

USING CLASSROOM RESEARCH PAPERS FOR STUDENTS OF THE FACULTY OF EDUCATION SUAN SUNUNDHA RAJABHAT UNIVERSITY

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ABSTRACT

The objectives of this research are 1) to develop classroom research teaching through the papers effectively developed according to the 80/80 standard criteria, 2) to compare the achievement between pretest and posttest on the classroom research subject in which class room research papers were used as supporting materials, and 3) to evaluate the student satisfaction towards teaching with the captioned developed papers. The sampling group used for this study through the simple method consisted of 55 students, learning in the 2nd semester of 2018 academic year, in general science of Faculty of Education, Suan Sunandha Rajabhat University. The research instrument applied for this study were the classroom research papers consisting of the 9-subject papers created by the researcher and the 5-rating scale student satisfaction evaluation form. Data analysis and statistics were percentage, arithmetic mean, standard deviation, efficiency testing of classroom research papers (E_1/E_2), comparison of achievement between pretest and posttest by using the classroom research papers with the t-test dependent simple. The research findings revealed that 1) the E_1/E_2 value of teaching efficiency by using the captioned papers was 87.06/84.72 higher than the 80/80 standard criteria, 2) the arithmetic mean and standard deviation of testing scores gained from posttest were 33.89 and 2.96, respectively whereas those gained from the pretest were 21.25 and 3.55, respectively showing an increase of testing scores gain in statistical significance level of .05, and 3) the student satisfaction towards classroom research papers and the classroom research subject arrangement in view of an overall assessment was in a very satisfied level (mean = 4.53).

Keywords: Using Classroom Research Papers, Students of Faculty of Education, Suan Sunandha Rajabhat University

INTRODUCTION

The research is the human lifestyle through which human has long time used for exploring knowledge and it has been always applied in daily life in a form of activities for learning and solving problems. The research has been carried out to understand various natural phenomenon including playing a vital role as a tool for creation and development of knowledge of various fields of sciences. Consequently, the research is then deemed as the methodical and systematic process of creation/exploration/development of knowledge and innovation (Siri Karnchanawasri and et al, 2008).

The difference between the classroom research and traditional research are; the research is learning systematically through the scientific process normally undertaken under the similar important steps of 1) determination of problem for research, 2) exploration of problem solution, 3) application of various method for problem solving, 4) recording and problem solving, and 5) conclusion and presentation of solving outcome. For the classroom research, the process to be conducted is similar to the traditional one but different in term of its objective; to solve and develop learning and teaching for highest benefit. Thus, the classroom research is the research conducted concurrently with learning and teaching activities in class (Rattana Saengbuaphuen, 2012).

With reference to the National Education Act B.E. 2542 and amendments (Volume 2) B.E. 2545, the Chapter 4 : National Education Guidelines, Section 22 states that “ Education shall be based on the principle that all learners are capable of learning and self-development, and are regards as being most important. The teaching-learning process shall enable the learners to develop themselves at their own pave and to the best of their potentiality.”, Section 24 states that “In organizing the learning process, educational institutions and agencies concerned shall (5) enable the instructors to create the ambience, environment, instructional media, and facilities for learners to learn and be all-round persons, able to benefit from research as part of the learning process. In so doing, both teachers and learners may learn together from different types of teaching-learning media and other sources of knowledge.”, and Section 30 states that “ Educational institutions shall develop effective learning processes. In so doing, they shall also encourage instructors to carry out research for

developing suitable learning for learners at different levels of education (Office of the Education Council, Ministry of Education, n.d.).

Apart from the concept and importance of research as mentioned above, as per Suwimon Wongvanich (2002), the study mentioned about the importance of research that it was the development of 3 databases; learning development database, curriculum and teaching development database and organization management database.

As the Faculty of Education, Suan Sunandha Rajabhat University plays a vital role of producing qualified teachers, the classroom research subject then avails an opportunity for students to learn principle, concept, theory and practice on the classroom research to further leverage all experiences gained from the class for their teaching practice in educational institutions as required by the teaching professional standard as well as performing their duties as teachers in accordance with principle, concept, essence of research and related laws including continuous self-development to be more professional, having career development and contributing effective organization management in due course.

OBJECTIVES

1. To develop the classroom research teaching by using developed research papers to be effective in accordance with the 80/80 standard criteria.
2. To compare the achievement between pretest and posttest on the classroom research subject in which class room research papers were used as teaching materials.
3. To evaluate the student satisfaction towards teaching with the captioned developed papers.

METHODOLOGY

Independent Variables

- Teaching material papers of the classroom research subject



Dependent Variables

- Teaching effectiveness by using classroom material research papers
- Student achievement comparison between pretest and posttest
- Student satisfaction towards teaching with the research papers

RESEARCH INSTRUMENT

The research instrument for this study consists of :

- The teaching material papers which are contained 9 subjects of concerned areas; fundamental of classroom research, problem analysis and teaching/learning development innovation, research process steps and research outlining, research designing, research instrument and verification, population and sample group, data collection, statistical analysis & data processing, research presentation, and research findings report.
- The 9-subject subjective test form to measure learning capability
- The student satisfaction evaluation form towards teaching with classroom research papers

The research papers developed by the researcher had been proposed for consideration of 5 experts for investigation on content validity and quality assessment. For developmental testing on teaching materials, the captioned papers were distributed for tryout with students in other fields whose characteristics were similar to the sampling group on individual testing (1:1) and group testing (1:9) among 30 students in which both capable and incapable ones were mixed to gain data for improvement to be matched with the defined criteria. The research instrument was applied among a total number of 55 students of the 4th- year General Science, Faculty of Education, Suan Sunandha Rajabhat University during the 2nd semester of the 2018 academic year.

RESEARCH STATISTICS

1. Statistics used for instrument verification

1.1 statistics used for teaching materials verification according to the 80/80 standard criteria was the formula E_1/E_2 .

1.2 The content validity was investigated with the index of item-objective congruence.

1.3 The reliability of satisfaction form was analyzed by the alpha-coefficient of Cronbach.

2. Basic statistics

2.1 Percentage

2.2 Arithmetic Mean

2.3 Standard Deviation

3. Statistics used for verifying the different achievement between pretest and posttest was t-test (dependent sample).

RESULTS

Table 1
Efficiency of teaching by using classroom research papers

No. of students	Score during semester (total 60 points)	Final Examination Score (40 points)
1-55	2,873	1,864
Total scores	2,873	1,864
Total mean	52.23	33.89
Testing	$E_1 = 87.06$	$E_2 = 84.72$
Interpretation	In line with the 80/80 defined criteria	

The Table 1 above shows the analysis of efficiency of scores gained from activities conducted both during semester and final examination of 55 students in sampling group and it was found that the values E_1/E_2 were equivalent to 87.06/84.72 higher than the defined standard criteria (80/80).

Table 2
Scores gained from the pretest (X) and posttest (Y) together with differences between X and Y (D) as collected from the teaching materials distributed to 55 students.

No.	Pre-learning Scores (total 40 points)	Post-learning Scores (total 40 points)	D (y - x)	D ² (y - x) ²	x ²	y ²
1-55	1,169	1,864	695	8,925	25,529	63,646
Total	1,169	1,864	695	8,925	25,529	63,646
Mean	21.25	33.89				

Table 2 shows the pretest and posttest scores and its differences.

Table 3
Comparison between pretest and posttest scores gained from teaching with the classroom research papers

Trial Group	N	\bar{x}	S.D.
Pretest	55	21.25	3.55
Posttest	55	33.89	2.96

According to the Table 3, it represents that the mean value of pretest scores are 21.25 with 3.55 standard deviation whereas the mean value of the posttest scores are 33.89 with 2.96 standard deviation.

Table 4
Comparison analysis of the student learning achievement between pretest and posttest through teaching with the classroom research papers

Trial Group	N	\bar{x}	S.D.	Df	T	Sig
Pretest	55	21.25	3.55	54	57.64	.00*
Posttest	55	33.89	2.96			

* Statistical Significance Level of .05 and df = 54

As per the above Table 4, the comparison analysis of the student achievement between pretest and posttest through teaching with the classroom research papers shows that after comparing the t Stat with the critical values of t, the df value is 54 with significance value of .05 and $t = 1.67$ and the calculated t value is 57.64 higher than the value in the table. Thus, it is concluded that the mean value of posttest scores is higher than the mean value of pretest scores with statistical significance level of .05.

Table 5
Result of the student satisfaction towards the classroom research papers and learning management of the classroom research subject

Item	List of Instructor Assessment	Mean of opinion level	Results
Learning Management and Supporting Materials			
1	Punctuality and time management of instructors	4.62	Very good
2	Clarification of teaching guideline, objectives, subject scope and learning activities	4.47	Good
3	Supporting papers, books used in each class in line with the learning objectives.	4.56	Very good
4	Facilitation of learning atmosphere and opportunity of student participation or active learning	4.53	Very good
5	The extensive knowledge with clear explanation and inclusive teaching of instructors	4.55	Very good
6	Understandable and step-by-step teaching process of instructors	4.42	Good
7	Recommendation on additional reference resources to encourage students' self-learning	4.49	Good
8	Provision of diversified teaching supporting materials such as tools, real samples, textbooks, websites attracting and enhancing students' learning awareness	4.53	Very good
9	Assessment of students' understanding during learning/teaching process including suggestion for their error correction	4.51	Very good
10	Appropriateness and fairness of determined score criteria	4.44	Good
Accumulated scores : Learning Management and Supporting Materials (10 items)		4.51	Very good
Facilitating Student Centered-Learning			
Item	List of Instructor Assessment	Mean of opinion level	Results
11	Flexibility of learning management and diversification of responding to learners' requirement	4.55	Very good
12	Encouragement of creative consideration, analysis, integration and assessment for students	4.58	Very good
13	Permission for students to select preferable projects/workpieces to be undertaken under the subject scope including performing real workshops.	4.56	Very good
14	The activity arrangement of knowledge exchange among students or between students and instructors such as discussion, group activity	4.64	Very good
15	Facilitating of learning through various types of media such as using of information tools, search engine, e-learning	4.51	Very good
Accumulated result of scores : Facilitating Student Centered-Learning (5 items)		4.57	Very good
Grand total scores		4.53	Very good

5 = Very good, 4 = Good, 3 = Moderate, 2 = Fair, 1 = Need Improvement

According to Table 5, the results of student satisfaction towards the teaching supporting materials and classroom research learning management shows that **an overall of assessment scores gained represents a very good level with mean value of 4.53. In view of the assessment result of learning management and teaching**

supporting materials (10 items), it represents a very good level with mean value of 4.51. Considering the mean value of each item, in sequence from high to low level or from the 1st to the 3rd, the punctuality and time management of instructors reflects a very good level with mean value of 4.62, supporting papers, books used in each class in line with the learning objectives reflects a very good level with mean value of 4.56, and the extensive knowledge with clear explanation and inclusive teaching of instructors also reflects a very good level with mean value of 4.55, respectively.

The accumulated result of scores: Facilitating Student Centered-Learning (5 items) shows a very good level with mean value of 4.57. Considering the mean value of each item, in sequence from high to low level or from the 1st to the 3rd, the activity of knowledge exchange among students or between students and instructors such as discussion, group activity reflects a very good level (mean = 4.64), the encouragement of creative consideration, analysis, integration and assessment of students reflects a good level of mean value of 4.58, and the student selection to handle their preferable projects/workpieces under the subject scope including performing real workshops also reflects a good level with mean value of 4.56, respectively.

CONCLUSION AND FUTURE WORK

The measurement of teaching efficiency from scores gained during semester and final examination after learning by using the classroom research papers collected from the sampling group of 55 respondents (students) revealed that E1/E2 are equivalent to 87.06/84.72 higher than the efficiency standard of 80/80 and represent that the classroom research teaching was conducted effectively in line with the defined criteria and the study of Tubtimthong Korbuakaew, 2018 on “The Development of Outline Learning with a Self-Learning Process in Topic Creating Electronic Books” of which the objects were 1) to develop the outline learning with a self-learning process in topic electronic books in order to meet with the efficiency standard of 80/80. 2) to study the learning achievement. 3) to study the durability of the learning of the sample after learning with online lessons created over a week ago and four week ago. The results of the study were : 1) the efficiency of the online lesson was 85.89 / 83.78 that higher than the criteria of 80/80.”

The pretest scores gained prior to teaching with the classroom research papers show mean value of 21.25 with standard deviation of 3.55 whereas the posttest scores show mean value of 33.89 with standard deviation of 2.96 and when comparing the Stat t with the critical values of t, df = 54 with statistical significance value of .05 and t = 1.67. Therefore, the Stat t is 57.64 higher than the value shown in the table reflecting that the mean value of posttest scores is higher than the pretest scores’ mean value with statistical significance level of .05.

The student satisfaction towards the classroom research papers and learning management for this captioned subject reveals that the overall satisfaction is in a very good level with mean value of 4.53. Considering the assessment result in the major item of learning management and supporting materials (10 items), it is at a very good level with mean value of 4.51 whereas the accumulated result of scores in the item of facilitating student centered-learning (5 items) is also at a very good level with mean value of 4.57. This therefore proves that the developed classroom research papers can be applied as supporting materials for effective teaching and also reflects the technique of the instructors applied by using the teaching materials in transferring knowledge to their students effectively.

ACKNOWLEDGEMENTS

I would like to express my sincere thanks to Suan Sunandha Rajabhat University for invaluable help throughout this research.

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