A Case Study of Synchronous Distance Learning Between Shih Chien University and Beijing Foreign Studies University

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ABSTRACT

Shih Chien University and Beijing Foreign Studies University collaboratively launched a project to offer synchronous distance learning courses on "Case Studies of Taiwanese Entrepreneurs" since February 2012. The three objectives of this study are: (1) to explore the Cross-Strait students' motives for selecting the course; (2) to examine the students' accommodation condition before and after completing the course; (3) to discuss the student's level of satisfaction of the course. This study uses qualitative data from case study interviews conducted in the second year of the project based on the research focus of the Cross-Strait students' motivation and satisfaction of the course. The research analysis tools are content analysis and theory triangulation.

The findings are: (1) Cross-Strait students are motivated by their curiosity about the course, interest in the contents, and willingness to experience the novelty of distance learning to select the course; (2) the results of Cross-Strait students' accommodation condition are correlated to their interactions with the professor, the familiarity with the materials, the quality of the communication equipment, and the clarity of the images; (3) Cross-Strait students all accept the method of synchronous distance learning; (4) the quality of communication equipment has the lowest level of satisfaction.

Keywords: Synchronous Distance Learning, Empirical Case Study, Theory Triangulation.

INTRODUCTION

History of Distance Learning

The origin of distance education backdated to 1728 when Caleb Phillip advertised lessons of a new form of shorthand by mailing the teaching materials to students weekly on The Boston Gazette. In 1986, National Open University, the first and largest open university was established in Taiwan. The mission of the university was to offer adult and continuing education mainly through distance learning. The classes were taught through television, broadcasts, and the Internet. In December 1992, the Ministry of Education of Taiwan launched the project of implementing high speed internet experimental platforms in five universities: National Taiwan University, National Tsing Hua University, National Chiao Tung University, National Chung Cheng University, and National Cheng Kung University. The Ministry invited professional scholars to form the Distance Learning Planning Group and partnered with the Institute for Information Industry to conduct "Taiwan's Distance Education Pilot System Initial Planning Research." The initial planning included establishing three distance education experimental system—"telecommunication (real-time multi-casting)," "virtual classrooms," and "courses on demand." All the systems had the concept of unidirectional lecturing.

With the tremendous advances of telecommunication and technology nowadays, the students can implement two-way communication and education without geographical boundaries, which is called "distance education." In recent years, the participants of distance education were introduced to the new telecommunication technology and computers, and the limitations of traditional distance education were gradually removed. Hence, the once one-way lecturing became two-way interactions.

Since 2012, Shih Chien University has collaborated with Beijing Foreign Studies University to offer a two-credit synchronous distance learning course on "Case Studies of Taiwanese Entrepreneurs" for senior students every fall semester. The "Cases of Taiwanese Entrepreneurs Textbook" is used as the teaching material for the course. The textbook is jointly edited by the professors in both universities to ensure the wording and understanding of each company is consistent.

Research Motives and Aims

The new generation of distance education combines information with telecommunication technology. This offers the students a new form of education that does not require face-to-face lecturing and is more mutual and interactive. This is a new application of computer information and the Internet. Every developed country is actively developing the technology of distance education in hopes of utilizing it in various levels of education and training as well as improving the defects in the existing educational training algorithm. Taiwan is no exception. The goal of the initial planning systems—"telecommunication (real-time multi-casting)," "virtual classrooms," and "courses on demand"— is to improve the efficiency and convenience of education in Taiwan to enhance the functions of general, special, vocational, and social education.

In recent years, Taiwan is interacting more frequently with China from cultural, social, and academic aspects. However, the pace of reaping the benefits of mutual interaction cannot be accelerated as the number of exchange students each year is low. Thus, a two-way synchronous distance education is the most practical method. Through synchronous distance education, Cross-Strait students can learn in their region while interacting with each other. The teaching method of the "Case Studies of

Taiwanese Entrepreneurs" course, taught by Assistant Professor Yen-Hsi Lo in Shih Chien University, is to combine theory development with actual business practices hoping to guide the students to have a deeper understanding of the current economic situation in China. By utilizing telecommunication technology in synchronous distance education, the students can learn simultaneously to achieve the sense of interaction to respond and acquire the knowledge more rapidly. In general, the motives of this research are (1) whether the Cross-Strait students' accommodation condition is influenced by the degree of participation in the course and (2) the influential factors of the Cross-Strait students' level of satisfaction after completing the course.

The three objectives of this study are: (1) to explore the Cross-Strait students' motives for selecting the course; (2) to examine the students' accommodation condition before and after completing the course; (3) to discuss the student's level of satisfaction of the course for future course improvement considerations. This study uses qualitative data from case study interviews with the students and professors conducted in the second year of the project (after the completion of two semesters) based on the research focus of the students' motivation and satisfaction on synchronous distance learning courses.

LITERATURE REVIEW

Course Selection Motivations and Level of Satisfaction

Motivation is the driving power to learn. With motivation, learning can be acquired more effectively and smoothly. (Hsu, 2007) Motivation is the process whereby goal-directed activity is instigated and sustained. There are two types of motivation: intrinsic and extrinsic. The former is the drive from within while the latter is the action spurred by the environment. (Heckhausen, & Kuhl, 1985)

Due to different course contents, materials, and lecturers, the motivation to learn varies from student to student. The better the motivation is, the more satisfied the student will be, and the greater the student will achieve academically. (Chen, 2005)

Domer (1983) implemented the Range of Affect Theory in psychology on the students' learning satisfaction. He believed that the level of satisfaction depended on the degree of difference after comparing the "expected satisfaction" and the "actual result." The smaller the difference is between "expected satisfaction" and "the actual result," the more satisfied the student is, and vice versa. Knowles (1970) stated that learning satisfaction is the joyful experience the student experienced through the learning process. Tsai, (1991) believed that the learning satisfaction is the feeling or attitude the student has after participating in learning activities; the feeling or attitude shows the student's appreciation toward the activity, or shows the goals of the student has been satisfied or achieved. Domer (1983) explained that learning satisfaction is the feeling or attitude the student has toward certain learning activities; satisfaction is derived when the student likes the activity, or when the student's goal is achieved during the learning process. Maslow (1971) believed that human's behavior is triggered by needs; thus, the actions are closely related to personal needs. Therefore, the study of satisfaction can guide the direction of development through understanding and improving the existing defects to gain greater benefits.

When students are selecting a course, they will choose a course that fits their need and is most beneficial to them. They will acquire knowledge and enhance their abilities throughout the course. Freeman, (1998) believed that even though the lecturers cannot impact the student's whole life, the life path and characteristics of the student are deeply influenced by the lectures. Hence, the greatest achievement in a lecturer's career is to guide the students during the teaching process to have high learning satisfaction through understanding, accepting, recognizing, and accomplishing their true self.

Learning Environment Theory

The theory of topological psychology proposed by Lewin (1936) emphasized on the interaction between the person and the environment. He believed that every action depends not only upon the state of the person but also the environment at the same time. In other words, "behavior" is the correlation between the person and the environment. Different people will behave differently in different environments; moreover, the same person under the same circumstance may act differently at a different time. Hence, we can view the correlations between Behavior (B), Person (P), and Environment (E) in a formula $B = f(P,E)$. (Liu, 2000) The theory of topological psychology stressed on the correlation between the person and the environment, stating the psychological state of a person is influenced by the environment. The theory also explained the correlation of need and the environment; while in the same environment, the level of satisfaction may vary between different students. (Liu, 2000) Domer (1983) utilized the Range of Affect Theory in psychology on the students' learning satisfaction. He believed that the level of satisfaction depended on the degree of difference after comparing the "expected satisfaction" and the "actual result" of the student's learning experience. The smaller the difference is between "expected satisfaction" and "the actual result," the more satisfied the student is, and vice versa.

Domer and fellow scholars (1983) implemented the Two Factor Theory on the students' learning satisfaction and discovered that the motivation factor for learning satisfaction is the student's internal elements, such as academic achievements, relationship with lecturers, and personal learning experiences. On the other hand, the hygiene factor that influences the student's learning dissatisfaction is the external elements, such as the learning environment, interpersonal relationships, and the facility and policy of the organization.

The Class Learning Atmosphere Theory

Walberg (1968) and Moos (1976) analyzed different psychological characteristics of students. They discovered that different classroom or campus environment shapes different behavior module. The research subjects were students in secondary education, who viewed the classroom atmosphere as the active social system. Thus, not only the teachers' behavior and the interaction between the teachers and the students but also the interaction between the students should be emphasized, especially the influence of peers. Five characteristics—the interaction, goals, structure, and cohesion of the class as well as the teacher should be analyzed to understand classroom atmosphere. The leadership of the teacher has great impacts on the formation of the characteristics of the class. (Hamachek, 1995) In addition, the class will also influence the teacher's guidance based on its needs and characteristics; hence, the leadership cannot be a part of the occurring situation. (Mouly, 1973) The result of a study conducted by Lai (2005) showed that the predictions from the class atmosphere created through interactions, regulations, cohesion and leadership are effective, even though the predictions may not be as broad and apparent compared to the predictions made from the objective aspect.

Traditional Education and Distance Education

Distance education is a teaching method of using telecommunication technology to overcome the barriers of time and distance. This method is significantly different than traditional teaching method. Moore and Kearsley (1996) published the fundamental concepts of distance education: the teaching method adopted when the teacher and the student are parted by time and distance. The interaction of education is created, and thus a communication platform is a necessity. This study examines the learning environment of synchronous interactive distance learning. Laurillard (1993) stated the telecommunication media offer one-to-many communication, which allows many lessons to be acquired by distance learning. Moreover, this is synchronous, where the student and the lecturer can gain learning and teaching experiences simultaneously. After combining the telecommunication technology with multimedia, which made one-to-many distant communication possible, the lecturers of distance education had more flexibility to offer convenient and lively electronic teaching materials for students. However, Freeman (1998) proposed that synchronized learning would not improve the experiences of interaction and education, especially to the distant students. In the study of Knipe & Lee (2002), they also found that the quality of learning and teaching of distance education were both poorer than traditional education.

Moore (1983) and Saba (1988) stated in their studies that "interactive distance is the function of communication and structure; the distance in distance education is not decided by geographical distance. Instead, it is defined by the level and rate of communication and structure." Based on the abovementioned definition, Saba and Shearer (1994) developed a simulation computer system based on system dynamics to explore the concept of Moore's interactive distance. As a result, Saba and Shearer (1994) discovered that the interactive distance is defined by the level of the interaction between the lecturer and the students, and not by the geographical distance. The higher the level of interaction is, the shorter the interactive distance will be. Hence, Saba and Shearer (1994) further confirmed the interactive distance is defined by the degree of interaction and not by the physical distance between the lecturer and the student. In general, this study aims to investigate whether the correlation between the students, the lecturers, and their behavior are influenced by the characteristics of the learning environment of distance education, and whether the influence will result in communication and understanding hindrance which can further form psychological barriers and distances.

The Development of Technology in Distance Learning

Leinder & Jarvenpaa (1995) stated that since the Electronic Classrooms developed from telecommunication technology will deeply influence the learning model, lecturers and students should understand how to connect the hardware of Electronic Classrooms with the learning model in order to gain effective learning experience. Leinder also stressed on the implementation of Electronic Classrooms. He mentioned the first step should be to understand the most effective way of communication, including the lecturers' teaching principles, the opinions of the student, and the usage of teaching materials. Sun& Chou (1997) proposed the establishment of an intelligent distance learning environment, called CORAL, so the lecturers and students can enjoy the convenience of technology. The basic contents of CORAL includes "mutual communication through emails," "usage of visual telecommunication equipment," "digitalization and classification of teaching materials," and "usage of internet multimedia."

Distance education can be divided into synchronized and unsynchronized education. Synchronized education offers students live broadcasting and one-to-many teaching method. Moreover, synchronized education saves costs and is the most effective learning method in the busy modern era. Most importantly, teachers can receive immediate feedback and information, which is the greatest difference between synchronized education and unsynchronized education. There are four ways of distance learning—satellite, internet, cable, and videotape, with the internet being the most common and most effective way.

The Cross-Strait Collaboration in Distance Education

The Cross-Strait agreements between the Taiwanese and Chinese governments greatly benefit the academic field. Based on the agreement of "from cultural exchange to educational exchange" and "implementing Cross-Strait collaboration of education," distance education can be fully utilized to fit the needs of the people. Using advanced technology as the foundation, Cross-Strait students can have access to the resources of distance learning. This also eased the crisis of student shortage in Taiwan.

RESEARCH DESIGN AND ANALYSIS

Interview Survey Method

This study uses qualitative data from case study semi-structured interviews on the research focus of the students' motivation and satisfaction on synchronous distance learning courses. The method is chosen to better examine the focus and attitude of the interviewees and allow the interviewees to express their views more. Semi-structured interviews have the advantages of both structured and unstructured interview. It can avoid the lack of flexibility of structured interview and the time-consuming process as well as the difficulty to conduct quantitative analysis of unstructured interview.

This study mainly collected information from conducting phone interviews. The merits of telephoning are fast, low cost, and the privacy offered to the interviewees as face-to-face contacts were not necessary. In addition, by sending the questionnaires through email, the data were collected effectively and conveniently. Hence, we decided to conduct phone interview and internet surveys.

Interview Targets

The number as well as the status of interviewees was limited since only two semesters were completed at the time of research. Thus, this study only focuses on the students that completed the course.

1. Participating Students: Interviewed a total of 5 students (2 Male and 3 Female) from Shih Chien University and 5 students (2 Male and 3 Female) from Beijing Foreign Studies University
2. Participating Scholars: Professor M.H.Lee, Director of the Center for Teaching & Learning Development of Shih Chien University, and Professor King from the Department of Information Technology and Management of Shih Chien University
3. Participating Lecturers: Professor Tung, LiLi from Beijing Foreign Studies University and Professor Y.H.Lo from Shih Chien University

RESEARCH RESULT ANALYSIS AND DISCUSSION

Student Perspectives

1. Selecting "Case Studies of Taiwanese Entrepreneurs" Courses: Interested in the contents. The results of the interview proved that besides the student's academic goal, the teaching method, environment, and the lecturers' leadership all motivated the students to select the course.
2. Understanding Cross-Strait enterprises and case studies of Taiwanese Entrepreneurs: Agree. All students were motivated to learn more about Cross-Strait business-related topics. This also showed the limitation of the education systems in Taiwan and China, and students hoped to learn more through this course.
3. Analysis on learning satisfaction of Cross-Strait students: Support synchronized education. The results of the interview proved that technologies used in Electronic Classrooms such as visual image or the internet could not deliver the same effectiveness and liveliness as Video Classrooms.
4. The designs of "Case Studies of Taiwanese Entrepreneurs" Course, including teaching materials and professionalism of the professors: Mostly satisfying. The Harvard style of case analysis had been implemented in Taiwan for many years; the Chinese students were unfamiliar with the teaching method and needed time to adapt.
5. Equipment influenced learning satisfaction: Learning satisfaction was influenced by this factor. The difference of the internet and bandwidth of Taiwan and China influenced the quality of telecommunication, especially when the Chinese government still controlled internet usage. Hence, Chinese students cherished the opportunity to learn with Taiwanese students.

Lecturer Perspectives

1. Course design and teaching method:

"The teaching material was jointly edited by Cross-Strait professors to ensure the wording and understanding of each company is consistent." (Professor Tung)

"The teaching method was designed to allow the lecturer to interact with the students. By doing so, the students could learn the regulations, the principles, and the concepts of the enterprises more effectively." (Professor King)

"The grading criteria were based on the participation of the students. I hoped the students could establish this concept." (Professor Lo)

2. How would the lecturer react to the interference of disconnection and static noises?

"It was hard to guarantee the quality and bandwidth of the internet. Thus, disconnection and static noises often disrupted the class. The problem could be solved with a direct internet connection, but this would be too expensive and was beyond the financial ability of the university." (Professor King)

3. Preparation before the course and the ability of the lecturer:

"The lecturer should have the ability to react to difficult situations because the internet was often disconnected. Thus, the lecturer should prepare another set of materials in case of emergencies." (Professor King)

"The lecturer should be more open-minded and have the ability to inspire students to learn from different aspects." (Professor Lo)

Scholar Perspectives

"Taiwan had more advanced equipment. We would cooperate with them and upgrade our facilities." (Director Sung from China)

"Technology would not be a problem. The problem was the strategies of the universities, which they lack. The misuse of the system was also a problem; the lecturers had been doing with what they felt like till now." (Director Lee from Taiwan)

CONCLUSION AND IMPLEMENTATION

Conclusion

1. The main motivations of course selection of the Cross-Strait students are their curiosity about the course, interest in the contents, and willingness to experience the novelty of distance learning. These three factors are the external thrust that spurs the students to select the course.
2. The results of the Cross-Strait students' accommodation condition are correlated to their interactions with the professor, the familiarity with the materials, and the quality of the communication equipment as well as the clarity of the video images.
3. Most of the Cross-Strait students accept the method of synchronous distance learning.
4. Overall, the satisfactory level of the course is high while the quality of communication equipment has the lowest level of satisfaction.

Implementations

1. Overcome the unstable internet connection and the limitations of DoCoMo packet transmission: Synchronized distance education consumes large amount of internet transmission for sending videos and voice recordings. Thus, both universities can coordinate on extending the limitation on DoCoMo packet transmission. The images and videos should be compressed so students can see the image clearly.
2. System corrections: In the interview process, we learned that the distance learning system used in the classroom was incorrect; hence, the image and audio was unclear. Professor Lee suggested using a video-conference-like system that could aggregate the synchronized distance learning system of both universities instead of the one-to-one or one-to-many distance learning video system.
3. Improving the teaching materials and teaching method: The "Cases of Taiwanese Entrepreneurs Textbook" is used as the teaching material for the course. The textbook is jointly edited by the professors in both universities. However, some students reflected some cases were too strenuous to understand and suggested the lecturers to further explain during the lecture. Moreover, the resources and references of combining theory with practices were too limited for the students to conduct further research. Hence, the students also suggested the lecturers to offer suggestions for related references.
4. Promote distance education: Distance education is the future trend. Students can share resources as well as interact academically through synchronized or unsynchronized distance education. By linking similar courses in both universities through distance education, the teachers can share resources in their professional field and reduce the cost and time of teaching.
5. The virtual platform of resource sharing: Due to differences such as culture, geography, and language, synchronized education may not be comprehensively implemented. Unsynchronized education requires the lecturer to prerecord the videos. Therefore, the disadvantage of this education method is the lack of participation and the chances of asking questions. On the other hand, the advantage is that students can watch the video countless times. This study suggests the establishment of a virtual resource sharing platform, while considering the costs of the teaching materials and copyrights, to allow the students

to learn more from the resources on the platform. The platform also serves as an online discussion room for students to discuss and solve problems.

6. Establish a resourceful campus environment of distance education: The result of this study shows that distance education is the future trend. However, universities may not be able to improve distance education due to limited budgets. Though the Ministry of Education of Taiwan has budget planning for distance education, the resources are scarce. Therefore, we suggest starting with the fundamental environment: Tamkang University can offer the technology of distance education in Taiwan to save time and resources. The universities can extend the limitation of DoCoMo packet transmission so the transmission of images and audio will not be restricted. Moreover, the universities should organize distance learning classrooms; use round tables for convenient group discussions. Last but not least, the universities should actively promote distance education. Distance education eliminates the troubles of selecting courses across schools, reaps the benefits of resources sharing, and achieves the goal of effective learning through interactions.

Limitations and Recommendations for Future Research

The subjects of this study are the Cross-Strait students and lecturers who come from different universities and have different cultural backgrounds. There are many research limitations such as the consensuses on certain topics, the selection of interviewees (take the rejection of a lecturer from Beijing Foreign Studies University as an example), and the limited time and funding this study has. All these limitations are aspects for future research.

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