Asian Journal of Education and Training
Vol. 2, No. 2, 53-62, 2016
http://www.asianonlinejournals.com/index.php/EDU

College Students' Perspectives of E-Learning System Use in High Education

Ju-Yin Yanga[1]
Yen-Chen Yenb[2]

[1]Department of Applied English, Kainan University, Taoyuan, Taiwan
[2]Graduate Institute of Information and Computer Education, National Taiwan Normal University, Taipei, Taiwan

(✉ Corresponding Author)

Abstract

The purpose of this study was primarily to create, on a digital learning platform, a digital learning environment with freedom from such constraints for a group of seven college students. The researchers selected seven students from the Applied English program that were taking part in an internship combination program at San Diego State University. The study makes use of in-depth interviews in carrying out a qualitative investigation to determine whether or not utilizing a digital learning system provides students with a superior mode of educational interaction. Thirty-minute interviews inquiring into the students' feelings about handling all coursework over the digital learning platform were held once every two months, for a total of three interviews per student during the semester. At the same time, the researchers made use of questions and uploaded homework from the students to record each student's progress, which formed the second class of data for analysis. Results indicate that compared with the traditional ways of learning, through the digital learning server system, teacher-student interactions increased, with the Real-time Discussion Area emerging as the students' favorite function. Moreover, the instructor was able to provide timely feedback, which was encouraging to these students living so far from home for the first time. In sum, the digital learning environment effectively assisted the teacher in establishing a ubiquitous learning environment.

Keywords: E-learning, Ubiquitous learning, Computer assisted instruction, Internship experience.

Contents

Citation | Ju-Yin Yanga; Yen-Chen Yenb (2016). College Students' Perspectives of E-Learning System Use in High Education. Asian Journal of Education and Training, 2(2): 53-62.
DOI: 10.20448/journal.522/2016.2.2/522.2.53.62
Licensed: This work is licensed under a Creative Commons Attribution 3.0 License
Contribution/Acknowledgement: All authors contributed to the conception and design of the study.
Funding: This study received no specific financial support.
Competing Interests: The authors declare that they have no conflict of interests.
Transparency: The authors confirm that the manuscript is an honest, accurate, and transparent account of the study was reported; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained.
History: **Received:** 24 September 2016/ **Revised:** 20 October 2016/ **Accepted:** 26 October 2016/ **Published:** 1 November 2016
Ethical: This study follows all ethical practices during writing.
Publisher: Asian Online Journal Publishing Group

1. Introduction

In the wake of continuing technological progress and innovation have come great changes in how people obtain knowledge, exchange information and communicate with each other (He and Wei, 2009; Ahmed, 2010; Ng, 2012; Mohammadyari and Singh, 2015). This is especially apparent in the way things are being learned and taught in universities, where there is a gradual movement from traditional face-to-face student-teacher interactions, to more open modes of digital of learning (Piccoli *et al.*, 2001; Liaw *et al.*, 2007). At the National Institute of Education at Nanyang Technological University, Singapore's sole institution for the training of teachers, the ideal of "every place is a place to learn, regardless of where or when" has been realized, freeing teaching and learning from constraints of space and time, while broadening and enriching the available choices. With technological innovation and progress, the ways in which people acquire knowledge, exchange messages, and communicate have undergone great changes. When people today need access to expert answers or other information, they no longer have to make a trip to a library to look up the material, but can instantly search online for the needed information, while sharing functions of cloud computing allow people to instantly transmit data to each other. From these perspectives, all the learning styles are definitely impacted by the three factors: society, culture, and technology (Phelan *et al.*, 1997; Fahraeus, 2004). Latest technology devices have become new domain tools for instructors and learners in e-learning environment (Wu and Hiltz, 2004; Huang *et al.*, 2007; Huang *et al.*, 2008). Mobile devices, such as PDAs, iPads, and smartphones, with their wide range of built-in functions, are also used to receive and transmit different types of messages. People can email each other or "Line" their friends directly over the Internet, sidestepping phone messages and the traditional methods of paper letters and telephone communication. In short, digital communication has effectively become an indispensable part of contemporary human life (Thorne, 2005; Lu, 2008; Shen *et al.*, 2008).

These phenomena are especially prominent in higher education, where digital technology plays an increasingly important role as a supporting tool in classroom instruction (Warschauer, 1996; Simpson, 2006). In terms of the forms of interaction between teachers and students, a gradual development from traditional face-to-face teacher-student interaction towards more open forms of digital learning has become visible. Learner autonomy is highlighted in digital learning, since it can provide course content and teaching styles suited to the individual's needs, free of the constraints of classroom and meeting times (Virvou and Alepis, 2005; Markett *et al.*, 2006; Yang, 2006).

The e-learning is estimated about 56.2 billion worldwide in 2014 and is anticipated to double in growth rate in 2015 (E-Learning Industry, 2014). Notably, electronic learning (e-learning) is one of the most popular learning environments in the 'information age' (Liaw *et al.*, 2007). For example, in 2004, to encourage the free exchange of information, the Physics and Engineering College at the Massachusetts Institute of Technology (MIT) put more than 900 course syllabi from 13 different fields on their digital platform open to public use under creative commons licensing. MIT's intent was to provide virtual courses online, and they view e-learning courses as an important factor in higher education (Wu *et al.*, 2006). This was an important step toward the goal of increasing the effectiveness of learning by allowing students to voluntarily participate in educational programs in the context of new high-tech, highly interactive, highly cooperative e-learning environments (Wu, 1997; Yang and Wu, 2013). In the classroom, teachers set up five different environments, including "campus life" and "social occasions." Each desk is equipped with large touch screens automatically accessed by any "electronic book bag" placed near it, and linking it into the classroom network. The main role of technology in language education assists learners to acquire skills and knowledge (Stokes, 2001; Butler-Pascoe and Wiburg, 2002). This facilitates student interchange, interaction, and group work. While an activity is in progress, the desk screen also can be used for tasks set by the teacher, such as web searches for specific information (Huang *et al.*, 2010).

It is easy to see that digital learning has virtually become the new mainstream of education, and the incorporation of information technology into higher education has been given increasing importance by governments. The R.O.C. Ministry of Education (MOE) encourages institutes of higher education in Taiwan to develop e-learning courses, and on September 8, 2006, following a revision in the University Code, enacted the Implementation of Distance Learning in Universities Act, increasing the number of digital learning credits from one third of the number necessary for graduation to one half.

With this in mind, this study employs action research to take advantage of seven students' overseas study aim to leap into the digital education mainstream while simultaneously ensuring that the overseas students would be able to keep up with their Taiwan classmates and complete the work for their graduation requirements. In this study, there were seven students from Applied English Department participated in an academic and internship exchange program with a sister school utilize an e-learning system. By having students log on and study, turn in homework, and take part in tests and discussions, their coursework would not be negatively impacted by participation in the overseas internship program. The researcher contacted professors at San Diego State University to discuss the possibility and feasibility of mutual cooperation on a digital course. During this course, qualitative research was undertaken by means of periodic in-depth interviews in order to determine whether the e-learning modality could provide teachers and students in long-distance teaching and learning situations with a superior mode of interaction.

2. Theoretical Framework

This paper is based on the conceptual theory of three-tier technology use model (3-TUM) for understanding college students' perspectives of using e-learning platform. The theory of 3-TUM has three tier. The first tier is the individual experience and the system quality toward the technology use. This tier believes that the user personal experience influences the attitude of subject accepting (Davis *et al.*, 1989) and the quality of the system affects the perspectives of using technology devices. Liaw *et al.* (2007) described system quality is a key element for individual uses in technology using attitude. E-learning platform is the main instrument in this research and be viewed as the teaching and learning format. That is, the attitude of using technology is determined by the individual experience and could be the system quality. The second tier is the affective and cognitive, which are directly influenced by the first tier. From this tier, the researchers can understand how the individual experience and system quality impact the component of affective and cognitive factors. A noticeable shared the definition is that "cognition is a complex

process of individuals interacting and affecting each other and their environment" (Li *et al.*, 2013). Last but not least, the third tier is the behavior intention. The behavior intention means the individual users intend to conduct the technology with their learning based on the specific purpose.

3. Literature Review

3.1. The Development of E-learning in Higher Education

The term "e-learning," that is, learning conducted through digital media, originated in 1996 at the annual meeting of the American Society for Training and Development and the International Conference and Exposition, where it was defined as "the process by which a learner applies digital media, including Internet, computers satellite broadcast, audio and videotapes, and interactive television or CDs, in learning" (Qiu and Liao, 2012). In England, e-learning is defined as "making use of information broadcast techniques to assist in the activity of learning" or "flexible learning," that is, using information technology to help students learn, making learning independent of the classroom, to broaden the field of learning, and then based on this, enabling lifelong learning (Willetts, 1992; Chisolm, 1998; Butler-Pascoe and Wiburg, 2002; Lim, 2005).

According to rankings listed in *The Economist* report entitled, "Digital Economy Ranking 2010: Beyond e-readiness," Taiwan ranks twelfth in Asia for being "beyond e-readiness," coming in just after Hong Kong and Singapore, but ahead of other Asian countries like Japan and China. Moreover, in the "2003 E-learning Readiness Rankings" from the same source, there were at least 60 countries whose government institutions, citizen groups, educational systems, and work places had begun work on developing and promoting e-learning programs, thus demonstrating the high importance attached to the potential of e-learning. A nation's institutions of higher education are where its future leaders and professionals are trained and formed, and students come from diverse backgrounds to take part in a wide range of classes. The integration of technology with teaching can better meet the needs of students, enabling them to participate in learning, such as for group discussion, peer tutoring, and brain-storming no matter where they are (Butler-Pascoe, 1995; Deshpande and Hwang, 2001; Huang *et al.*, 2008). Indeed, based on Agnes (2012) "there must be opportunities for concrete experiences capable of generating a personal conviction that a given technology is worth using and an understanding of the contexts in which it is best used." Such advantages have made the spread of the digital education inevitable.

In general, "e-learning's characteristics fulfill the requirements for learning in a modern society and have created great demand for e-learning from business and institutes of higher education" (Sun *et al.*, 2008). Thus, the expansion of e-learning programs has allowed schools in the U.S. and the U.K. to see benefits in terms of tuition income that represent a considerable profit. With the unceasing efforts in developing e-learning shown by public and private institutions, e-learning course offerings at colleges and universities are have become more diverse and are growing steadily (Leonard and Guha, 2001; Song *et al.*, 2004). The major countries promoting e-learning education are the U.S., the U.K., China, Taiwan, Canada, and Japan (see Table 1). In the survey of Allen and Seaman (2010) have discussed many U.S. institutions of higher education have reported to see an increase in need for e-learning online courses and programs.

Table -1. Early -Stage Promotion of the Establishment of Digital Classes and Amount of Profit by Institutes of Higher Education According to Nation

Year	Country	Summary	Example
1996	USA	By actively promoting distance learning courses, encouraged the growth of online universities	University of Phoenix
2004		The higher education e-learning market in the United States reaches a total market value of USD 750,000,000	"Market Report on Distance Learning in Higher Education"
1998	United Kingdom	Government support of the development and training in every aspect of e-learning; started the Learning Resources Database project	Business College
2003		INSPIRAL (Investigating Portals for Information Resources and Learning)	University of Strathclyde
2012		It was established in 1969 and now, it is with 208,710 number of students registered a distance learning	Open University
1998	China	Modern Distance-education Project	67 universities, including Tsinghua University, Hunan University, Zhejiang University, and Beijing University of Posts and Telecommunications
2007		E-learning market value at NTD 111,000,000	
1999	Taiwan	Ministry of Education encourages major universities to design e-learning courses	National Taiwan University, National Tsing Hwa University, National Chiao Tung University, National Cheng Kung University, National Chung Cheng University
2014		E-learning production value at NTD 30,221,000,000	
2001	Canada	Established Teaching Community Knowledge Network; issued directive calling for the development of a Learning Object Repository	For Ontario
2001	Japan	E-Japan Program	Spearheaded by Prime Minister Junichiro Koizumi
2003		E-learning production value: JPY 170,000,000,000	

Source: "Market Research Report on Distance Learning in Higher Education," Institute for Information Industry, 2006.

E-learning can overcome environmental limitations and provide learners with a flexible and convenient way to learn. More importantly, by means of interaction and discussion via the server, rigid methods of traditional education can be improved upon and can greatly increase the frequency of teacher-student interaction (see Table 2). A 2010 report issued by the Taiwan MOE entitled "White Paper on the Creation of Digital Equal Opportunity," encouraged institutions of higher education to move forward on strategic alliances to promote international e-learning classes,

saying each institution of higher education may form strategic alliances between schools and businesses to develop specialized international classes or study programs.

Table-2. Analysis of Benefits of E-learning for Teaching: Taiwanese and Foreign Perspectives

Taiwanese Literature	Foreign Literature
Lin and Tsai (2011)	Rosenberg (2001)
Study more flexible in terms of place and time Teaching materials updated more quickly Effective learning at lower cost Supports a self-directed learning environment Fosters skills in communication, thinking and problem-solving Increases student participation in class Spurs group cooperative learning	Lowers the costs of educational training Accelerates reaction speed Free selection among customized courses Continuous updating of materials Fewer time constraints on learning Low barriers to learning Overcomes geographical restrictions Can form communities Easily broadcast Increases benefits of Internet use

Source: Lin and Tsai (2011) & Rosenberg (2001)

3.2. E-Learning in Taiwan

In an April 2014 report entitled "The demand for Internet infrastructure continues to be driven by the demand for smart devices and BYOD." One of an experienced Internet data analysts at International Data Corporation states with the impetus provided by higher and higher levels of smart device market penetration, it is expected that the specifications for the market of this year's consumer devices will rapidly make progress towards 5th generation Wi-Fi (802.11ac), and that education, manufacturing, and hotel industries will continue to expand and improve their Wi-Fi capability. Owing to the rapid development of smart device systems, the government, private enterprises, and education in Taiwan have all taken the initiative to promote e-learning.

In the area of government activity, the National Science Council set forth in 2002 the National Science and Technology Program for Digital Learning, allocating four billion Taiwanese Dollar to this project with the hope of bringing Taiwan closer to becoming a highly digital society, establishing an e-learning environment, and developing digital enterprises. In the private sector, this growth starts as research and development in e-learning technology and from there expands into other business fields, such as trade and industry training networks like the China Airlines E-learning Management System, which was commended by the Institute for Information Industry. This is a system that integrates personnel data and pre-job training for positions in ticketing, flight attendant duties, ground staff service, management, and maintenance (Yang, 2004).

On university campuses, smartphones and handheld mobile devices have already become an indispensable piece of basic equipment for the great majority of students. As traditional textbooks, papers, and pens along with classroom-style teaching begin to decrease in importance, e-learning usage will swell so that future learners will need only take out their "learning terminals" and anyplace can be their classroom, whether at home, outdoors, or anywhere else. A review of previous research of the critical factors influencing public university learners in Taiwan (Sun *et al.*, 2008) mentioned, "every college student is required to take at least one introductory course to enhance computer literacy and computing skills." Taiwan is on the forefront of promoting e-learning in its schools, using it as a means to enrich the education of children living in remote areas, and of students with physical or mental disabilities, to reduce disparities between urban and rural universities, and other projects too numerous to mention (see Table 3).

It is thus clear that the idea of combining smart devices with the Internet opens the way to new, enlivening modes of teaching, while overcoming the constraints of time and space, to widely influence education with its teaching effectiveness. The term "learning terminal" is viewed as a reference to learner's use of devices such as smartphones, electronic books, electronic teaching materials, and language learning devices (Yang, 2006). These devices facilitate online learning courses to connect the world (Peter, 2009). Additionally, Yang (2006) has also mentioned that educators in Taiwan already make wide use of e-learning systems as tools for learning. Institutes of higher education showing exceptionally fine performance in this area include: the National Taiwan University On-Demand E-learning Website (Ceiba), National Central University's use of the Black Board Learning System, and the Web-Based Learning System at Chung Yuan University. Students' utilization of and skills with technological products increases with each passing day, and technology serves as a scaffold when students study in their subject areas (Burner, 1986; Carmody and Berge, 2005).

Table-3. Institutions of Higher Education in Taiwan Using E-learning Systems

Year	Institution	Policy
2006	National Chi Nan University	"Internet Tutoring Platform" enabled disadvantaged children living in remote areas to receive long-distance teaching and guidance in one-to-one or one-to-many modalities.
2007	Fu Jen Catholic University, National Chi Nan University, Wen Zao Ursuline University of Languages	Provides teaching and guidance to elementary and middle school students living in remote areas.
2007	National Taiwan Normal University	Utilizes the Blackboard digital learning system to assist special needs students.
2013	National Taitung University	Going forward with the implementation of the Project for Online Tutoring for After-School Learning.

Source: These information were collected by each school website.

3.3. Research Questions

This study answers the following two research questions:

1. What are the students' perspectives of using e-learning platform as a learning tool during the internship period?
2. What are students' experiences of using e-learning platform to facilitate learning?

4. Methods

The focus of this study is on the perceived effectiveness of conducting a required graduation project/internship course on an e-learning platform system with a group of seven students from Applied English Department. Besides evaluating effectiveness, the study also sought to answer whether or not the students felt that this use of a ubiquitous learning environment succeeded in overcoming barriers of distance and time between teacher and student, ultimately better facilitating their interactions. Since both forms of data are subjective perceptions, a qualitative approach to gathering data was chosen. Seidman (2005) indicated that human feelings, ideas, and views cannot be explained in quantitative terms (Kvale, 1996). Interviews can be used to conduct research on specific groups in regard to issues of interest. Qualitative interviewing focuses primarily on the students' views regarding individual feelings, experiences, life, and situations. The researcher and the students use a common language to create mutual understanding so that the researcher can understand the interviewee's true ideas and conceptions about a topic (Tayor and Bogdan, 1984; Minichiello *et al.*, 1995).

This study made use of structured, in-depth interviews of 30-minute duration carried out once every two months with each of the students, for a total of three interviews per student. Through the interviews, the researcher was able to gather students' views on the experience of using an e-learning platform for a long-distance class. The e-learning platform has three sectors: first is the learning interaction sector, which served as a discussion platform for participants to express themselves through submitting comments and as well as for teachers to give a class announcement; second is the evaluation sector, which allowed students to submit their homework and reports; third is the individual sector, which provided students to review their learning progress. Moreover, the researcher collected data from students' activities on the e-learning platform for analysis. All learning progress of the students was recorded in order to get a better understanding of educational interaction pattern.

4.1. Participants

The participants of this study were seven fourth-year students from the Department of Applied English at a university in northern Taiwan, their age's range from 22 to 23 years old. They were accepted into a one-year academic/internship program at San Diego State University in San Diego, California (U.S.). There were five students met the language requirements of the sister school by passing the Intermediate level of the General English Proficiency Test, while the other two students passed TOEIC with a score of 650. These seven students participated in the class via the e-learning system for one semester, and were able to operate and utilize the e-learning platform system with great facility (see Table 4).

Table-4. E-learning experience of Participants

Participants	Gender	Year	Mobile Device	English Level	E-learning experience (In what year did you first use e-learning platform? In what year did you use it most frequently?)
A	F	4	iPhone 5 tablet	GEPT, intermediate	Two years of experience starting in sophomore year. Used in a required writing class to turn in homework.
B	F	4	iPhone5	TOEIC, 700	Two years of experience starting in sophomore year. Used in a required writing class to turn in homework.
C	F	4	iPhone tablet	GEPT, intermediate	One year of experience, starting in junior year. Used in elective "Business English" class to turn in homework.
D	M	4	iPhone tablet	GEPT, intermediate	Two years of experience starting in sophomore year. Used in elective "English for International Trade" class to turn in homework.
E	F	3	iPhone 5	GEPT, intermediate	Two years of experience starting in sophomore year. Used in a required writing class to turn in homework.
F	F	3	iPhone tablet	TOEIC, 680	Two years of experience starting in freshman year. Used in required "Basic Grammar" course to hand in homework and take tests.
G	M	3	iPhone tablet	GEPT, intermediate	Two years of experience starting in freshman year. Used in a required writing class to turn in homework.

Source: This was from the interview data. The researchers collected the information from interview.

4.2. Data Collection

According to Creswell and Clark (2007) qualitative interviews fall into three types: structured interviews, semi-structured interviews, and unstructured interviews. In this research project, the structured interview, also called standardized interview, was used. The defining characteristic of this type of interview is in the fixed nature of the questions and the order they are asked in, focusing the responses of interviewees to reduce the degree of complexity and deviation and produce more easily compared responses from a number of students.

Individual online interviews were conducted with the seven students, after first outlining the questions and framework of the interview. Question items included such things as their views about the integration of the e-learning system with the graduation project/internship class, their experiences and views about the different functions installed within the platform system, and how well the platform supported long-distance learning. Given the

importance of the interaction between interviewer and interviewee, the design of the interview questions enabled the researcher to let the interviewees speak without inhibition, and gave the clearest possible answer to the question. For this reason, it was necessary that the researcher be able to make suitable modifications in content due to demands encountered in particular interviews. The researcher also requested that all seven students to register for the class on the e-learning network before the formal commencement of classes began. After students entered their basic personal information, they were able to make use of the different functions of the e-learning platform and get more familiar with the e-learning system before the class started.

4.3. Data Analysis

After all the data were gathered, an integrated analysis was conducted and a verbatim transcription of the each interviewee's spoken material and affective expressions was prepared. Finally, after assembling records of each student's use of the e-learning platform, time spent on reading class materials, and frequency of using the learning interaction sector for discussion were coupled with the oral interview material and subjected to a combined analysis.

5. Results

Results of the analysis indicated that the e-learning platform was able to mitigate the distance between teacher and students, and in fact enhanced their interaction. A number of interesting advantages emerged from the data, which were categorized as follows: 1) facilitating autonomous learning and strengthening motivation; 2) enhancing enjoyable learning; 3) enabling teacher-student interaction and fostering better teacher-students relationship; 4) improving problem solving skills; and 5) providing feedback from students. These results are presented in Table 5 to 9 as below.

Table-5. E-learning Network Facilitates Autonomous Learning, and Strengthens Learning Motivation

Advantage	Student Comments
Study materials are clear and precise	Class regulations and instructions for homework were available on the e-learning network from the first week of class. This allowed us to start planning their class work right away. (Students A, B, D) We are able to download the class readings ourselves when we need them, without worrying about losing them, or missing out on important handouts if you miss one class. (C) I never used to go the first day of a class, because it seemed like a waste of time. The teacher would just read off the requirements and syllabus and then leave. It was only after I got to the U.S. that I realized how important the course requirements and the explanations of how to use the course materials really well. (E, G) The descriptions the teacher gave us on the e-learning net in this regard were really clear, and made me understand course better. (F)
Learning Behaviors and Modes	I can make my own decisions about when to study the material or to logon to the online Discussion Area. (A, B, C) There is not any need to follow along with everyone and rush to get the homework done. Some of the reading is kind of hard, but I can take my time and read it carefully. For example, for our homework the teacher sometimes wants us to interview foreigners, and it takes me some time to get up the nerve to ask one of them [if I can interview him or her]. I think that with writing you need to allow some time to think your ideas through. (G) Actually, I am not really good at planning ahead for studying or turning in homework, but on the e-learning network, the times are already set; the upload function shuts down after the deadline. So I now regularly check the deadlines, which has saved me a lot of time. (F) The time of day and number of times you logon to study is recorded in the E-portfolio, so I sometimes logon and read just to get more times recorded. (D) You can preview the material before class and get your questions ready. Materials are readily available; students are more proactive about preparing for class, exhibiting enhanced motivation. (B) As for learning over the E-learning network, it was only after I went abroad that I realized that there were lots of online courses, that were called "diversified learning resources," and that students don't have to be in a classroom for it to be learning. (A, E)
Time Flexibility	You can turn in your homework online at anytime anywhere in the United States. We could take lessons ourselves more flexible in different places and time. (A, B, C, D, E, F, G) Here we are a day earlier than it is in Taiwan, so when our teacher tells us to turn in something by Wednesday, it's still only Tuesday in the U.S., so it feels like we got an extra day. (C) When I used to turn in homework via email in Taiwan, the email went straight into teacher's trashcan folder. It ended up I didn't submit homework in time. But with the e-learning network, you can check the time you uploaded it without having to write and ask the teacher if he or she got it. (B, D, F) Because of the time difference, our teacher shut down the homework upload area. At the moment, we were so shocked that we couldn't submit the papers. We posted the message immediately, once the teacher understood all the details. She expended the date and time again. That gave us all a good scare. (G)
Continuous Updating	In response to student requests, the teacher updated the study material section of the e-learning network. (B, C, D) The teacher posts notices of important school matters and deadlines, so we can be aware of what we need to do to keep up our student status while we are abroad. (A, B, C, D, E, F, G) Before when we took a class in the Commercial Recreation and Attraction Tourism, one of our teachers had us set up our own business and market a product. Since I didn't know how to set up a business, I got right online to try to get some support. The next day, our teacher (i.e., the researcher) had posted material on setting up a Taiwan pearl milk tea business in the Discussion Area, and really saved our skins. (B, F)

Source: these were interview data.

Table-6. The E-learning Network Makes Learning More Enjoyable and Engaging

Advantage	Student Comments
Multimedia Files	It is easy to go online and search for information now; in addition to the lesson materials already online, our teacher also provided us with some useful video files to watch. (A, B, C, D, E, F, G) We share links to things like DVDs, VCDs, YouTube, and TED Talks. We are learning from alternative media sources, as opposed to traditional textbooks and these represented the latest information. We felt more interesting in the way of learning (A, B, C, D, E, F, G). To tell the truth, studying abroad is really hard work, and not nearly as nice as I had imagined. I get pretty low sometimes, but when I watch the motivational videos that our teacher posts on the e-learning network, my confidence comes back. (B, C)

Source: These were interview data.

Table-7. E-learning Network Enables Teacher-Student Interaction and Fosters Better Teacher-Student Relationships

Advantage	Student Comments
Uses the Students' Language	I don't usually greet or chat with my teachers a lot, but whenever I go into the Discussion section I always say hello to our teacher. (G) I have noticed that our teacher uses a lot of colloquial speech, talking with her feels just like talking to a classmate. (A) In traditional classroom, at the most you just discuss the stuff in the book, but in e-learning we share stuff like videos, our own thoughts about what we learned, and our feelings. (B, C) Our teacher doesn't seem like alien from outer space anymore; instead we have Professor Yang who comes from the e-learning net! (D) I feel like my teacher and I are speaking the same language. (G)
Less Anxiety	For me it is hard enough to stand up in front of a bunch of people and give a speech, not to mention in front of teachers, but I am much less of afraid of doing it on the e-learning network. (D)

Source: these were interview data.

Table-8. Discussion Area of the E-learning Network, Student Questions and Problems are More Easily Solved

Advantage	Student Comments
Immediate Solutions to Problems Group Discussion	Sometimes I post questions about daily life in the Discussion Area, and the teacher usually responds within 24 hours. It's a good thing that she used to study in San Diego, so she can solve lots of our problems right away. (A) Our teacher responds really quickly; as soon as we ask a question she comes back with an answer, we never have to wait too long. When I first got to the U.S., I didn't even know how to make a phone call back home, what kind of cellphone I should get, or even what bus I had to take to get to 99 Market. (B, C) In the U.S., once I was taking notes and missed a few words, so I took a look at my neighbor's notes. He got really mad and accused me of cheating and not respecting him. I was shocked. Everyone does this in Taiwan. I was really upset, but after talking about it with the teacher in the Discussion Area, I had some idea of the culture differences [that caused the misunderstanding], I felt quite a bit less embarrassed (A, E). I like to use online Discussion Area as a place to express myself. In class, I usually have to answer right away in front of a big group of people, which makes me very anxious. (G) I can take some time to look at what other people have already said and then think my ideas through again. (D) When we all discuss something together, we can brainstorm as a group and get even more ideas [than we could alone]. Teachers in the U.S. don't seem to like to give answers, but they always saying, "Think, you know, think!" (E) In the U.S. all of us chose different classes based on our own needs and interests. The real-time Discussion Area was a place for all of us to get together and talk during our free time. It helped us solve some of our common problems. (F) I felt sorry for the teacher, who had to deal with our questions or problems whenever they came up. She seemed to be online 24 hours a day. Did we make her do that? Or did the school? (G) I had never been any kind of a "leader" before, but when the teacher formed us into small groups, she made me a group leader. (B) In small-group discussions, clicking away on a tablet, it was a lot of fun. The classmates are really creative and had lots of fun. Also, through another person, you can see things you would never have thought of yourself, it was fun. (A, C, D) Everybody was doing a different internship, so it felt really good to make use of our (online) classroom interaction and discussion to share our various work experiences with each other. (E, F)

Source: these were interview data.

Table-9. Student's Suggestions for the E-learning Network

Problem	Description and Suggestions
Personalization	The look is really monotonous. An e-learning network screen design should always be updated or should allow the user to set preferences and upload pictures [on to the screen]. You should think about getting the Line emoticons on the system; that would be lots of fun.
Real-time Discussion Area	When we are in the real-time Discussion Area everybody is always sending messages. Can we implement some kind of "raising your hand" function or keep everyone from answering at once for when we formally discuss issues?
Smartphones and Tablets	In the U.S., it was really hard to get on the e-learning network over the cellphone, either it was impossible to log on or you could log on but then had to wait for a long time, or it would not display the page. Sometimes I had to bring my tablet with me if I planned on turning in homework. Since e-learning is all about learning anywhere at anytime, you really should consider a cellphone version.
Discussion Plagiarism	Teacher, you required all of us to share our views or make suggestions, but some students aren't serious about it or they don't have any ideas, they just say "I agree with the above" or even copy and paste other people's ideas. Maybe we could add something about not copying other people's messages and writings?

Source: these were interview data.

6. Discussion

6.1. Key Findings

The results showed that the e-learning platform provided learners with a diverse and rich learning experience. The students were able to strengthen their autonomous learning capability. Since the students were able to access clear guidelines and schedules for the course even before it began, they could arrange their own time to meet assignment deadlines, read the assigned material, and report to the online discussion area. Findings also indicate that the use of audio-visual media made learning the material more interesting and enjoyable, and the multiple online functions of cellphones and tablet computer also increased student motivation. Further, students found that doing the homework for in-class reports with classmates from other countries was particularly difficult. In the Discussion Area of the e-learning platform, students were able to deal with problems of class work and of adapting to the many challenges of living in a foreign environment and culture. It also increases teacher-student interaction and forms a closer relationship between the two in the online teaching environment.

6.2. Limitations of the Study

The study has been viewed as a light of several limitations. First, the results of the study cannot be generalized to all students in this university; it was designed as a cross-national study, which limited the majors of students. Only, by focusing on the students who did the exchange program in San Diego State University, it may be less generalizable to other populations because of some points of view related to obtain the internship experience of the Tourism and Hospitality Management. Second, some interview questions were self-administrated, which meant students mentioned whatever they would like to say. It is rarely to control or to measure in a matter that they were expected to answer the way which researchers designed for.

6.3. Implications for Practice

This study shows that teachers would use e-learning system not only provide the professional information but also using the e-learning platform as the self-learning platform to help students collect their learning data and analyze what they have learned in classes. It also helps teachers to have a better understanding of students' learning attitude and behavior. Besides, e-learning platform supports students to build their social relationship with the teacher and other classmates.

Nowadays, many students apply for the on-line learning, or open courseware learning, teachers can viewed e-learning platform as a base with the regard to the adoption and continue use of technology assisted language teaching and learning tools. E-learning platform can provide the contexts with an interesting way and offer the creative activities for students.

7. Recommendations for Future Research

Future study may possible generalize to include more students in colleges and universities. Further qualitative and quantitative research is needed to explore the use of mobile devices and e-learning system for students' English language proficiency skill and their learning motivation. In addition, the researchers may also want to involve a variety of learning platform such as mobile learning, ubiquitous learning, or context-aware learning mode in studies to examine students' preferences in learning attitude, learning behavior, and self-learning development.

8. Conclusion

At the present time, the problems facing the higher education in Taiwan is how to raise student motivation and draw teachers and students closer together. The responses given by most of the students indicated that in their past experience, teachers had only used the e-learning network for collecting homework assignments instead of having teacher-student interactions. Through the interviews, it was found that integrating technology devices with the acquisition of professional knowledge have shown itself to be an effective channel for education and social interaction. Besides, the researcher also found that since students were allowed to decide when they should upload their homework and when to take the exam themselves, all of the students turned their homework in on time. This is another point that teachers may keep in mind when considering the integration of digital technology in classroom teaching. These experiences in higher education might be a great value for the new style of learning and teaching between teachers and students.

References

Agnes, K.H., 2012. How should the higher education workforce adapt to advancements in technology for teaching and learning? Internet and Higher Education, 15(4): 247-254.

Ahmed, H.M.S., 2010. Hybrid e-learning acceptance model: Learner perceptions. Decision Sciences Journal of Innovative Education, 8(2): 313-346.

Allen, I.E. and J. Seaman, 2010. Class differences: Online education in the United States. The Sloan Consortium Company. Retrieved from http://files.eric.ed.gov/fulltext/ED529952.pdf.

Burner, J., 1986. Actual minds, possible worlds. Cambridge, MA: Harvard University Press.

Butler-Pascoe, M.E., 1995. A national survey of the integration of technology into TESOL master programs. Technology and Teacher Education Annual: 98-101.

Butler-Pascoe, M.E. and K.M. Wiburg, 2002. Technology and teaching english language learners. Allyn and Bacon.

Carmody, K. and Z. Berge, 2005. Elemental analysis of the online learning experience. International Journal of Education and Development Using Information and Communication Technology, 1(3): 108-119.

Chisolm, I.M., 1998. Six elements for technology integration in multicultural classrooms. Journal of Information Technology Education, 7(2): 247-268.

Creswell, J.W. and V.P. Clark, 2007. Designing and conducting mixed methods research. Sage.

Davis, F.D., R.P. Bagozzi and P.R. Warsaw, 1989. User acceptance of computer technology: A comparison of two theoretical modes. Management Science, 35(8): 982-1003.

Deshpande, S.C. and J.N. Hwang, 2001. A real-time interactive virual classroom multimedia distance learning system. IEEE Transactions on Multimedia, 3(4): 432-444.

E-Learning Industry, 2014. Top 10 e-learning statistics for 2014 you need to know. Retrieved from http://elearningindustry.com/top-10-e-learning-statistics-for-2014-you-need-to-know.

Fahraeus, E.R., 2004. Distance education students moving towards collaborative learning- a field study of Australian distance education students and systems. Educational Technology & Society, 7(2): 129-140.

He, W. and K.K. Wei, 2009. What drives continued knowledge sharing? An investigation of knowledge-contribution and-seeking beliefs. Decision Support System, 46(4): 826-838.

Huang, Y.M., J.N. Chen, Y.H. Kuo and Y.L. Jeng, 2008. An intelligent human-expert forum system based on fuzzy information retrieval technique. Expert Systems with Applications, 34(1): 446-458.

Huang, Y.M., Y.H. Kuo, Y.T. Lin and S.C. Cheng, 2007. Toward interactive mobile synchronous learning environment with context-awareness service. Computers & Education, 51(3): 1205-1226.

Huang, Y.M., Y.T. Lin and S.C. Cheng, 2010. Effectiveness of a mobile plant learning system in a science curriculum in Taiwanese elementary education. Computers & Education, 54(1): 47-58.

Kvale, S., 1996. Interviews: An introduction to qualitative research interviewing. Thousand Oaks, CA: Sage.

Leonard, J. and S. Guha, 2001. Education at the crossroads: Online teaching and learners' perspectives on distance learning. Journal of Research on Technology in Education, 34(1): 51–57.

Li, Q., C. Lemieux, E. Vandermeiden and S. Nathoo, 2013. Are you ready to teach secordary mathematics in the 21st century? A study of preservice teachers' digital game design experience. Journal of Research on Technology in Education, 45(4): 309-337.

Liaw, S.S., H.M. Huang and G.D. Chen, 2007. Survey instructor and learner attitudes toward e-learning. Computers & Education, 49(4): 1066-1080.

Lim, C.P., 2005. Online learning in higher education: Necessary and sufficient conditions. International Journal of Instructional Media, 32(4): 323-331.

Lin, H.M. and C.C. Tsai, 2011. College students' conceptions of learning management: The difference between traditional (face-to-face) instruction and web-based learning environments. . Learning, Media and Technology, 36(4): 437-452.

Lu, M., 2008. Effectiveness of vocabulary learning via mobile phone. Journal of Computer Assisted Learning, 24(6): 515-525.

Markett, C., S.I. Arnedillo, S. Weber and B. Tangney, 2006. Using short message service to encourage interactivity in the classroom. Computers & Education, 46(3): 280-293.

Minichiello, V., R. Aroni, E. Timewell and L. Alexander, 1995. In-depth interviewing: Principles, techniques, analysis. 2nd Edn., Melbourne: Longman.

Mohammadyari, S. and H. Singh, 2015. Understanding the effect of e-learning on individual performance: The role of digital literacy. Computers & Education, 82: 11-25.

Ng, W., 2012. Empowering scientific literacy through digital literacy and multi literacies. New York: Nova Science Publishers.

Peter, L., 2009. Global education: Using technology to bring the world to your students. Washington, D.C: International Society for Technology in Education.

Phelan, P., A.L. Davidson and H.C. Yu, 1997. Adolescents' worlds. Negotiating family, peers, and school. New York: Teachers College Press.

Piccoli, G., R. Ahmad and B. Ives, 2001. Web-based virtual learning environments: A research framework and a preliminary assessment of effectiveness in basic IT skill training. MIS Quarterly, 25(4): 401-426.

Qiu, M.M. and C.J. Liao, 2012. Factors of the effectiveness and results of using e-learning. Available from 140.127.82.166/retrieve/18841/22.pdf.

Rosenberg, M.J., 2001. New York, NY: McGraw-Hill Companies, Inc.

Seidman, I., 2005. Interviewing as qualitative research: A guide for researchers in education and the social sciences. Teachers College, Columbia University.

Shen, R., M. Wang and X. Pan, 2008. Increasing interactivity in blended classrooms through a cutting-edge mobile learning system. British Journal of Educational Technology, 39(6): 1073-1086.

Simpson, K.P., 2006. Collaboration and critical thinking in online english courses. Teaching English in the Two Year College, 33(4): 421-428.

Song, L., E.S. Singleton, J.R. Hill and M.H. Koh, 2004. Improving online learning: Student perceptions of useful and challenging characteristics. Internet and Higher Education, 7(1): 59-70.

Stokes, S.P., 2001. Satisfaction of college students with the digital learning environment: Do learners' temperaments make a difference? Internet and Higher Education, 4(1): 31-44.

Sun, P.C., R.J. Tsai, G. Finger, Y.Y. Chen and D. Yeh, 2008. What drives a successful e-learning? An empirical investigation of the critical factors influencing learner satisfaction. Computers & Education, 50(4): 1183-1202.

Tayor, S.J. and R. Bogdan, 1984. Introduction to qualitative research method: The search for meanings. 2nd Edn., New York: John Wilsy.

Thorne, S.L., 2005. Internet-mediated intercultural foreign language education: Approaching, pedagogy, and research. CALPER Working Paper Series No.6, The Pennsylvania State University, Center for Advanced Language Proficiency Education and Research.

Virvou, M. and E. Alepis, 2005. Mobile educational features in authoring tools for personalized tutoring. Computers & Education, 44(1): 53-68.

Warschauer, M., 1996. Computer-assisted language learning: An introduction. In S. Fotos (Ed.), Multimedia language teaching. Tokyo: Logos International.

Willetts, K., 1992. Technology and second language teaching. ERIC Digest.

Wu, D. and S.R. Hiltz, 2004. Predicting learning from asynchronous online discussion. Journal of Asynchronous Learning Networks, 8(2): 139-152.

Wu, J.P., R.J. Tsai, C.C. Chen and Y.C. Wu, 2006. An integrative model to predict the continuance use of electronic learning systems: Hints for teaching. International Journal on E-Learning, 5(2): 287-302.

Wu, M.M., 1997. On e-learning and future development. Journal of Library and Information Science, 30(2): 92-106.

Yang, H.H., 2004. Using technology acceptance model to explore learning satisfaction of e-learning. Da Yeh University Master Dissertation.

Yang, H.Y. and S.L. Wu, 2013. Future classroom in IGCS apply in junior high school english education. Technology Education and Learning, 1(1): 66-86.
Yang, S.J., 2006. Context aware ubiquitous learning environment for peer-to-peer collaborative learning. Educational Technology & Society, 9(1): 188-201.