

# The Use of Electronic Learning Management System to Enhance Learning and Achievement

## Case Study: Course Analysis and Design

### Students of the Program Department of Computer Information Systems

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**Abstract** - The research's objectives are to use the Electronic Learning Management System to develop a better performance regarding the learning and achievement. In the course of the System Analysis and Design of the students in Bachelor of Business Administration Program in Computer Information System. And the research's objectives are to suggest ways to develop the preliminary program for E-learning courses of Rajamangala University of Technology Isan Sakon Nakhon Campus. The researcher found that had divided for two parts: the first was to analyze the effectiveness of learning and achievement that found the average of Pre-Test of 4.26, the average of Post-Test of 4.26 and the t-test was 1.67. The researcher found the scoring of the students after learning higher than the previous. Therefore, the performance of the students has increased significantly the level of 0.05. In conclusion, to use of the Electronic Learning Management System that can enhance a better performance of the students and achievement. And the second was to analyze the satisfaction of the students per the instructional teaching regarding the E-learning Course of the System Analysis and Design that the satisfaction levels of respondents have a standard deviation of 0.62, average of 4.35

with the satisfaction of the high level.

**Keywords** - Courseware, Electronic Learning (E-Learning)

## I. INTRODUCTION

Electronic Learning (e-Learning) is a formalized learning that occurs in response to distance learning. E-Learning is a formalized learning that can occur in or out of the classroom. E-learning is learn of students who are not physically present at school that applied to the study. Teachers can be used to replace or supplement the lectures. That is especially in its emphasis on recitation and cognitive skills E-learning is tools in learning that is the effective. E-learning is tools in learning what is has developed throughout time as technology advances. Using technological tools especially the internet to promote teaching effectiveness [12]. The used of "Electronic Learning" to develop a better performance regarding learning and achievement. In the course of the System Analysis and Design of the students in Bachelor of Business Administration Program in Computer Information System. And to suggest ways to develop the preliminary program for E-learning courses of Rajamangala University of Technology Isan SakonNakhon Campus. The E-Learning are to

develop the concepts for creating a forms of the collaborative learning together with the creation of new knowledge to the students and the professor. The E-Learning are to develop a new supply sources for learner. That can adapt to the style of learning in the future as well. And the introduction of information and communication technology can be a tool to manage learning, thinking skills of the learners themselves to develop the understanding regarding the system better. And to design a new systems in order to develop a better performance for learning.

## II. OBJECTIVES

The research's objectives are to use the Electronic Learning Management System to develop a better performance regarding the learning and achievement. In the course of the System Analysis and Design of the students in Bachelor of Business Administration Program in Computer Information System. And the research's objectives are to suggest ways to develop the preliminary program for E-learning courses of Rajamangala University of Technology Isan SakonNakhon Campus.

## III. RESEARCH METHODOLOGY

### A. Population and Samples

The population and sample in this studies who was the students in Bachelor of Business Administration Program in Computer Information System in the Faculty of Industry and Technology of Rajamangala University of Technology Isan SakonNakhon Campus who enrolled in a course's 05-041- 312 which was name of the System Analysis and Design of the academic year of 2/2014.

### B. Research Tools

The Electronic Learning Management System on <http://www.classstart.org/> as test before and after learning the systems analysis and design in the semester of 2/2014 and satisfaction in The Electronic Learning Management System to develop a better performance regarding learning and achievement for the analysis and design course.

### 1) The Creating and Development Tool

- Theories, Principles document related research. Higher Education Qualifications and the National Computer for computer program. That looks similar to data from various sources to create a lesson, course of the analysis and design system. The Electronic Learning Management System on <http://www.classstart.org> of the Pre-test, Post-test and the Satisfaction Questionnaire.

- Analysis of the higher Education Qualifications content of the computer. The computer and structure of the research and to determine the extent of creating a lesson for students to analyze and design systems. The Electronic Learning Management System on <http://www.classstart.org> of a Pre-test and Post-test and a satisfaction rating. Creating lesson course analysis and system design. The tests before and after learning and satisfaction of the questionnaire draft. The scope of issues and questions with the classification in accordance with the purpose of the research.

- The analysis and design course lessons to test the Pre-Test and Post-Test. And satisfaction, as amended, provides expert examine and consider the suggestions and then determine the reliability of the content.

- Improve upon the recommendation of experts.

- The introduction of the Pre-test and Post-test. And satisfaction the questionnaires received approval to trial (Try Out) with a sample of 30 people for the confidence by pointing the way alpha coefficient and by way of Cronbach (Cronbach Alpha Coefficient) and create the analysis and system design course of the E-Learning system on <http://www.classstart.org>.

- The navigating E-Learning on <http://www.classstart.org/> to do the Pre-test and Post-test and the satisfaction that has tested confidence and determination to collect the samples for the further information.

The instruments used in research is the satisfaction of questionnaire used closed questions. And the measured interval data types to use the section of Lima, Kurt (likert scale) is divided into five levels:

- Rating satisfaction with the Electronic Learning Management System on <http://www.classstart.org/> has five levels:

The Priority Factor	The Scores
Strongly Agree	5
Agree	4
Uncertain	3
Disagree	2
Strongly Disagree	1

- The average score for the satisfaction and results in the text form, judging criteria of this table for the data analysis. A scoring average as follows:

The Average Scores	The Level
4.51 - 5.00	Strongly Agree
3.51 - 4.50	Agree
2.51 - 3.50	Agree
1.51 - 2.50	Uncertain
1.00 - 1.50	Strongly Disagree

## 2) Data Collection

- The researcher conducted a Pre-test and Post-test. And query the amount determined by the samples.

- The researcher had collected the Information Management System in E-Learning on website's classrooms that was <http://www.classstart.org/>.

- The distribution of the Pre-test and Post-test. And query the amount determined by the sample.

- The keep of the Pre-Test and Post-Test to the researcher and the questionnaires ensure the integrity and decency of the previous survey to analysis the information on the computer.

- The researcher were recorded and analyzed statistically using the computer.

- The researcher were recorded using the E-Learning on <http://www.classstart.org/> and analysis the applications by using the E-Learning on <http://www.classstart.org/> by the using on computer programs.

## 3) Data Analysis

- The data did from Pre-Test and Pro- Test what was analysis by checking the accuracy of the answers from Pre-Test and Pro-Test.

- Data analysis, the average rating of Satisfaction to use online Learning Management System. Then conclude in a form of text accompanying of table judging the data analysis.

## 4) Statistics used to Analyze the Data

Mean the sum of individual scores divided by the number of individuals.

## 5) Percentage of Frequency

Percentage of frequency is a descriptive statistics when data is entered commandments to understand the basic of the information by using the formula.

## 6) Standard Deviation

Standard Deviation is a measure that is used to dispersion of a set of data values. The standard deviation also represented by S.D. Or S.

## 7) Variance

Variance is the standard deviation squared.

## 8) Hypothesis Testing

Hypothesis Testing is the test of the answers' summary of the findings, the researchers had predicted or forecasted in advance by testing this hypothesis, according to statistics to mention the t-test in some the cases.

## C. Results and Discussion

The students have done a Pre-Test prior the classroom about Introduction to Information System Analysis. That was testing a Pre-Test just one test. And check the score of testing.

The students have done a Pre-Test prior the classroom about Introduction to Information System Analysis. That was testing a Pre-Test just one test. And check the score of testing. Then in teaching the course of Information System Analysis and Design, coupled with E-learning in classroom on <https://www.casstart.org/14267/>. And the students have done proficiency exams and test again with the original. The test knowledge Pre-Test and Post-Test of 64, but students are tested with a test of knowledge Pre-Test and Post-Test of 58 people divided into 2 groups studied are among the classes ISR3 B / 1 of 31 people. Among the study ISR3B / 2 of 27 people.

**TABLE I**  
**TEST SCORES AND THE DIFFERENCE BEFORE AND AFTER LEARNING**

Students	Test Results			
	Pre-Test	Post-Test	D	D <sup>2</sup>
ISR3B/1	$\bar{X} = 4.84$	$\bar{X} = 6.77$	60	136
ISR3B/2	$\bar{X} = 3.59$	$\bar{X} = 6.79$	86	314
Students	Test Score		Standard Deviation	
	Pre-Test	Post-Test	Pre-Test	Post-Test
ISR3B/1	4.84	6.77	0.03	0.06
ISR3B/2	3.59	6.79	0.11	0.06

The Pre-test and Post-test of the students that who was studied in ISR3B / 1 have done the test results that are the average of the previous study was 4.84, the average score for the class of 6.77 was the result of the test item, as well as 60 and 136, and the scores and results as both Pre-Test and Post-test of the students, among students ISR3B / 2 have done the test results that are the average of the previous 3.59 average rating after learning of 6.79 was the result of the test item, as well as 86 and 31 were the result of test cases. The total is 60 and the pretest and posttest standard deviation of students among the class ISR3B / 1. The standard deviation score before learning of 0.03 and standard deviation score after the study was 0.06, and the pretest and posttest. The standard deviation among school students ISR3B / 2 summarizes the standard deviation

was 0.11 points pretest posttest scores, standard deviation of 0.06.

**TABLE II**  
**TEST SCORES OF A PRE-TEST AND POST-TEST OF THE T-TEST FROM THE HYPOTHESIS BEFORE AND AFTER LEARNING**

Testing	N	$\bar{x}$	D	D <sup>2</sup>	t
Pre-Test	58	4.26	146	450	1.67*
Post-Test	58	6.79			
Testing	N	$\bar{X}$	t-Stat	t one-tail	df
Pre-Test	58	4.26	15.74	1.67	56
Post-Test	58	6.79			
Testing	N	$\bar{X}$	t-Stat	t one-tail	df
Pre-Test	58	4.26	15.74	1.67	56
Post-Test	58	6.79			
Testing	N	Cor relation	P one-tail	P two-tail	P (Sig.)
Test Results	58	0.70	0.00	0.00	0.05

\*t (0.05; df = 56) = 1.67

The test scores of the Pre-Test and Post-Test of the t found that the number of learners enrolled 64 students which enrolled and Pre-test and Post-test were 58 people on the average of the Pre-test of 4.26 and the average of the Post-Test of 6.79 The total difference in terms of a Pre-test and Post-test was 146 and the total of the Pre-test and Post-test than 450 . The test results of the t was 1.67. Hypothesis test scores before and after the study found that the t-Stat, which was 15.74 over the t-Critical One-tail was 1.67. The df value was 56. Thus reject of the hypothesis and accept the deputy concluded that the highest score of the Pre-test and Post-test.

The comparison of the test scores of the Pre-test and Post-Test considering the P (Sig.) found that the P (T <= t) one-tail was 0.00, which is less than the confidence level set is 0 .05 or p <0.05 conclude that the classes above to the first score. Therefore, the performance of students has increased significantly over the 0.05 level after teaching online course program on casstart.org. Therefore that teaching online on casstart.org which made academic of the students to analysis and experimental design in academia of 2/2014

which can develop a better performance regarding can learning and achievement.

#### **D. Discussion**

The results of application of E-learning to enhance learning and achievement that have found the number of students that enrolled for 64 people. The students who have attended and Pre-Test and Post-Test of 58 people. The students averaged the Pre-test of 4.26 average and Post-Test of 6.79. The value's difference of the total in terms of a Pre-test and Post-test was 146 and the total of the test a Pre-test and Post-test was 450 and the test results for the t of 1.67. The hypothesis test scores of a Pre-Test and Post-Test that the t-Stat, which was 15.74 over the t-Critical One-tail was 1.67 and the df value was 56. Thus reject the hypothesis and accept the secondary. The Post-Test was scoring higher than the Pre-Test. The results that the P ( $T \leq t$ ) one-tail was 0.00, which was less than the confidence level is set at 0.05 to conclude that this research objective answer. The performance of learners increased significantly the level of 0.05 after the classroom teaching with computer courses on casstart.org. Show that teaching online through the website was casstart.org .The students made academic analysis and experimental design in academia 2/2557 could enhance learning and achievement have.

#### **IV. CONCLUSIONS**

The results of application of E- learning to enhance learning and achievement that have found the number of students that enrolled for 64 people. The students who have attended and Pre-Test and Post-Test of 58 people. The students averaged the Pre-test of 4.26 average and Post-Test of 6.79. The value's difference of the total in terms of a Pre-test and Post-test was 146 and the total of the test a Pre-test and Post-test was 450 and the test results for the t of 1.67. The hypothesis test scores of a Pre-Test and Post-Test that the t-Stat, which was 15.74 over the t-Critical One-tail was 1.67 and the df value was 56. Thus reject the hypothesis and accept the secondary. The Post-Test was scoring higher than the Pre- Test. The results that the P ( $T \leq$

t) one-tail was 0.00, which was less than the confidence level is set at 0.05 to conclude that this research objective answer. The performance of learners increased significantly the level of 0.05 after the classroom teaching with computer courses on casstart.org. Show that teaching online through the website was casstart.org. The students made academic analysis and experimental design in academia 2/2557 could enhance learning and achievement have.

The recommendation of initial software development model course website for ClassStart.org which the feature is a management system that offers free online classes for all schools nationwide. Qualified as online classes (Learning Management System) has been developed to support the management, teaching a classroom back to the (Flipped Classroom) teachers to design instruction that is flexible to respond. The needs of learners easily as it can be used easily accessed anytime, from anywhere in the world just a computer and Internet access at present has 250,000 members and 15,000 class classroom education. Across Thailand (as of July 2558) average satisfaction level of users online learning management system to enhance learning and achievement. In the course of analysis and design. In the most extreme level of 48.2 percent, the extreme level 43.49 percent and 8.28 percent respectively moderate this system, which was appropriate to present a preliminary model for developed software for E-learning courses of Rajamangala University of Technology Isan SakonNakhon Campus.

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**(Arranged in the order of citation in the same fashion as the case of Footnotes.)**

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