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Students' Perception of E-learning on a Continuing Early Child Development Course in China

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***Abstract*—E-learning has considerable flexibility in developing its accountability for instruction activities, so long as the perception is that e-learning is accessible and is successfully implemented. The emergence of information and communication technologies (ICT) has risen the new epoch in higher education for asynchronous and synchronous instructional activities and coursework. Synchronous activities in instruction indicate that several curriculum events operate at the same point in time; asynchronous means that events do not occur at the same time. E-learning is the unifying term that describes the fields of online learning, web-based training, and technology-delivered instruction. It is the convergence of the Internet and learning, or Internet-enabled learning. This study began to measure the effectiveness of e-learning format in a continuing course. The study were 495 students, 280 ones enrolled an continuing educational course at e-learning platform as experiential group and 175 students enrolled the same course delivered by the same instructor in traditional face-to-face environment as control group of a public Yunnan Normal University in China in spring, 2015. Participants in the full study were students in several sessions of the course. All students including experiential group or control group in this study required to participate in all classroom activities. The results of this case study suggest that students' achievement in this participating class is not different between e-learning format and face-to-face environment. This makes sense what the almost equal outcome was performed in e-learning environment. Learning is effective when the presentation of knowledge allows learners to both retain knowledge and easily apply it.**

Keywords—continuing education; e-learning; performance; effectiveness

I. INTRODUCTION

While returning to 1990, those terms such as blog, email, internet, yahoo.com, WWW, and many others dealing with information communication, research, entertainment, and storage mediums, even though e-learning, were not part of our vocabulary. Now they are. The emergence of information and communication technologies (ICT) has risen the new epoch in higher education for asynchronous and synchronous instructional activities and coursework [1]. Synchronous activities in instruction indicate that several curriculum events operate at the same point in time; asynchronous means that events do not occur at the same time. E-learning is the unifying term that describes the fields of online learning, web-based training, and technology-delivered instruction. It is the convergence of the Internet and learning, or Internet-enabled learning. This study began to measure the effectiveness of e-learning format in early child development program within continuing education.

II. STATEMENT OF PURPOSE

The objective of this study is to examine the effectiveness of the use of e-learning components in a course, *Early Child Development Education Theory*, in one rural Normal University in Yunnan province, China; the students enrolled this class were at least 3-year experience in teaching around this region. This study addressed and answered the following questions related to the effectiveness of e-learning format in a continuing course, *Early Child Development Education Theory.*

Is it successful in e-learning format with this class, *Early Child Development Education Theory*?

What are students' perceptions in e-learning environment?

III. RELATED STUDIES

E-learning is a term to depict the domains of virtual learning, web based training, and technology-delivered instruction. Gandolfo [2] and Means [3] both pointed out e-learning is more technologically advanced and cognitively creative than traditional learning, such as flexibility and convenience for the learner. E-learning has endowed students with greater flexibility and opportunities through synchronous and asynchronous instruction. The critical success factors in an e-learning environment are different than those in a traditional learning environment. A common theme in the findings of such studies suggests that students with prior experience using information technology will likely be more successful in a virtual learning environment [4]. Some research described curriculum design about experiential learning or instruction design in multiculturalism field like the following. Anderson and Szabo [5] state that a course deals with multiculturalism into *Teacher Education Programs* could not be successful without the inclusion of experiential learning. Experiential learning includes active learning, service learning and volunteerism. Based on these

research findings, it is necessary to achieve course goal with an experiential learning experience in multiculturalism courses. However, a problem occurs how those participating continuing courses student could find time to complete volunteer hours and still meet their work and other responsibilities. Conjunction experiential learning with e-learning component in multiculturalism courses is a viable instruction to meet the requirement in multiculturalism courses.

IV. METHODOLOGY

The study examined the effectiveness of e-learning format in a continuing course, *Early Child Development Education Theory*; three important issues includes role of teacher, Teaching Diverse Learner, and Create Multicultural Content in this course. The course was conducted online through the use of Qujing U, a course management software program developed by this participating university, and Qujing U contains a wide variety of e-learning components such as internet surveys, quizzes, interactive exercises, video clips, and use of the university library's electronic course reserve system. That is experiential group; in opposition, a control group was selected to deliver the same course in traditional face-to-face environment to reflect the difference in effectiveness.

Two statistical procedures, the student *t*-test and descriptive statistics were to examine the effectiveness and identify specific characteristics that students reported that might be of interest to instructors. Precisely, the *t*-test based on the standard error of the difference between two means can only be used to test differences between two means; *t–test* could be used to compare students' scores from different learning environments, and descriptive statistics could be employed to analyze the survey data and identify important factors that relate to students' effectiveness in learning environments.

A. Data Collecting Procedures

The study were 495 students, including 280 students enrolled this continuing educational course at QujingU system (e-learning platform) as experiential group and 175 students enrolled the same course delivered by the same instructor in traditional face-to-face environment as control group of a Yunnan Normal University in China in spring, 2015. Participants in the full study were students in several sessions of the course. All students including experiential group or control group in this study required to participate in all classroom activities, to complete 10 assignments, 6-hour experiential learning activities to meet course requirement, middle term exam, and final exam from the beginning of the spring semester to the end of the spring semester within 18 weeks.

B. Instrument Design

The experiential group was used as a preliminary research technique to explore ideas and attitudes toward a certain issue. The study was conducted to those participants from the experiential group during the spring semester of 2015, using a web-based survey form. The questionnaire for this study consists of four parts: (1). Comfort with Technologies, (2). Active Participation in E-leaning Activities, (3). self-paced learning, (4). Benefit of E-learning. Each question in the survey is phrased in terms of a statement that addresses different aspects of e-learning, using (1). strongly disagree, (2). disagree, (3). neutral, (4). agree, (5). strongly agree. The result of instrument analysis was to address the questions of what students' perceptions are and what relative factor to affect in e-learning environment.

C. Validity and Reliability

The reliability coefficient of an instrument is generally measured by Cronbach's α. High correlation between alternative survey items or large Cronbach's α (> 0.70), are usually indications that the survey items are indeed reliable. Cronbach's Alpha value for all questionnaire items was 0.898, indicating strong reliability.

V. RESULT

The purpose of this study is to measure the effectiveness of e-learning format in a continuing course, in terms of meeting course goals and in student satisfaction with the class. The effectiveness of this class was assessed in several ways, such as participating students in e-learning format completed a short answer survey to determine what they valued and did not value about the online course format. Students' academic performance (score), and the final exam asked students to apply what they had learned to themselves, their schools and their communities.

A. Students' Academic Achievement Difference

"Table I" figured the outcome of *t-test* in academic achievement (Score) between e-learning platform and face-to-face environment. The mean scores for students in QujingU and face-to-face environment were 80.1429 and 82.5823 respectively. It is not statistically significant in "Table II"; otherwise, there is no difference between QujingU and face-to-face environment in academic effect.

TABLE I. ACADEMIC ACHIEVEMENT ANALYSIS

Course Delivery	N	Score Mean	STD	p
Face-to Face	175	80.1429	8.2583	.678
QujingU	280	82.5823	7.5143	

[a.] Note: * indicates P<0.05

B. Comfort with Technologies

Comfort with technologies plays an important role in students' success in e-learning and may reduce anxiety. The degree of comfort with technologies in e-learning context may likely benefit students in the future as they make decisions about selecting between the different educational or training options for themselves or those they manage. The study responses clearly shows that the majority of students have notably sufficient knowledge and experience with technologies, and are familiar with the use of different computer software. Such as 78% of students are familiar with downloading and installing software from the network.

This suggests that most students in this study rated comfort with technologies quite high, and they were also quite high in their ratings of satisfaction with QujingU course, the last item of the questionnaire "Table II".

TABLE II. COMFORTABLE WITH TECHNOLOGY

Question	1	2	3	4	5
I frequently watch video clips over the network.	0	0	0.40	0.39	0.21
I am familiar with downloading and installing software from the network.	0	0	0.22	0.57	0.21
I feel the network operates smoothly when I watch the video clips in IVC	0	0.05	0.27	0.68	0

[b.] 1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree

C. Active Participation in E-leaning Activities

"Table III" summarizes the findings for Active Participation in E-leaning Activities. It showed us students' rating about active participation in e-leaning activities. Studies (Benek-Rivera & Matthews, 2004; Banbury & Sarason, 2004) referred to active learning in the learning process enhances learning [6] [7] [8].

TABLE III. E-LEARNING ACTIVITIES ANALYSIS

Question	1	2	3	4	5
I can easily post my suggestions and reply to messages from classmates on the bulletin board.	0	0	0.25	0.48	0.27
I always download all the reading materials supplied by my teacher.	0	0	0.64	0.20	0.16
I can submit my opinions, and complete homework at anytime on the bulletin board without any time constraints from other class members.	0	0	0.05	0.72	0.23

[c.] 1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree

D. Self-paced Learning

This part of questions addresses the issue on how students utilize the online units for self-paced study. In the data analysis, the majority, at least 75%, of students believe that course outline helps me arrange my entire learning activities. However, only 16% to 36% of students feel that my teacher provides abundant information and materials for the course. "Table IV" summarizes the findings for the use of online units as self-paced learning.

TABLE IV. SELF-PACED LEARNING ANALYSIS

Question	1	2	3	4	5
I feel that the course outline helps me arrange my entire learning activities.	0	0	0.20	0.62	0.18
I feel that my teacher provides abundant information and materials for the course.	0	0	0.64	0.20	0.16
I read and study the downloaded course materials regularly.	0	0	0.05	0.72	0.23

[d.] 1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree

E. Benefit of E-learning

At least 70%, of students appreciated the benefits of e-learning, and can better arrange their time for study. "Table V" summarizes the findings for the use of online units as self-paced learning.

TABLE V. SELF-PACED LEARNING ANALYSIS

Question	1	2	3	4	5
I feel less stressful because online learning does not require me to interact my teachers and classmates directly.	0	0	0.25	0.60	0.15
Because I don't go to school every week, I can better arrange my time for study.	0	0	0.30	0.35	0.35

[e.] 1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree

VI. CONCLUSION

The results of this case study suggest that students' achievement in this participating class is not different between e-learning format and face-to-face environment [9].This makes sense what the almost equal outcome was performed in e-learning environment. Learning is effective when the presentation of knowledge allows learners to both retain knowledge and easily apply it [10]. Indeed, effective learning results in a measurable increase in learners' competency and an improvement in efficiency and quality for the society. E-learning offers a viable strategy for producing effective training, since it can provide experiential learning and a mechanism to easily track and monitor training results. Overall, students of experimental group in the course rated the e-learning as marginally positive. Issues relative to e-learning have resulted in rigorous debate in educational research, but include findings that e-learning has several advantages over traditional learning, such as "e-learning is considerably more convenient and flexible." E-learning also may have both pedagogical advantages over traditional methods relative to principles of learning and non-pedagogical advantages; Dommeyers et al. pointed out that e-learning may curtail paper costs, require less classroom time, and permit efficient processing of grades [11]. But there are contradictions; for example, Cooper suggested that the lack of interaction among students and teachers associated with e-learning may be a primary cause of student uncertainty in understanding. In the survey data of this study, higher ratings on selected questionnaire items implied the instructor and peer interactions are very important [12] [13]. Future studies are encouraged to explore technological aspects of e-learning or to online interacting between instructor and learner in education.

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