

THE STUDY OF LEARNING ACHIEVEMENT AND STUDENTS' SATISFACTION
ON DESIGN SOFTWARE OPERATION SKILLS THEORY KNOWLEDGE
LEARNING USING COOPERATIVE LEARNING STAD TECHNIQUE FOR 1ST
YEAR STUDENTS MAJORING IN DIGITAL MEDIA ART DESIGN CHONGZUO
COLLEGE FOR PRESCHOOL EDUCATION

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Abstract

The purposes of this research were 1) To compare the posttest scores and the pretest scores and the posttest scores with 75 percentage criteria of total. 2) To study the students' satisfaction towards cooperative learning STAD technique.

The population were sixty students from two classes in the 1st year of digital media art design major in Chongzuo college for preschool education. The sample group was 30 students, one class, selected by simple random sampling. STAD cooperative learning technique was used for design software operation skills theory knowledge learning teaching in the random sample class. The sample class was tested before and after, and the post-test learning score was compared with the pre-test learning score, and the post-test learning score was compared with the 75% standard.

The research instruments were included 1) Lesson plan of design software operation skills theory knowledge learning based on STAD cooperative learning technique. 2) The achievement test with 30 questions had a difficulty value (0.33-0.60), discriminant value (0.33--0.67) and Lovett reliability value (0.77). 3) The satisfaction questionnaire consisted of 15 items, which had the Item Objective Congruence value ($0.60 \leq IOC \leq 1.00$) and Alpha Cronbach reliability value (0.72). One-Group Pretest-Posttest Design was the research design. The statistics used for data analysis were mean, percentage, standard deviation, and t-test.

The results of the research were as follows;

1. The post-test score on design software operation skills theory knowledge learning using STAD cooperative learning technique was higher than pre-test with statistically significant at the .01 level and the post-test score was higher than 75% criteria of full score.
2. The students were satisfied with the learning activities in overall, at the highest level ($\bar{X} = 4.82$)

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Introduction

In the current instruction of digital media art design major, design software operation skills theory knowledge learning, is still based on the traditional instruction mode. Teachers ignored in the design of software operation skills in the instruction process, students to understand basic theoretical knowledge learning and guidance, students just passively accepting the teacher's explanations and ideas, knowledge absorbed by students is very small. in the design process, because of the lack of complete basic theoretical knowledge, students can't finish homework. Therefore, they lose the enthusiasm and initiative of participation, and without a sense of achievement in learning. Secondly, the traditional teaching mode limits the time for students to think independently and discuss cooperatively. In the classroom activities, therefore, single output, because teachers only tried to get all the information into students' mind, students in the preliminary understanding and application level, didn't get a good discussion and application of student to the knowledge is difficult to absorb, teaching quality cannot be improved, make students feel boring, difficult to arouse the students' interest in active learning. Passive acceptance of knowledge makes it difficult for students to take an active part in teaching, leading to a decline in students' learning enthusiasm and failure to produce better learning results. Especially for the evaluation on Design software, of last year, the students' learning achievement was lower than school criteria. (School's evaluation report, 2021) In view of this, many educators refer to relevant literature at home and abroad to study how to improve the efficiency of classroom teaching and students' participation in the classroom, so as to improve students' learning ability. More and more new teaching modes are put into teaching practice. Compared with other new teaching modes, cooperative learning has its obvious advantages. Among them, cooperative learning STAD technique is one kind of cooperative learning technique which students can get more opportunities and communicate and discuss, experience and explore, discover and solve problems. At present, more and more educators combine the theory and practice of the splicing method and apply it to the

teaching of various subjects in primary and secondary schools and even colleges and universities. Such as the study of Watchareephon Suthikornkamol (2015) on The effect of using STAD cooperative learning activities to promote English reading comprehension for hotel and tourism, was found that the post test reading comprehension scores were significantly higher than pre test scores at the .001 level and the overall results of students' satisfaction level toward learning English by using STAD cooperative learning activities was quite high (Mean = 4.06, S.D. = 0.57) Like Patchara Inrirai and Tawanrat Samrit (2016) stddied on Student's Achievement and Satisfaction when Learning the Fluid Measurement and Instruments in Industrial by the Cooperative Learning Approach with STAD type. The sample consisted of 11 students of the bachelor's degree in Agricultural and Food Technology Program, Fauly of Food and Agricultural Technology,The experiment found that, students after learning by using cooperative learning by STAD type were statistically significant higher than before learning at .01 level and the students were satisfied with the high level and an average score of 4.55. The most important factor of satisfaction was, the student can exchange and discuss ideas with another in group in the classroom and the cooperative learning by STAD type was make the students feel free.

Based on this, the author applies the STAD cooperative learning technique method to the teaching practice of digital media art design major's design software operation skills theory knowledge learning in universities to make up for its shortcomings and provide new ideas and teaching models for solving the existing problems in design software operation skills theory knowledge learning teaching at present.

Research objectives

1. To compare the learning achievement between before and after learning by using cooperative learning STAD techniques and to compare the posttest scores with 75 percentage criteria of full scores.
2. To study the students' satisfaction towards cooperative learning STAD technique.

How to conduct research

Population & Samples

The population used in this research mainly includes the students in two classes (60 students) of 1st year students majoring in digital media art design in Chongzu College for Preschool Education.

Sample group

The sample group used in this research is one class (30 students) of the 1st year students majoring in digital media art design in Chongzuo College for Preschool Education was obtained by simple random sampling.

Research Tools

This research defines the tools used in the research:

1. The lesson plans using cooperative learning STAD technique on design software operation skills theory knowledge learning for the 1st year students at Chongzuo College for Preschool Education.

2. The achievement test on design software operation skills theory knowledge learning for the 1st year students at Chongzuo College for Preschool Education.

3. The satisfaction questionnaire of the 1st year students majoring in design software operation skills theory knowledge learning using STAD cooperative learning technique at Chongzuo College for Preschool Education.

Creation and quality of tools

The tools used in the research are the tools created by the researcher, including:

1. Creating a management plan to learn Adobe premiere pro Design software operation skills knowledge learning through STAD cooperative technical STAD with learning activities have the following steps:

1.1 Study concepts, theories, principles from documents and teaching research Mathematics Plans Using STAD Cooperative Learning Techniques.

1.2 Studying the National Standard for Undergraduate Teaching Quality of Design major in Colleges and Universities (2018, Ministry of Education), digital Media Art Design major, B.E. 4111327.

1.3 According to B.E. 4111327, students study completion of Premiere Pro Design software operation skills knowledge learning.

1.4 Study the guidelines for writing a learning management plan from various documents and research at It involves writing a management plan.

1.5 Adobe premiere pro Design software operation skills knowledge learning comprehension lesson plans.

1.6 Bring the topic to write management plans.

1.7 Analyze the standard metrics,With "Premiere Pro Design software operation skills knowledge learning Score Test " for 1st year students are test.

1.8 Write a Adobe premiere pro Design software operation skills knowledge learning Learning Management Plan.

1.9 Making lesson plans. completed propose to an advisor for consideration Appropriate and on making the improvements suggested.

By using the criteria to consider the suitability of a 5- level scale as follows:

Level 5 means the most appropriate.

Level 4 means very appropriate.

Level 3 means moderate suitability.

Level 2 means less suitable.

Level 1 means least appropriate.

The findings are based on an average of the water requirements of the criteria. as follows:

Average Comment Level

4.51 – 5.00 most suitable

3.51 – 4.50 Very appropriate

2.51 – 3.50 Moderately appropriate

1.51 – 2.00 less appropriate

1.00 – 1.50 Least appropriate

Based on the average score of 3.51 or higher as a criterion to judge that experts are of the opinion that learning management plan of suitable quality and in accordance with the essence, subject matter, learning management process learning materials measurement and evaluation The results of the expert review found that the learning management plan created The means value of 4.90 means that the learning management plan created is appropriate at the highest level

1.11 Bring the revised learning management plan to experiment (Try-out) with students. The population used in this research is a 1st year students of in Digital Media Art design major, at Semester 1, Academic Year 2021, at Chongzuo College for Preschool Education. A sample of 30 people .

1.12 Making lesson plans were revised and presented to the thesis advisor, Professor. To determine the right again and complete print peers bring to the actual students. 1st year students of in Digital Media Art design major, at Semester 1, Academic Year 2021, at Chongzuo College for Preschool Education. A sample of 30 students.

2. Create test achievement, to build and find quality accordingly the steps as follows.

2.1 Study the course documents such as teacher manuals, evaluation results, learning subject groups. Chongzuo College for Preschool Education according to National Standard for Undergraduate Teaching Quality of Digital Media Art Design Majors in Colleges and Universities (2018). The researchers used Adobe Premiere Pro design software curriculum learning standards and a study unit on how to write exams - creating a standards-based test and multiple-choice quizzes.

2.2 Create a test to measure learning achievement by the learning subject and Learning standard .This is a multiple choice test. Each question has four choices and a total of 30 questions.

2.3 The test Achievement was built. Propose to a thesis advisor and making recommendations to the expert, five examining its noon match the content (a Content Our site is valid) considered by experts. Coverage of the content of the purpose Consistency between the test and its objectives Appropriateness for testing time The difficulty and the suitability of the question and options. The criteria for consideration of conformity are as follows:

+1 means when you are sure that the test measures the purpose.

0 means when you are not sure whether the test measures the purpose.

-1 means when you are sure that the test does not measure the purpose.

3. Check the satisfaction of creating a school where classes by using a learning collaborative techniques STAD with Adobe premiere pro Design software operation skills knowledge learning. Use the data obtained from the study Let's create an estimation scale questionnaire.

Level 5 means satisfaction at the highest level.

Level 4 means there is a high level of satisfaction.

Level 3 means satisfaction at a moderate level.

Level 2 means there is a low level of satisfaction.

Level 1 refers to the satisfaction of the minimum.

Has set the criteria for interpreting the means level according to the following criteria: (Somnuk Phatthiyathani, 2003)

4.51 – 5.00 means satisfaction at the highest level

3.51 – 4.50 means that there is a high level of satisfaction

2.51 – 3.50 means that the satisfaction is at a moderate level.

1.51 – 2.50 means having a low level of satisfaction.

1.00 – 1.50 means having the lowest level of satisfaction

Data Collection

In this research, the researchers conducted data collection, by the following steps:

1. Pre-test Before studying, students take a learning test which is a multiple-choice test with 4 choices of 30 questions.

2. Clear teaching content and make teaching management plan according to STAD cooperative learning technique, clear sample class. Each learning management plan consists of the process of managing learning using STAD cooperative learning technique, with the following steps: 1) Group the students According to the number of students, Group members generally include students with three different levels of academic scores: high, medium, and low following the principle of heterogeneity within the group and homogeneity between groups, students are divided into 7 groups with 4-5 people in each group. Sets roles for each group member. we can set up group leaders, recorders, rapporteurs, liaison officers, and inspectors in each team. Responsible for organizing the learning activities of this group, division of tasks, coordination and management, and ensuring the orderly development of activities. 2) Teachers teach as a class, clear teaching objective, present teaching resources and issue assignments. Members of each group cooperate and help each other to make sure that everyone has mastered the learning material, together complete homework and complete related teaching tasks. 3) Individual test, individual test in which each

student works independently on the material studied, not allowed to help each other. 4) Count the scores. After the test, the teacher makes statistics and calculates the individual progress score and group progress score. 5) Team recognition. Recognize and award individual and group rewards to motivate student progress.

3. The sample class of the 1st year students at Chongzuo College for Preschool Education will be taught according to the teaching plan by using STAD cooperative learning technique.

4. Test students' understanding using an achievement test.

5. The researchers collected data on the student's specimens arising from the activity. To evaluate creativity according to the criteria of the student evaluation.

Data Analysis

In this study, the researchers analyzed the effects of using STAD cooperative learning technique on learning achievement and satisfaction on design software operation skills theory knowledge learning for the 1st year students at Chongzuo College for Preschool Education. The data collected are as follows:

1. The results of the development of lesson plan on design software operation skills theory knowledge learning using cooperative learning STAD technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

2. The results of comparison of pre-test and post-test learning achievements and the comparison of post-test and 75% criteria of full scores by using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

3. The results of the analysis evaluated the satisfaction of students on design software operation skills theory knowledge learning using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

Summary of findings

The results of using STAD cooperative learning technique on learning achievement and satisfaction on design software operation skills theory knowledge learning for 1st year students at Chongzuo College for Preschool Education were found.

1. The post-test score on design software operation skills theory knowledge learning was higher than the pretest score with statistically significant at the level of .01 and was higher than 75% criteria of full score using STAD cooperative learning technique of 1st year students at Chongzuo College for Preschool Education.

2. The satisfaction from students was at the most level on design software operation skills theory knowledge learning using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

Table 1 Determination of the effectiveness of lesson plan on design software operation skills theory knowledge learning using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

Score	Highest score	Lowest score	Total score	Average rating	S.D.	As a percentage
Post-test score (30 points)	30	16	731	24.37	3.96	81.23**

** Statistical significance at the .01 level, $t (0.01 ; 29) = 2.46$

According to Table 1, is shows the Post-test scores during the course of a total of 30 students obtained from the post-test scores, which has a full score of 30 points. It appears that the students with the highest score of 30 points and the lowest score of 16 points. The average score of learning achievement of post-test was 24.37, representing 81.23 %.

Table 2 The Comparison of pre-test and post-test scores by using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

test score	n	\bar{X}	S.D.	df	t
Pre-test	30	11.00	3.80	29	16.83**
Post-test	30	24.37	3.96		

** Statistical significance at the .01 level, $t (0.01 ; 29) = 2.46$

According to Table 2, it shows the result of comparison of pretest and post-test learning achievement for 1st year students by using STAD cooperative learning technique on design software operation skills theory knowledge learning. Pretest with an average of 11.00 and standard deviation of 3.80 and post-test score has an average of 24.37, standard deviation equal to 3.96. and when the difference was analyzed using a t-test of 16.83, it was found that the difference was statistically significant at the .01 level, which is based on the hypothesis.

Table 3 The comparison of post-test achievement and 75% criteria of full scores by using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

test score	n	full score	threshold score	\bar{x}	S.D.	(%)	t
post-test	30	30	22.50	24.37	3.96	81.23	8.85**

** Statistical significance at the .01 level , $t (0.01 ; 29) = 2.46$

According to Table 3, A comparison of post-test score and 75% criteria of full scores on design software operation skills theory knowledge learning for 1st year students by the using of STAD cooperative learning technique with an average of 22.50 and standard deviation was 3.96. The learning achievement by using the t-value formula (t-test) showed that the t- value was 8.85, indicating that the posttest learning achievement of the 1st year students who received STAD cooperative learning technique higher than the threshold of 75% , a significant level of .01 , which is based on the hypothesis.

Table 4 Results of the satisfaction assessment of students on design software operation skills theory knowledge learning using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education.

Article No.	List	satisfaction		
		level		Interpret
		\bar{x}	S.D.	
1	Are you satisfied with the teaching plan and course arrangement of your major?	4.83	0.46	the most
2	Are you satisfied with the degree of professional knowledge acquired after using THE STAD method in your major?	4.83	0.46	the most
3	Are you satisfied with the practical skills teaching and learning materials of your major?	4.83	0.53	the most
4	Are you satisfied with the improvement of your practical operation skills through STAD?	4.93	0.25	the most

Table 4 Results of the satisfaction assessment of students on design software operation skills theory knowledge learning using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education. (Continue)

Article No.	List	satisfaction		Interpret
		level X	S.D.	
5	Are you satisfied with the STAD method to enhance your learning confidence?	4.73	0.69	the most
6	STAD method can stimulate and encourage students' learning. Are you satisfied with the learning atmosphere in class?	4.83	0.38	the most
7	With STAD, your attitude towards learning becomes more positive.	4.77	0.5	the most
8	Are you more satisfied with the process of implementing THE STAD method and working in groups, cooperating with classmates, discussing and solving problems?	4.77	0.57	the most
9	Does STAD make you more satisfied with your role playing, work tasks, and personal abilities?	4.83	0.38	the most
10	Are you satisfied that you have learned more communication skills from STAD?	4.93	0.25	the most
11	Are you satisfied with your full participation in the learning activities of STAD?	4.8	0.55	The most

Table 4 Results of the satisfaction assessment of students on design software operation skills theory knowledge learning using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education. (Continue)

Article No.	List	satisfaction		
		level		Interpret
		\bar{X}	S.D.	
12	Compared with traditional teaching, do you think STAD method is lively and interesting, and make you feel satisfied?	4.67	0.66	the most
13	Do you have more courage to communicate with your classmates or answer your teacher's questions when implementing STAD method?	4.93	0.25	the most
14	Do you think you are suitable for STAD?	4.9	0.4	the most
15	Do you prefer and satisfied with teachers using STAD method in class?	4.7	0.7	the most
Together		4.82	0.47	the most

According to Table 4, it shows that students are very satisfied with using STAD cooperative learning technique in all aspects. The mean was 4.82 and standard deviation was 0.47, which resulted in the satisfaction level at the highest level.

Discuss the results

From the research on the study of the learning achievement and students' satisfaction on design software operation skills theory knowledge learning using STAD cooperative learning technique for 1st year students majoring in design software operation skills theory knowledge learning using STAD at Chongzuo College for Preschool Education. the researcher discussed the results as follows:

1. We studied the index of learning effectiveness of students using STAD cooperative learning technique to compare the students' pre-test and post-test achievement and to study the persistence of learning. The results showed that the index of learning effectiveness of students studying using STAD cooperative learning technique on design software operation skills theory knowledge learning was 0.72 and the post-test of learning achievement was significantly higher than pre-test at the .01 level and above the threshold of 75 percent. As a result, students succeeded in such study, which is consistent with the research of Cao Yanyan (2021), studied the English reading ability of students before and after learning by using STAD cooperative learning technique with purpose to Improve students' English reading scores for 60 students in the English reading course at Grade 9 in the high school affiliated to Kashi university. The tools used in the experiment consisted of 8 lesson plans totaling 16 periods (45 minutes per class hour). The data collected were the Questionnaire, pre-test and post-test. The results show that this teaching model can improve students' participation, enthusiasm and their cooperative communicative ability and comprehensive application ability is higher after studying using STAD cooperative learning technique.

2. For 1st year students majoring in digital media art design at Chongzuo College for Preschool Education are satisfied with their learning by using STAD cooperative learning technique. The results of the satisfaction assessment were at an excellent level. It can be said that STAD cooperative learning technique can encourage students to get answers and the goal of the assigned content, to be able to work with others smoothly, which was in line with many research on the satisfaction of cooperative learning with STAD cooperative learning technique. This is consistent with the research results of Ouyang Dan, Ouyang Wenjuan (2017) on the application of A review of learning satisfaction. Therefore, it can be concluded that teaching about design software operation skills theory knowledge learning by using STAD cooperative learning technique for 1st year students majoring in digital media art design at Chongzuo College for Preschool Education. can encourage students to study more actively and be more satisfied with learning. The result of the satisfaction assessment was at excellent level, it passed the criteria set by the researcher.

Summary/Suggestions

1. Suggestions for research findings

1.1 Help students understand and accept STAD cooperative learning technique. Because some students are accustomed to traditional teaching methods, they will not adapt to or even resist cooperative learning. As a teacher, we should help students to eliminate negative psychology and take the initiative to try.

1.2 Grouping properly. Teachers should combine various factors of students and make reasonable groups as far as possible.

1.3 Set appropriate learning tasks. In this link, teachers should try their best to combine students' learning level to set learning tasks with similar difficulty.

1.4 Improve students' monitoring ability. Teachers should improve students' self-monitoring ability in this process to ensure the efficiency of classroom learning.

1.5 The evaluation methods should be diversified. Teacher evaluation content should be made according to the specific situation of the corresponding evaluation, evaluation should be objective, concrete.

2. Suggestions for the next research

The research scope of the splicing method in China is extensive, involving different subjects and different stages, but the subjects mainly focus on English reading, and the stages are mostly in primary and secondary schools. STAD cooperative learning technique was administered only to 1st year students majoring in digital media art design at Chongzuo College for Preschool Education. If the expected research objectives are effectively achieved, it will be promoted in other grades of digital media art design major, and also in exchanges and promotion in the same universities in and outside the district.

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