

Development of an Instructional Model Based on Teach Less, Learn More Concept Using Online-Based Learning Media and Conventional Approach

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Abstract: *This research aimed to 1) develop learning management processes based on Teach Less, Learn More concept using online learning and conventional learning methods, 2) compare the learning achievement before and after undergoing the learning management processes based on Teach Less, Learn More concept using online learning and conventional methods, and 3) evaluate the students' satisfaction of the learning management processes based on Teach Less, Learn More concept using online learning and conventional learning methods.*

The sample group of this research was consisted of 40 Mattayomsuksa 4 (M 4) students at Kanaratbamrung Pathumthani School in Pathumthani Province selected using cluster random sampling method. The research instruments were consisted of the lesson plan based on Teach Less, Learn More concept using the online learning and conventional methods, Google classroom Website as a tool for learning based on constructivist theory, a learning achievement test, and a satisfaction evaluation form. The data were analyzed using mean, standard deviation, and t-test.

The research revealed that 1) the learning management processes based on Teach Less, Learn More concept using the online learning and conventional methods encouraged students to create their own knowledge according to constructivist theory, 2) the efficiency of the media based on Teach Less, Learn More concept using the online learning and conventional methods (E_1/E_2) was 80.17/80.25 which was above 80/80 set criterion, 3) the learning achievement after the use of the learning management processes based on Teach Less, Learn More concept using the online learning and conventional methods under the topic of "The Principles of Problem Solving Using Computer" was higher at a significance level of .05, and 4) the students' satisfaction of the learning management processes based on Teach Less, Learn More concept using the online learning and conventional methods was at a high level.

Keywords: Teach Less, Learn More concept, online-based learning media, instructional model

Background and Significance of the Study

Kanaratbamrung Pathumthani School has offered a subject on Information Technology 1, under learning area of Occupations and Technology. The objectives of the subject are that students are able to understand and appreciate the value of information technology. Moreover, they can use information technology to search for information for their study and

problem solving in a work place. From the document review, it is found that students started to be bored with the Information Technology 1 subject and losing their interested in studying the content because they do not understand several topics. Besides, the researcher discovered that computer programming, part of the main unit on computer solution that students have to learn by hands-on practices or learning from the other media. Thus, they can figure out how the program actually works it was found that students are unable to understand it in a short period of time. Teachers have to encourage students to learn more and to solve a problem of having to spend excessive time on the learning process. This problem was supported by Kaabkham (2551, p. 2) which found that “ Computer study is quite difficult to understand in class. It has to be reviewed over and over so that the students can successfully understand. The plain teaching and the lack of continual practicing is the main issues”. Thus, the best solution is to use the child center approach, allowing them to learn by themselves and utilizing other media along with the practicing.

From that condition, online learning can provides wider knowledge for students to learn everywhere and every time with the Internet access which it responses to the different of students’ needs, they can exchange their knowledge with teachers or with their peers by using communicative devices. This is for supporting the child center and lifelong learning method.

Teach Less, Learn More concept is an education method of Singapore which it aims to provide efficient learning process and prepare for students life. The interaction between a teacher and students have been added to increase a chance for students to exchange their opinion and decrease learning by memorizing. The teacher’s role has been switched to a facilitator for encouraging students to be succeed at their learning both in class and in a work place. From the issues mentioned above the researcher concludes that Teach Less, Learn More concept is one of the effective teaching ways to resolve the studying of Information Technology 1 subject. Thus, the researcher has brought Teach Less, Learn More concept to the class of M. 4 at Kanaratbamrung Pathumthani School using online learning in cooperate with regular teaching approach. This is to allow students to perform self-learning in order to prepare them for higher education.

Literature Review

To develop the teaching processes by using Teach Less, Learn More concept along with online learning and conventional learning, the researcher had studied information and knowledge involved with this topic including related research as follows:

According to the basic education core curriculum of learning structure of the year 2008, M. 4, High school level (4-6), Learning area of Occupations and Technology has defined that the studying duration throughout the course must be 120 hours in total (3 credits) in which the Information Technology 1 subject is included and high school students need to pass this course. The subject has been reduced in class study duration but its credit is still remains 1.0. Therefore, it has been reduced from 40 hours to 20 hours. The other 20 hours is for leaning outside of the classroom. The researcher then brought online teaching under Teach Less, Learn More concept to support the activity outside of the classroom. The teachers use teach less while the students use learn more strategies but they still can be supported by their teachers as his or her advisor. The students learn more from outside of their class. Teachers changed their roles to lessons planner and activities designer. Preparing the teaching tools, sources, and give students questions that encourages them to build their competence according to the constructivist theory. This procedure can be done by using online learning

as a media along with usual teaching so that students can learn more from online lessons. This arrangement eliminated the boredom of learning. Students can ask teachers for some advice and exchange their opinion between their teachers and classmates. The researcher chose the ADDIE model's learning designing model as a framework in developing the media and learning activities under the Teach Less, Learn More concept and usual teaching for the Information Technology 1 subject. It is not too complicated to handle and it is also well utilized in lessons plan designing today. The ADDIE model consists of 5 steps: 1) Analyzing 2) Designing 3) Developing 4) Implementing, and 5) Evaluating. In an evaluation part, the researcher chose the Kirkpatrick's model because it is a model that used for observing the students' behavior transformation and leading to their learning results not only be evaluated by their testing scores but covering all of their behavior, emotion, and the consequence of learning that effects themselves and the society.

Purposes of the Study

1. To develop the teaching process according to Teach Less, Learn More model using online learning and conventional learning methods and to identify them.
2. To compare students' pretest and posttest achievement before and after studying by using both online and conventional learning methods under the Teach Less, Learn More process.
3. To evaluate students' satisfaction after learning through Teach Less, Learn More (TLLM) concept.

Research Hypotheses

The researcher hypothesized was that the posttest scores of students whom studied through online learning and conventional learning based on Teach Less, Learn More concept is significantly higher than pretest scores.

Practical Application

1. Proved that the Teach Less, Learn More model, online learning, and conventional learning methods is suitable for Information Technology 1 subject of M. 4 students.
2. This Teach Less, Learn More concept can be used as a basement for other subjects.

Research Procedure of the Study

1. The researcher declared the objectives and procedure of online learning and conventional learning methods in Information Technology 1 subject, the principle of issues solving by computer for M. 4 students.
2. The researcher gives a pretest for the sample then records the scores obtained as a pretest score.
3. The researcher explains and demonstrates how to study by using online and conventional learning simultaneously in related subject and indicates its goals and conditions to the students so they can clearly see the overall of learning process. The students must read and do after the learning instruction.
4. Proceed the experiment by using online learning and conventional learning with Information Technology 1 subject : The principle of problem solving issues by computer for M. 4 students. Time used in this subject is 8 hours per unit. The students also have to do some exercises for 3 lessons, each exercise has 3 sections and each section contains 10 points.

5. After completed lessons using online learning and conventional learning with Information Technology 1 subject: The principle of problem solving issues by computer for M. 4 students, the researcher has the students done the related achievement test then record the result as the posttest score and gives the students the post learning satisfaction questionnaire.

6. Check the posttest result of the sample : correct answer = 1 point, incorrect answer = 0 point after that test, the obtained result with statistical measurement to prove the hypotheses.

7. Analyze the online learning and conventional learning for Information Technology 1 subject: The principle of problem solving issues by computer for M. 4 students satisfaction questionnaire result by using statistic method to test the hypotheses.

Data Analysis

1. Analyzed data to find the efficiency of the teaching by using Teach Less, Learn More model : the online learning and conventional learning, according to 80/80 standard using E_1 / E_2 and (\bar{X})

2. Analyzed the comparison of the different between pretest and posttest by t-test using Dependent format.

3. Analyzed the satisfaction by using (\bar{X}) , S.D, and Alpha coefficient learning

Research Results

1. It was found that the students who learned through the online and conventional learning for Information Technology 1 subject can build their competence according to the constructivist theory and they can learn every time and everywhere with the Internet access.

2. Online media that the researcher has developed, the Teach Less, Learn More model has the overall efficiency at 80.17/80.25 which is higher than the set criteria of: 80/80. The units have the procedure efficiency (E_1) of: 88.25, 80.00 and 84.25 respectively and the result efficiency (E_2) equivalent to 80.25.

3. The posttest scores of the online in cooperating with normal learning for Information Technology 1 subject of M. 4 is statistical significantly higher than the pretest scores at the .05 level

4. The satisfaction of M. 4 students who learned through Teach Less, Learn More approach is at excellent level.

Discussion

1. The result of Teach Less, Learn More: the online and conventional learning for Information Technology I subject: The principle of problem solving issues by computer for M. 4 students using Self-regulation and Self-directed indicated that the students can learn how to solve the issues by computer through self-online learning. They can search for the source of information, knowledge, know how to obtain them. This indicated that the overall students achievement have been improved in accordance with the research of Panomrit, Chareansuk and Ananchaipattana (2011) who had studied the way of self-controlling of nursing students who have different learning potential. The results of this research indicated that the self-controlled learning in difference aspects and the statistic significantly difference by .01. Short (2015) who had studied the difference between the position and welfare organizing and self-controlling functions in order to inspect the working and self-controlling of the executives; for example, how do they promote employees position and provide

welfare. The results indicated that the self-consciousness and consideration are the most related to their position and welfare.

2. The online media the researcher has developed after the Teach Less, Learn More model has the overall efficiency at 80.17/80.25 which is higher than the standard: 80/80 the first goal. This is because the online media using in this research was created systematically using the Teach Less, Learn More model. To create this tool, the researcher had studied the related online teaching documents, media and researches then constructed the online media teaching together with conventional teaching. After that the researcher brought the completed version of the media to the thesis advisor board to had it examined and improved after their advices. The researcher also took the media, the test and the online teaching questionnaire to the expert in order to examine the content validity. To do this, all of the tools were tested with the sample: the small group of the students to prove its content validate and the practicability of activities and the time using in this learning process. After realizing the mistakes occurred during the inspection, the researcher finally improved the tools. This is why the online and conventional teaching media developed under Teach Less, Learn More concept about the principle of problem solving issues by computer for M. 4, the researcher has created is practically efficiency. This is according to Noothong (2012, p.58) who created the online computer teaching on the Internet for Film and Digital media production 1, Bachelor degree students of the film and digital media field. The research indicated that this created media has 86.12/85.75 of its efficiency which is matched for the standard and it is according to Suttisakda (2014, p.61) who did the research on the computer learning achievement comparison on the Web. Creating by Mattayom 6, the students studied with teaching assistant computer along with conventional teaching. The result average scores had been statistic significantly risen more than the pre learning average scores by .01.

Ronaldo (2012, p. 257) studied the students' attitude towards the teaching efficiency of the Computer Assisted Instruction (CAI) in Chemistry subject. The data of this teaching media used for a control group and an experiment groups. The result was analyzed and it indicated that the experiment group had more learning efficiency than the other group once they were taught by CAI. The students also had a positive attitude towards. Moreover, the learning activities arranged by teaching design, the new science related to the psychological theory, communication, education, and other sciences to help the students learn more. The aim of this teaching design is to develop the learning ability of the students therefore the researcher selected the ADDIE Model. The model for designing the teaching system to be used with the system approach in designing and developing the computer learning. To do this, the researcher has made the online teaching media after the Teach Less, Learn More concept combined with ADDIE model in every step of making the media, from the analyzing to the evaluating section, which is accorded with Tantirangsi (2011) who had studied the developing of online computer teaching on the Internet using ADDIE Model for teaching in Graphic Programming subject. The results can be summarized with 3 parts of its elements: 1) the quality of the overall lessons evaluation result done by the experts is good, 2) the overall of students' satisfaction result is good, and 3) the efficiency analyzing of the CAI has done by giving students during the lesson test and the achievement test. The results of these tests are 81.20/87.17 which is higher than the standard and it accords with the research of Ozdilek (2009) who studied the importance of ordering the teaching design using ADDIE model. The result of the research indicated that some procedures related to learning is interesting than focusing on the person.

3. The comparison of learning achievement result after the learners had been taught by the online media and the conventional teaching by using Teach Less, Learn More concept in the principle of problem solving by computer subject for M. 4. The achievement result is significantly risen by .05 calculated with statistic, this result is along well with the 1st hypotheses: the learning achievement in Information Technology I subject in which the students have completed the lesson by studying through the online learning and the conventional teaching accord with Teach Less, Learn More concept and their scores are even higher than the pre-studying. This is because online learning allows students to study every time and everywhere. This elevates their achievement test scores and it also accords with Zheng (2015) research who had studied the one time online testing by local method. He used the Local Online Learning (LOL) to help students avoid the aggressive behavior. This is accorded with the research of Leelaekniti (2013) who had studied the comparison of the learning achievement of the communicating data system on social computer for M. 4. He had the students studied on the online learning and in the conventional class. The results indicated that the certain online lesson has 94.52 / 90.48 efficiency and the learning achievement is statistical significantly different by .05. The students' achievement result is higher than the normal class one and their satisfaction on the online lessons is excellent as the showing average is 4.23.

The online lesson arranging with the normal lesson according with Teach Less, Learn More, granted the better learning to the learners. This accords with Tantiwiwat (2014) who had studied the arranging of teaching circuit analyzing in the Mechatronic field, Education and Technology Industry Faculty. He adapted the concept of Teach Less, Learn More to his research and the result done by measuring the learning behavior both outside and inside of the classroom of the certain students in the 2nd semester of 2014 is good equivalent to the research of Kachachai (2011) who studied the computer multimedia lesson developing after the Constructivist concept in Science: the organ systems in our body topic for Mattayom 6, WatUtapao school. The research result indicates that the efficiency of the certain lesson research is 82.00/81.00 which is higher than the standard: 80/80. The achievement result is higher than the pre learning by 42.67 which is accordance with the related research done by Ahmad (2014) who had studied the relation of learning environment on the Constructivist way and the facilities using the Science class. The research result indicates that the majority of the students accept the truth in CLES except in the Shared control level which is the level that did not allow them to share information. This is controlled by the teacher who defined the certain environment. The t-test was shown that the students tended to like the Constructivist learning environment than the real learning environment. ($p < 0.05$)

4. The satisfaction of M. 4 students who have been taught through the online learning and the conventional learning after the Teach Less, Learn More concept in the principle of problem solving issues by computer topic for M. 4 is excellent. This is because of the certain online lesson which was made after Teach Less, Learn More by the researcher. It is accordance with the research done by Panomrit, Chareansuk, and Anantachaipattana (2011) who had studied the learning by using self-controlling of the nursing student who have difference level of perceiving their ability. The research results are: 1) the students who have the difference ability perceiving have the self-controlled learning both in overall and each aspects differently, this can be statistically measured by .01 significantly, 2) the nursing students who have difference sources of budget have got the self-controlled learning in each aspects and overall aspect differently, this can be measured by .01 in significant statistic, 3) the nursing students who have got the different achievement results also have the different

self-controlled strategic with by .01 significant statistical measuring, and 4) the students who do not react to the self-controlling done by combining the ability perceiving variant, the budget source and the learning achievement.

All of this research results were evaluated by continuously measuring and processing to cover all the relation activity which is accordance with Wongba and Chongchaiharn (2012), the ones who had evaluated the result of CHAMPION training program by adapting the Kirkpatrick guidance. The research result indicates that most of trainees from the official organizations are females, holding Bachelor degree as their highest education level and their average age is 41.53, the standard deviation is 8.31. The level 1 evaluating indicates that most of these trainees are satisfied with the program, the experts, the techniques and the supporting factors are graded from good to excellent. The level 2 evaluating shows the average scores before receiving the training is 15.71, the standard deviation is 2.57 and the average scores after receiving the training is 25.02, the standard deviation is 1.79. The difference between the pre and post training is equivalent to 9.31. The trainees understandability both pre and post training is differently statistically significant at .05. This is consistent to the research done by Hu (2015, p. 152) who had studied the evaluation of simulation training for organizing the commercial aviation with 3 dimension and Kirkpatrick models. The simulated training was used for training the crew especially on the rooftop of the aircraft has the complicated and risk environment. The qualitative evaluation of the quality simulated training is important for it makes the practical operating on the aircraft happen. The result of the study indicates that receiving the simulated training is better than one with text books. The results found 26.80% of the trainees who have been tested for 3 rounds can be improved. This is proved the efficiency of this kind of training.

Suggestions

1. General suggestion

1.1 The research result indicates that the comparison of the learning achievement of the students learned by the online learning and the conventional learning using Teach Less, Learn More procedure on the topic of the principle of problem solving issues by the computer for M. 4, grants the involving students the higher scores before learning by this method. Therefore, the researcher suggests teachers from every department to take this technic into the consideration for further teaching.

1.2 In making this online teaching media to be used as much effective as possible for the learners, the teachers should plan the lessons, the activities, the tool and the evaluation to be as the guide for the defining objectives.

1.3 To take the online teaching media to the class, the teachers should study its content and its procedure precisely for the most effective way of using in the real field.

1.4 Before take it to students, teachers should clearly indicate the instruction and the procedure of this online teaching media for the students are able to use it correctly without facing the problem.

1.5 To use this online teaching media, the teachers should teach them well about the morality, ethics, responsibility, and honesty due to the internet searching involving in this online teaching media. If the students lack of those then this method is useless.

1.6 To take this online teaching media to other students, the teachers should appropriately adjust the time using on the activity after the students' ability for the better efficiency of the learning.

2. The suggestion for further researches.

2.1 The learning process should be researched by using technics or other kind of teachings to obtain the different invention and to completely develop the learners' ability.

2.2 There should be these online teaching media research in every departments, levels and classes because it can help boost the efficiency of learning activities.

2.3 The other sample students should be tested by it in order to see if the obtained results are same or difference.

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