

# E-Learning Experiences of Hong Kong Students

J. Lam, and R. Chan

**Abstract**—The adoption of e-learning in Hong Kong has been increasing rapidly in the past decade. To understand the e-learning experiences of the students, the School of Professional and Continuing Education of The University of Hong Kong conducted a survey. The survey aimed to collect students' experiences in using learning management system, their perceived e-learning advantages, barriers in e-learning and preferences in new e-learning development. A questionnaire with 84 questions was distributed in mid 2012 and 608 valid responds were received. The analysis results showed that the students found e-learning helpful to their study. They preferred interactive functions and mobile features. Blended learning mode, both face-to-face learning mode integrated with online learning and face-to-face learning mode supplemented with online resources, were preferred by the students. The results of experiences of Hong Kong students in e-learning provided a contemporary reference to the e-learning practitioners to understand the e-learning situation in Asia.

**Keywords**—E-learning, blended learning, learning experience, learning management system.

## I. INTRODUCTION

THE School of Professional and Continuing Education (HKU SPACE) of The University of Hong Kong has been providing continuing education to Hong Kong and the region since 1956. Since 1999, HKU SPACE has been offering courses with e-learning support and an in-house built learning management system, SOUL, was provided to the students. In the first few years, e-learning was mainly used to provide supplementary support to students' learning. In 2004, the School introduced a Blended Learning Policy that a blended approach to learning, which combined traditional face-to-face classroom learning with a certain minimum level of basic e-learning features, should be made available to all learning of the School in award-bearing programmes. In 2009, the School established the Centre for Cyber Learning to provide all-rounded e-learning support to the students.

In order to offer Web 2.0 online learning support to the students, the School performed an analysis of the major learning management systems [1] and adopted the open-source e-learning software, MOODLE, and developed the second generation of learning management system. The new system, named SOUL 2.0, was started serving the students in the academic year 2011/2012. SOUL 2.0 was a pedagogical driven learning management system. Online learning materials of the courses were placed and online learning activities were carried out in the system. At the end of the academic year 2011/2012,

J. Lam is with the School of Professional and Continuing Education, The University of Hong Kong, Hong Kong (phone: 852-2975-5674; fax: 852-2219-7589; email: jeanne.lam@hkuspace.hku.hk).

R. Chan is with the School of Professional and Continuing Education, The University of Hong Kong, Hong Kong (phone: 852-2587-3229; fax: 852-2219-7589; email: radar.chan@hkuspace.hku.hk).

the School conducted a survey to collect data for analyzing students' e-learning experiences. This paper aims at sharing the summarized and analyzed the result of the survey for the educational practitioners as a reference in understanding e-learning experiences of Hong Kong students.

## II. E-LEARNING AND E-LEARNING IN HKU SPACE

### A. Definition of E-Learning

The definition of e-learning changed over time. In the last century, e-learning was commonly referred as computer-assisted instruction or computer-based instruction [2]. In late 1990s, the focus of e-learning has been changed to web-based learning and internet-based learning [3]. The contemporary definition of e-learning is associated with learning in the technological environment of Web 2.0 which originally coined by O'Reilly Media in 2003, refers to the observed new forms of application, interaction and communities in the Web [4].

Zhang summarized the development of e-learning in three generations based on the e-learning principles and practices [5]. The first generation of e-learning is a one-way transmission mode driven by technology in which e-learning is only a tool for delivering teaching and learning during 1990s. The second generation of e-learning is an interactive mode with learning pedagogy driven which learning interactions are emphasized in e-learning environment. The third generation of e-learning is a comprehensive mode with e-learning pedagogy driven.

### B. Types of E-Learning

e-Learning were mainly classified as purely online learning and mix of online learning and face-to-face learning, whereas the latter mode was usually referred to blended learning, hybrid learning or integrated learning. In order to allow programme administrative staff and teachers having clearer concept on classification of types of e-learning, e-learning levels were defined as in Table I.

TABLE I  
E-LEARNING LEVEL DEFINITIONS IN HKU SPACE

Level	Types of Courses	Definitions
ee	Entire (Pure) e-Courses	All teaching, learning, interactions, assessment, evaluation and management online
e4	Integrated Courses	e3 & Reduction of face-to-face teaching hours
e3	Blended Courses	e2 & Design and development of e-learning resources based on e-learning pedagogy approach
e2	Web-enhanced Courses	e1 & Two-way interactions
e1	Web-facilitated courses	One-way transmission

The lowest level is web-facilitated courses (e1) which the definition is courses that have online one-way transmission. Web-enhanced courses (e2) means courses with online two-way interactions. E3 level refers to blended courses which the design and development of e-learning resources are based on e-learning pedagogy approach. E4 level means integrated courses that face-to-face teaching hours are reduced. The top level is entire e-courses which means all teaching, learning, interactions, assessment, evaluation and management are carried out in the online environment.

### C. Pedagogical Driven e-Learning

In order to support teaching and learning effectively, the design of SOUL 2.0 was based on teaching and learning needs. During the early stage of system development, administrative staff and teachers were invited to share their teaching experiences and their students' learning needs. With focus group meetings held and pilot user group formed, the system development team collected the pedagogical needs and designed the system learning features in six categories, including course content, communication and collaboration, assignment and assessment, administration and management, learning, and feedback.

### III. THE SURVEY

An online survey was conducted by the Centre for Cyber Learning of HKU SPACE from June 1, 2012 to July 6, 2012 inclusively to obtain students' experience on using the School's e-learning service. A questionnaire was designed and the questionnaire was distributed online. All active online students, who had been logged in to the system in year 2012, were invited to participate in the survey. Invitation emails were sent to the active online students. Since the survey was to be conducted online, it was expected the response rate would be limited. To ensure the reliability, the survey was conducted three times. In each time, the survey lasted for two weeks and the same set of questions was sent out. The results were compared and the reliability was confirmed. The questionnaire was distributed to 13,390 students and 608 (4%) responses were received.

The questionnaire contained 84 questions categorized in 6 parts. The first part of the questionnaire aimed to collect demographic information of the students. Questions about their programme enrolled, mode of study, highest educational level attained, gender, age group, Internet using experience and online learning experience were asked. The second part of questionnaire attempted to obtain their experience in using the School's online learning platform, SOUL 2.0. Besides their frequencies in using the system and time spent on the system, questions about their satisfaction on the system setting, learning features and support services were asked. The third part of questionnaire asked questions about the perceived advantages of e-learning to their study. The fourth part contained question about barriers of e-learning. The fifth part asked their preferences of new e-learning functions and mobile learning. The last part of questionnaire provided an open-ended question for students to provide their views and comments.

### IV. RESULTS AND FINDINGS

#### A. Demographic Information

Among the 608 respondents, 60% were full-time students and 40% were part-time students. Over half of the students were aged below 22 (54%). The gender distribution was 38% male and 62% female. For the educational background, most of the respondents had attained secondary and post-secondary levels (82%). Majority of the students had been using the Internet for over 4 years (96%) and about half of the students had been engaging in online learning for over 4 years (49%).

For the study discipline, the respondents were studying Accounting & Finance (16%), Business & Management (13%), Life, Health & General Sciences (10%), Law (8%), Social Sciences (8%), Languages & Humanities (7%), Information Technology & Library Science (5%), Marketing & Communications (5%), Architecture, Housing & Built Environment (3%), Art, Design & Performing Arts (3%), Hospitality & Tourism Management (3%), Chinese Medicine (2%), Sport, Exercise & Recreation Management (1%) and others (16%).

The full-time students were from the Community College and Centre for International Programme which provided programmes for associate degree, higher diploma degree and top-up bachelor degree. The part-time students were from Colleges which offered short-courses and award-bearing programmes from certificate to doctoral degree.

#### B. Experiences in Using SOUL 2.0

For frequency of using the online platform, 16%, 39%, 24%, 9% and 12% of the respondents used the platform less than once, 1-3 times, 4-6 times, 7-9 times and more than 9 times in a month. For time spent, 60%, 23%, 9%, 3% and 5% of the respondents spent less than 2 hours, 2-4 hours, 5-7 hours, 8-10 hours and more than 11 hours on the platform per week respectively. On average, students accessed the system once a week and stayed in the system for less than 2 hours.

The satisfactions of twelve commonly used learning features were asked in the survey. Students showed higher satisfactions in one-way learning features as shown in Table II. They had relative high satisfactions in the learning features of lecture notes (48%), assignment (41%) and course announcement (44%). The satisfactions of other one-way learning features were also acceptable. The satisfaction percentages of past exam papers, course calendar, grades and reports, and supplementary materials were 17%, 28%, 22% and 31% respectively.

TABLE II  
SATISFACTION ON ONE-WAY LEARNING FEATURES (%)

Learning Features	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	n/a
Lecture Notes	6	42	37	7	3	5
Assignment	4	35	41	8	4	8
Past exam papers	3	14	28	16	13	26
Course announcement	7	37	37	10	5	4
Course calendar	4	24	44	12	7	9
Supplementary materials	5	26	37	10	5	17
Grades and reports	4	18	40	13	7	18

The satisfactions on two-ways and multimedia learning features were lower than that of one-way learning features. As shown in Table III, the satisfaction percentages of chat, discussion forum and virtual classroom were 9%, 9% and 10% respectively. These three two-way communication features were rated as the lowest satisfactory rates. Students gave average satisfactory rates for interactive and multimedia features. The satisfactory percentages of exercises or quizzes, and video or multimedia courseware were 22% and 18%.

TABLE III  
SATISFACTION ON TWO-WAYS AND MULTIMEDIA LEARNING FEATURES (%)

Learning Features	Very Satisfied	Satisfied	Neutral	Dissatisfied	Very Dissatisfied	n/a
Chat	2	7	37	11	7	36
Discussion forum	1	8	39	11	6	35
Exercises or quizzes	3	19	35	12	5	26
Video or multimedia courseware	3	15	37	11	6	28
Virtual classroom	2	8	32	11	6	41

When comparing the dissatisfactory percentages of one-way, two-ways and multimedia learning features, nearly all the percentages were felt in the range of 10%-20%. The reason of low satisfactory percentages of two-ways and multimedia learning features could be explained by the high not applicable percentages. It implied that students were not using these features. One of the major reasons was the teachers did not provided such learning features in their courses which was identified by system data analysis.

#### C. Perceived E-Learning Advantages

To understand the perceived e-learning advantages of the students, 11 questions were asked in the survey as shown in Table IV. Students gave high ratings on advantages in self-learning. The helpfulness percentages of facilitate revision after class, increase access to supplementary learning, increase the flexibility of learning, strengthen self-learning skills and foster self-discipline in learning were 43%, 54%, 39%, 36% and 31% respectively.

TABLE IV  
PERCEIVED E-LEARNING ADVANTAGES (%)

	Very helpful	Helpful	Neutral	Unhelpful	Very unhelpful	n/a
Facilitate revision after class	5	38	32	14	4	7
Increase access to supplementary learning	6	48	26	10	3	7
Increase the flexibility of learning	4	35	37	14	4	6
Strengthen my computer skills	4	20	39	22	8	7
Facilitate interaction with instructors	3	17	39	24	9	8
Facilitate interaction with students	2	13	34	27	14	10
Enhance my confidence in learning	2	19	39	24	9	7
Strengthen self-learning skills	4	32	33	19	5	7
Strengthen collaborative learning techniques	3	17	39	24	9	8
Foster self-discipline in learning	4	27	36	20	7	6
Enrich overall learning experiences	4	27	42	15	6	6

The results of the three questions about interaction facilitation and collaboration obtained the lowest helpful ratings. The helpfulness percentages of facilitate interaction with instructors, facilitate interaction with students, and strengthen collaborative learning techniques were 20%, 15% and 20% respectively. The helpfulness percentages of strengthen my computer skills and enhance my confidence in learning were 24% and 21%.

#### D. Experiences of E-Learning Barriers

There were 8 questions asked on obtaining the students' experiences of e-learning barriers. The results were shown in Table V. It was found that the largest barrier students experienced was insufficient online course materials (37%). It implied students demand more than the teachers currently provided in the online system. About and over one-fourth of students found barriers in limited support from instructors (30%), lack of time to engage in e-learning (31%), uploaded course content irrelevant to examination requirements (25%), not integrated with classroom teaching (26%), limited technical support (24%) and non-user-friendly platform (29%). Only 17% of the students found overweighed workload as barrier of e-learning.

TABLE V  
EXPERIENCES OF E-LEARNING BARRIERS (%)

	Strongly agree	Agree	Neutral	Dis-agree	Strongly disagree	n/a
Limited support from instructors	5	25	40	16	2	12
Overweighed workload	3	14	45	23	3	12
Lack of time to engage in e-learning	5	26	37	19	2	11
Insufficient online course materials	9	28	36	17	2	8
Uploaded course content irrelevant to examination requirements	5	20	41	18	3	13
Not integrated with classroom teaching	5	21	39	23	2	10
Limited technical support	5	19	44	19	1	12
Non user-friendly platform	10	19	39	23	3	6

#### E. Preferences on New E-Learning Developments

Three groups of questions were asked in the preferences on new e-learning development part. The first area was on the new e-learning features in the existing system. Nine new features were identified and asked for the preferences of the students. All the answers showed the favorable results. The favorable percentages with priority were drag and drop file uploads (46%), e-note taking (44%), friendly reminder (40%), multimedia courseware (40%), reference and abstract writing (38%), study progress bar (37%), mindmap (35%), course

TABLE VI  
PREFERENCES OF NEW E-LEARNING DEVELOPMENTS (%)

New Learning Features	Highly favorable	Favorable	Neutral	Not very favorable	Not favorable at all
Multimedia courseware	4	36	54	4	2
Mindmap	6	29	57	6	2
Friendly reminder	7	33	53	4	3
e-Note taking	10	34	48	5	3
Course rating	6	28	58	4	4
Reference and abstract writing	8	30	53	4	5
e-Portfolio	5	22	61	8	4
Drag and drop file uploads	10	37	46	4	3
Study progress bar	6	31	54	6	3

rating (34%) and e-portfolio (27%). The detailed results were listed in Table VI.

The second area of the preferences questions was about mobile devices they would like to use to learn. The students were allowed to choose more than one option in answering the question. Among all the students, 81% of them showed

preference in using smart phone to learn. The percentages of using table computer, media player and personal digital assistant to learn were 43%, 18% and 5% respectively. Only 11% of the students did not show preference on using mobile learning device to learn. Besides, a question about the students' practice in browsing webpages with mobile devices was asked and 83% of the student provided a positive answer.

Twelve further questions about their preferences on mobile learning features were asked. Students preferred to have Wikipedia (59%), podcast (58%), e-book (55%) and reading context (52%) most. They also preferred text narration (34%). It again showed students preferred to have more direct and one-way learning features. Students also preferred to have interactive, multimedia and communication mobile learning features but the preferred percentages were lower. The percentages of preferred in having interactive exercise, interactive courseware, social networking platform, real-time

TABLE VII  
PREFERENCES OF MOBILE LEARNING FEATURES (%)

New Learning Features	Highly favorable	Favorable	Neutral	Not very favorable	Not favorable at all
Podcast	34	24	59	10	3
Video Podcast	4	25	58	9	4
Reading context	7	45	41	4	3
Text narration	5	29	53	9	4
Interactive courseware	5	36	50	6	3
Interactive exercise	6	38	48	5	3
Online conferencing	4	22	60	10	4
Real-time online chat	7	33	49	8	3
Discussion forum	5	30	52	10	3
Social networking platform	8	33	49	7	3
Wikipedia	13	46	34	5	2
e-Book	12	43	38	5	2

online chat, discussion forum and online conferencing were 44%, 41%, 41%, 40%, 35% and 26%. They still preferred these features but were less favorable than that of simple features. Table VII showed the detailed percentage allocations.

The last area on preference was about learning mode in studies. Five types of learning modes were defined between the spectrums of online learning and face-to face learning. Most of the students showed their preferences on have face-to-face learning supplemented with online resources and interaction (66%) and face-to-face learning integrated with online learning (53%). They also liked face-to-face learning supplemented with online resources only (45%) and purely face-to-face learning (45%). Only 18% students preferred purely online learning. It indicated that students would like to have mixed mode of learning and more online supports were preferred.

#### F. Other Comments

Among the 16 comments collected, 5 were about requesting more course materials in the system, 4 were about comments on the system, 3 were about requesting mobile learning features, 2 were needs on training and support, and 2 were compliment to

the e-learning services provided by the School.

## V. CONCLUSION

The survey showed the e-learning experiences of both the full-time and part-time students in the School of Professional and Continuing Education of The University of Hong Kong in academic year 2011/2012. It served as a reference to educational practitioners in understanding contemporary e-learning experiences of students in Asia.

The result indicated students in the School had more satisfaction in one-way online learning features and the provision of two-way communication, interactive contents and multimedia contents were limited. They faced barriers in not having sufficient online content provision and online supports. They knew the advantages and benefits of e-learning. They also have preferences in e-learning especially in mobile learning.

In the latter part of the survey, the students showed their preferences in having mixed mode of learning. They liked having both online and face-to-face learning but they needed more interactive contents, multimedia contents and online communication. It was a good indicator for School to design and develop new programmes in future.

The survey was a large scale one but had limitation. The survey considered students from purely online learning mode, mix mode and purely face-to-face mode together. While it was believed that types of learning modes might affect students' learning experience, further studies in each of these learning mode group should be carried out. Besides, the impact of mobile learning needs should be considered. The students' strong preference in mobile learning would lead a strong demand in the new learning mode of including mobile components for effective teaching and learning.

## REFERENCES

- [1] K. S. Cheung, J. Y. C. Lam, and F. K. Yau, "A review on functional features of e-learning platforms in the continuing education context," *International Journal of Continuing Education and Lifelong Learning*, vol. 2, Issue 1, Nov 2009, pp 103-116.
- [2] A. Gibbons, and P. Fairweather, *Designing Computer Based Instruction*. New York: Educational Technology Publications, 1998.
- [3] L. Campbell L, *What Does the "e" Stand for? (Report)*. Melbourne: Department of Science and Mathematics Education, The University of Melbourne, 2004.
- [4] P. Duffy, "Using Youtube: Strategies for Using New Media in Teaching and Learning", in R. Kwan, B. Fox, F. T. Chan, and P. Tsang (Eds.), *Enhancing Learning through Technology*, Singapore: World Scientific Publishing Co. Pre. Ltd, 2008.
- [5] W. Y. Zhang, "Entering the 3ed Generation of e-Learning: Characteristics and Strategies," in V. Lee, F. L. Wang, S. Cheung, and A. Hung, (Eds.), *Blended Learning: Maximization of Teaching and Learning Effectiveness*, pp 1-9, Hong Kong: City University of Hong Kong, 2011.

**J. Lam** received her BSc in Computer Science (Information Systems) and Master of Business Administration from The University of Hong Kong, and MSc in Human Resources Management and Training from Leicester University, United Kingdom. She is now studying a Doctoral degree in Education in the University of Nottingham, United Kingdom.

She is now the Associate Head of the Centre for Cyber Learning in the School of Professional and Continuing Education of The University of Hong Kong. She edited a book, published 2 journal papers and published over 20

papers in conferences. She was one of the editors of the book *Hybrid Learning* (New York: Springer, 2011). Her research interests include ICT, e-learning, educational technology, and lifelong education.

**R. Chan** received his BA in Marketing and Management from The University of Hull. He worked for different marketing corporations and had extensive practices in customer behaviour analysis, planning and coordination in sales, promotion and support services.

He is now an Assistant Information Technology Officer at the Centre for Cyber Learning in HKU SPACE. He had all-round experience in market research and event coordination, with expertise in B2C communication, user management, also event administration in education and e-learning promotion. In 2012, Chan published a journal paper in online learning experiences of students in Hong Kong in *Communications in CIS (302)* and *ITSE*.