation in online discussion was important. The findings suggested that students believed that teachers should actively participate to facilitate newsgroup discussion. While the students were interested to view contributions of other learners, their own active participation in online environment was viewed as less important.

3.4 Suggestions on improving teaching and learning in online environment

When students were asked to give suggestions for improving teaching and learning in online environment, they were mainly concerned about teacher's participation in the online environment, peer learners' willingness to share information, as well as the availability of materials and resources. Some selected suggestions are listed as follow:

- *“List out all students' questions raised to the teachers so that other students can prevent asking same questions again. Of course (it should come) together with the suggestion/answer from teachers on the website.” [Student 120]*
- *“I agree that online discussion is essential for student to learn effectively. But for Chinese people, they are always not eager to participate in online discussion for the reason of social culture or difficulties in ways of communication.” [Student 122]*
- *“May provide some discussion periods for learners to have face-to-face (via internet) Q&A sessions.” [Student 227]*

In general, respondents wanted active teacher moderation in online environment and expected quick response of teacher on newsgroup discussion. Some students even demanded for a structured way of listing out the questions raised and the corresponding answers or suggestions. The recommendation of online meeting in fact replicates the reliance on traditional teaching in classroom except for the change of space. The above comments indicated that the old model of information transmission model of e-Learning was still deeply cultivated in students' mind. The “automation of transmission models of learning” (Haraism 2000) that focused on disseminating instruction on the web was still adopted by the respondents. Majority of the respondents still played a passive role in the online environment. From their perspectives, e-Learning was a tool for information gathering

rather than a tool for facilitating interactions among learners. The interactive function of e-Learning technology was not seen as important.

Even though it is a natural impulse for students to acquire information, the advantage of increased interactiveness between a learner and peer learners should not be neglected. Instead of only access to information or content, "*engagement with others in the gradual development of their personal understanding*" (p. 137) which put forth by Laurillard (2000) should be promoted. To increase the learning effectiveness of e-Learning, students should be guided to appreciate the collaborative construction of knowledge. Through the process of expressing individuals' thoughts and responding to others, reflective and critical thinking can be promoted, and co-construction of knowledge is possible (Ellis, 2001; Collis and Moonen, 2001; Jonassen, 2000; Murthy and Loveless, 2005).

In light of the benefits derived from Learner-Learner interaction, ways to motivate students' active participation on newsgroup discussion should be investigated. One possible way is to incorporate newsgroup participation as part of the assessment. For example, setting a minimum level of active participation in newsgroup and assigning marks for quality online participation. Nevertheless, one should note that knowledge construction in the online environment may not be always observable but process internally by learners. Ebner and Holzinger (2005 p. 75) pointed out "*a higher degree of visible interaction is not the pre-condition for higher learning efficiency*". They asserted that when interactivity in the online environment was evaluated, it should not just include active participation but also the lurking activity in which participants read and reflected on other members' contributions. To promote better individual participant's contribution, both the active participation and lurking activities should be evaluated. However, as mentioned by Murthy and Loveless (2005), evaluation of the quality of all individual students' postings was an onerous and cumbersome task. In-depth insights of learning quality could not be obtained from simple qualitative analyses of system statistics such as number and length of postings.

A conceptualized assessment method was put forward by Murthy and Loveless (2005) that required students to conduct self analysis of contributions to online asynchronous discussions using pre-set criteria. The approach firstly focused on "*identification on and descriptions of the number and length of postings, claims and grounds and on knowledge construction*"(p. 169) that required student to organize information in different presentation methods. It then required students to assess their own online participation and contribution. The self analysis therefore engaged students in "*a variety of cognitive processing*" and "*higher levels of thinking such as interpretation, evaluation and concluding*" (p. 169) .

The students' self analysis approach leads us to rethink about the organization of ideas

and comments in newsgroup discussion. As mentioned by some respondents, participating in newsgroup was considered as time consuming that may partly due to the unstructured organization of ideas. In addition to just having a record of all posted messages, it will be useful to rethink the design of discussion forum so that students can easily relate their ideas with other contributions posted and then draw some meaningful conclusion. Group exercises should also be assigned for each group to summarize and conclude on the online discussion of a particular topic. Through the collaborative activities, students can then start to value the co-construction of knowledge.

4. Conclusion

This article examines the learning experience of web-enhanced education programmes in Hong Kong. The survey findings indicated that majority of students preferred the Mixed Mode Delivery in which e-Learning was seen as playing a supplementary role while face-to-face teaching support was highly valued. The surveys findings revealed that students were still using the old model of information transmission mode of e-Learning. They perceived the main advantage of e-Learning lay in the easy access of up-to-date course related materials. From the students' perspective, information gathering in the online environment was more essential than communication. Given the busy schedule of working adults and the limited number of face-to-face sessions, students should develop a habit of using e-learning technology as a communication device to enhance interactions with teachers, and more importantly with peer learners. Students should switch from a dependent role to a self-directed role and actively engage in the knowledge creation and construction process.

To increase the learning effectiveness of e-Learning, students should be guided to adopt the collaborative learning model of e-Learning and value the Learner-Learner interactions. Issues such as how to motivate students to make good use of newsgroup and to facilitate collaborative learning need to be further investigated. Even though student still perceive teacher as the imparter of wisdom and demand for heavy teacher presence and participation in the online environment, the new facilitating role of teachers should be promoted. The usage of newsgroup (especially posting of messages) should also be promoted among learners themselves. Besides, the assessment method of web-enhanced program is recommended to include certain assessment components for efforts put in the on-line environment, such as setting a minimum level of newsgroup participation, students' self analysis of contributions to online discussions, or group activity. Further research on the following issues is therefore proposed:

- Investigate ways to encourage students' active participation on newsgroup discussions;
- Investigate how to better organize ideas and knowledge in newsgroup for helping students efficiently engage in discussion and reflection;

- Investigate on the effectiveness of including participation on newsgroup discussion to form part of the assessment;
- Examine the relationship between lurking activities (the passive participation in newsgroup discussion) and learning effectiveness;
- Investigate how the online assignment submission features, such as automatic marking, online marking and multiple submissions, affect the learning behaviors.

Effective e-Learning relies on the change roles of students and teachers. Even though technology can serve as a tool for easy access to online materials, the power of e-Learning lies in its interactivity in exchanging ideas, the creation of a virtual learning community and the construction of knowledge collaboratively. Connectedness with learning materials, teachers, as well as with other learners are all essential to effective e-Learning.

References

- Anderson, T., Annand, D. and Wark, N. (2005).** The search for learning community in learner paced distance education: Or, 'Having your cake and eating it, too!'. *Australasian Journal of Educational Technology*, 21(2), 222-241. Retrieved 20 January 2006 from <http://www.ascilite.org.au/ajet/ajet21/anderson.html>
- Chan, F.T., and Mills, J.J. (2000).** Collaboration for Success in Open and Distance Education: A Case Study of Australia and Hong Kong. *Distance Education, an open question? Conference 2000*.
- Collis, B. and Moonen, J. (2001).** Flexible Learning in a Digital World: experiences and expectations. Kogan Page, UK.
- Ellis, A. (2001).** *Student-centred collaborative learning via face-to-face and asynchronous online communication: What's the difference?*. Retrieved 22 October 2003, from <http://www.medfac.unimelb.edu.au/ascilite2001/pdf/papers/ellisa.pdf>
- Ebner, M. and Holzinger, A. (2005).** Lurking: An Underestimated Human-Computer Phenomenon. *IEEE MultiMedia*, 12(4), 70-75, October-December.
- Harasim, L. (2000).** Shift Happens: Online Education as a New Paradigm in Learning. *The Internet and Higher Education*, 3(1-2), 41-61.
- Jonassen, D. H. (2000).** *Computers as mindtools for schools: Engaging critical thinking* (2nd ed.). Upper Saddle River, NJ: Prentice-Hall Inc.
- Laurillard, D. (2000).** New technologies and the curriculum. In P. Scott (Ed), *Higher Education Re-formed*. (pp. 133-153). London: Falmer Press.
- Lee P.W. R. and Chan, F.T. (2002).** "Mixed Mode of Delivery - An Effective Collaboration Model", Paper presented at the Association of Southeast Asia Institutes of Higher Learning (ASAIHL) 2002,

Proceedings of ASAIHL 2002: Lifelong Learning, 17-19 June 2002, Nanyang Technological University, Singapore, 155-163.

Lee P.W. R., Dooley L.S and Chan, F.T. (2003). “Enhancing adult learning via E-Learning: the perspectives of students and teachers in Hong Kong”, Paper presented at the VIEWDET 2003: Vienna International Conference on eLearning, eMedicine, eSupport, 26 – 28 November, 2003, Vienna University of Technology, Austria.

Moore, M. (1989). Three types of interaction. *American Journal of Distance Education*, 3(2), 1-6.

Murphy, E. and Loveless, J. (2005). Students' self analysis of contributions to online asynchronous discussions. *Australasian Journal of Educational Technology*, 21(2), 155-172. Retrieved 22 January 2006, from <http://www.ascilite.org.au/ajet/ajet21/murphy.html>