DEVELOPING ONLINE LEARNING LESSONS ON THE ART OF PHOTOGRAPHY FOR UNDERGRADUATE STUDENTS

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Abstract— The purpose of the research was to construct and evaluate the efficiency of the online learning lessons on the art of photography in Technology of Photography course, using a Modular Object – Oriented Dynamic Learning Environment (Moodle) Software for blended online learning and determined learners satisfaction. The sample group was 35 second year undergraduate students, majoring in Innovation and Educational Technology. The equipment employed in the study were the following:1) online learning lessons on the art of photograph 2) learning achievement test 3) a survey form of students' satisfaction .The results of the study revealed the quality of online learning lessons, evaluated by the specialists was at a very high Level. The Effectiveness of the online learning lessons E1/E2 was 82.37/84.69, which higher than the criteria set at 80/80. The students' achievement scores in posttest were higher than in pretest with the statistically significance level of 0.05. The students were highly satisfied towards the lessons. In conclusion, the online learning lessons on the art of photography could be used in learning effectively.

Keywords— Online Learning, Art of Photography, Innovation , Educational Technology, Undergraduate Students.

I. INTRODUCTION

The modern world has entered an era of information technology, with the advancement of telecommunications technology, computer and information technology which has become a global network, leading to the learning society without boundaries. As a result, educational perspectives vary from the conventional teaching and learning by cognitive changes and the behavior of learners have been adapted to the changing society as well. To make the educational management more effective requires the development of teaching and learning both in and outside the classroom. For this reason, it is a major factor driving instructors to design and develop them to foster the full potential of learners by using a various forms of teaching. A survey of the educational value of activities on computer network [1] found that the activity of online instruction over the internet is widely prevalent and popular in a university level in a form of using website as a learning channel. This teaching style, students can learn and interact with teachers through computers linked to networks and other learning resources. It allows them to study anywhere at anytime without restriction and focusing on students centered approach [2]. It provides both education and entertainment to meet individual interest and differences. It can be seen that the knowledge is not only limited to the classroom anymore, but they can learn from website via the internet. The style of teaching should focus on teaching students how to learn not just teach the subject matter alone, and this learning style is the way to promote lifelong learning [3]. The Department of Innovation and Educational Technology, Faculty of Education held Technology of Photography as a university course. It is a compulsory subject in the curriculum of Bachelor of Education.

The course content has been optimized and aligned with changing technology, consisting of theoretical and practical study. In the study, the researcher selected content on the art of photography in developing online learning lessons. In this content, students always need more time to study and understand the matters and only conventional classroom cannot provide a variety of experiences for students. Although, teaching and learning through the web is popular and fast, it still encounters problems with the design of teaching and learning. This is because teaching and learning through the web is not appropriate to the learning style and the cognitive style of all form of learners [4]. Therefore, the researcher has conducted the research study on the development of online learning lessons in a form of blended learning which combines a variety of methods in classroom teaching with teaching through the network [5]. According to Colis and Moonen, blended learning is a flexible approach to course design that supports the blending of different times and places for learning. The result is potentially a more robust educational experiences than either traditional or fully online learning alone [6]. Obviously, this blended online learning model allows learners to learn more effectively.

II. RESEARCH' S PURPOSES

To develop online learning lessons on the art of photography with 80/80 performance efficiency criteria, to compare the learning achievement of students before and after the learning process and to investigate the level of students ' satisfaction towards online learning lessons.

III. SCOPE OF LEARNING

The research is to construct online learning lessons on the art of photography for second year students in the Department of Innovation and Educational Technology, Suan Sunandha Rajabhat University. The lessons consists of three units: 1. essential factors in photography, 2. photography composition and 3. photography techniques. The dependent variables was online learning lessons on the art of photography, distributed through the networks created by the system of teaching (Moodle) and the independent variables were lesson efficiency, learning achievement and the level of students' satisfaction. The population in this study included 150 students in Department of Innovation and Educational Technology. The samples were 35 second year Innovation and Educational Technology students, enrolled in Technology of Photography course for the second semester of academic year 2014,selected by using purposive sampling technique. The equipment used in the study included online learning lessons, learning assessment forms during the learning process for each learning unit, achievement test (Multiple choice with four options) and a survey form of learners' satisfaction (Rating Scales).

IV. DETAILS EXPERIMENTAL

This study was a quasi-experiment in the forms of one group pretest-posttest design. Having three instructional design specialists examined the appropriateness of the content, learning management system and optimization of blended online learning design. The other three specialists evaluated the quality of the equipment used in the study . As the results, the lessons were revised and adapted for the trial in learning process. In the experimental stages, the process of data collection were as follows [7].

4.1. One to One Testing

The tests were done with the students who were similar to the samples and had not yet learned these lessons before. By using purposive selection of three students from their learning results; one with high grade, one with medium grade and one with low grade. These students did the tests similar to the real tests. The researcher observed and interviewed their opinion on the issues of the lessons. The obtained information was used to improve and adjust the lessons.

4.2. Small Group Testing

Online learning lessons had been revised from the one in the first experiment to test 9 students who had some similarities to the ones in the first trial. The students did pretest, and posttest . Then the results used to find the efficiency and effectiveness of the set 80/80 criteria as well as finding for other defects. The results were used to improve the lessons to try out the samples.

4.3. Field Testing

The online learning lessons were revised from the second trial to try out with the 35 sampled students. At the beginning, the researcher prepared the students by explaining the tools and the learning process including online subject contents and activities then, the samples did the pretest. After finishing, the samples studied the online learning lessons. They could choose the date, time and place without class. Students could consult or asked for advice from a teacher in regular class hours. They could also post questions on the discussion board or send a message directly to the instructor. During the learning process, students did exercises of each lesson. The researcher collected data in order to determine the effectiveness of lessons. Students had to finish the test at the end of each unit. The system checked the answers and automatically recorded the scores. The researcher collected data. The results of the pre-test and the post-test were analyzed the difference and then determined the effectiveness of online learning lessons. The scores of both tests on the online learning lessons were compared using the statistical t-test. At the end of the learning process, students answered the questions from a satisfaction rating form. The results were analyzed by statistical analysis and be used for the study.

V. RESULTS AND DISCUSSION

The results of the quality of online learning lessons evaluated by 6 instructional design specialists, appeared in **Table1**.

Table 1: Results of The quality of online lessons

Items	$\bar{x}$	SD	level
1. content	4.89	0.19	Very high
2. graphic media	4.67	0.58	Very high
3. multimedia	4.58	0.69	Very high
4. interaction	4.00	0	high
5. learning activities	4.50	0.38	Very high
6. assessment	4.53	0.12	Very high
7. manual for online learning	4.67	0.58	Very high
Total average	**4.56**	**0.36**	**Very high**

Table 1 shows the overall quality of the lessons which is very high. The content is a topic that has received the highest scores.

The efficiency of learning process from the trial with the 35 samples revealed in **Table 2-3**.

Table 2: Results of the efficiency of the learning process

Learning units	No.of learners N	Total scores A	Scores during learning $\sum X$	Average Scores $\bar{X}$	Process Effectiveness E_1
1	35	20	596	17.02	85.14
2	35	20	562	16.05	80.00
3	35	20	583	16.66	83.3.7
total	**A**	**60**	$\sum X$1741	**49.73**	**82.37**

Table3: Results of the efficiency of the performance

Learning units	No.of learners	Total scores	Post learning scores	Average Scores	Performance Effectiveness
	N	A	X	$\bar{X}$	E_2
1	35	15	463	13.23	88.19
2	35	15	421	12.03	80.29
3	35	15	450	12.86	85.71
total	**A**	**45**	ΣX**1134**	**38.11**	**84.69**

Table 2-3 shows the results of the effectiveness of learning towards online learning lessons appeared that the effectiveness of the lesson E_1 / E_2 was 82.37 / 84.69, which higher than the set criteria at 80 / 80. The results of students' achievement scores before and after the learning process shown in **Table4**.

Table 4: Results of a comparison of learning achievement of online learning lessons

Learning achievement	N	$\bar{X}$	SD	t-test
Pre-test	35	19.20	4.45	47.24
Post-test	35	38.10	3.35	

Table 4 shows the achievement of students towards online learning lessons with the average score of 38.10 which is higher than the previous one which had an average scores of 19.20, a statistically significance level of 0.05.

For the assessment of students' satisfaction, the level of students' satisfaction after the online lesson process shown in **Table 5**.

Table 5: Results of the students' satisfaction towards the lessons.

Items	$\bar{x}$	SD	level
1. content	4.36	0.75	high
2. graphic media	4.46	0.71	high
3. multimedia	4.00	0.75	high
4. interaction	3.97	0.80	high
5. learning activities	4.21	0.69	high
6. assessment	4.13	0.79	high
7. manual for online learning	4.33	0.61	high
Total average score	**4.20**	**0.73**	high

Table 5 shows the level of learners' satisfaction is high. The average value is 4.20 with a standard deviation of 0.73.

To develop online learning lessons on the art of photography, the researcher chose this topic because most students lacked understanding of the basic principles of the topic that was quite detailed and there was not enough time to provide learning experiences for students. The ratio of blended learning process was the integrated teaching taught in regular classes 50% and 50% was the online learning lessons for students to study by themselves for the duration of three weeks. In addition to the contents, the researcher included multimedia as a tool which would provide more learning experiences than just listen to class lectures alone. The lessons provide a lot of examples and linkage to other resources to study outside the class. The lessons started with the registration to log into the system, usage manuals for each unit which consisted of subject content, various types of activities such as chatting board, sending internal messages ,submitting assignments and tests. The learning results would be informed instantly. Developing online learning lesson on the art of photography could follow as the planned steps. The results were as follows:

Part 1.To find out the effectiveness of the lessons that were constructed, the researcher had tried out the lessons three times; firstly, to try out one to one testing with three students. The trial results were then improved and adapted for the second trial. Secondly, to try out with a small group of 9 students, then interviewed their opinion on the defects of the lessons. The results were revised and improved for the third experiment with the real samples. Results of the effectiveness of online learning lessons showed the efficiency of the process (E_1) was 82.37 and the efficiency of the performance (E_2) was 84.69, which is based on the set assumptions.

Part 2.To compare learners' achievement before and after learning towards the lessons .The study revealed the average posttest scores were higher than the pretest scores. This indicated the improvement in learning.

Part 3. To investigate the level of students' satisfaction. the results showed the students were high satisfied with online learning lessons, representing an average score of 4.20.

CONCLUSIONS

According to the study on developing online learning lessons on the art of photography, the results showed the developed online lessons can be used as an effective learning activities based on specified criteria could be explained due to the developing process of online learning lessons, the researcher focused on the learning experiences in a wide variety of multimedia learning. The instructional design were based on the concept of interactive content and activities which Tientong [8] concluded the concept into 8 principles for designing the lessons which were 1. Arouse attention 2. Inform objectives 2. Review background knowledge 4. Presenting new content, 5.Guiding ways of learning 6. Encourage the responses to the lessons 7.Testing and 8. Summarize and then use for learning.

Having six specialists examined and recommended improvement, resulting the online learning lessons were effective based on the set of criteria.

In terms of students' achievement after learning the lessons, the test average scores were higher than the previous one which were statistically significance level at 0.05. This is consistent with the research of Sukbunjong [9] who studied and developed online or e- learning course for 50 second year students of Drama and Media course for the College of Social Communication Innovation at Srinakharinwirot University. The developed lessons were offered through the network of computer systems. The experimental research doing with real samples showed the effectiveness of the lessons was 85.2 / 86.8, which was based on the set assumptions compared to students' achievement significantly statistical level 0.05. The survey of students' satisfaction showed the students were very satisfied with all aspects. He pointed that the higher achievement was because the developed contents and multi dimensional media were interesting and those stimulated students in learning. Students could learn their lessons continually and independently , namely to study and review the lessons as well as to assess themselves by doing online exercises, students could know the results of the exercises instantly. This was in line with the research of Krudchum and Chumankij [10] who studied and developed online lessons on "Information Retrieval and Communications on the Internet System" for the first year students of a secondary school. The study showed the effectiveness of online lessons was at 81.60 / 81.04 consistent with the set of criteria. The students were taught using online tutorials on "The information Retrieval" which resulted students' learning achievement on their post learning statistically significantly higher than the pre learning at the level 0.05.The discussion was that the developed online lessons were systematically constructed. According to the result of students' satisfaction towards online learning lessons on the art of photography, the researcher found the students were satisfied with the learning in all aspects. It could be explained that the online learning activities were consistent with the needs of learners, building knowledge using information technology to allow students to learn without limitation and the ability of classroom interaction. Students can access the learning which respond individually. The lessons can be designed attractively and effectively with the power of technology which provide flexibility to learners [11].Therefore, it can be said the blended online learning successfully be used in teaching.

SUGGESTIONS

Although, the study showed the learning via online lessons has several advantages, but still there are some points to consider such as the availability of device and network, and because of the online learning activities are directly related to the infrastructure, computer facilities management and the network which must not cause a disruption during learning activities. In terms of instructors and learners, they should have skills in using computers and the network. Teachers should encourage all students to participate fully in the activities including explaining the role of learners who should be responsible, disciplined in self-access learning, and teachers should pay attention to the learning environment that affect optimization of online learning. The learning materials and activities should be improved. The designs should be more attractive and linked to other learning resources as well as encourage students' interaction as much as possible to motivate the learner 's attention and not be weary. For further study, because of this study based on just one group of samples, the comparative study of students' learning achievement between two groups using traditional teaching and blended online learning should be conducted and also focusing the study of involved issues such as the persistence of individual learning , personal characteristics that influence the level of satisfaction and other learning factors, affecting blended online learning.

ACKNOWLEDGMENT

During conducting the research, I received many advices and materials from many instructors and office staffs at my university which was very helpful. And this research was supported by Suan Sunandha Rajabhat University. I would like to give special thanks to all the experts and students of SSRU who helped and supported this project.

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