

The Effect of Combined DISCS (Demonstration, Interactive, Service, And Collaborative Strategies) On Grade 4 Students' Performance In EPP Class

MARY JENNIFER J. RAMOS, DEM

Teacher III/Guidance Coordinator
Pandayan Elementary School
Pandayan, Meycauayan City, Bulacan

Abstract — This action research study utilized a true-experimental pre-/post-test design to examine effect of Combined DISCS which is a combination of **D**emonstration method, **I**nteractive Computer Learning System, **S**ervice Learning, and **C**ollaborative Learning strategies on Grade 4 Students' Performance in EPP Class at Pandayan Elementary School. Thirty fourth grade students from one section participated in the discussion of lessons using the teaching intervention, Combined DISCS. The term was coined by the researcher. Another thirty comparison group students from another section were not exposed to Combined DISCS. Instead, they used the traditional lecture-discussion in tackling the lessons in EPP. The data sources included a pre/post-test multiple choice assessment and a researcher log. The intervention group's mean scores were significantly higher than the comparison group's scores which ultimately have a positive impact on their performance in EPP indicating success of the intervention. Furthermore, the intervention showed positive results for students regardless of assessed performance levels.

Keywords — *Performance In EPP, Combined DISCS, Lecture-Discussion, Elementary, Grade Four*

I. Introduction

The interest of students on EPP is often generated by the teacher. As the EPP coordinator of our school, I believe that EPP is an important subject, and EPP teachers usually create an impact as to whether or not the students have captured the concepts of EPP every time they deliver topics.

The problems met by the EPP teachers were in line with school facilities and equipment, lack of instructional materials, extra-curricular activities, students' misbehavior, insufficient support from the administration, negative attitudes of school administrators, and insufficient support from the community. The researcher attempts to look at the positive side in order to provide EPP teachers the motivation to move on with their teaching job. With the researcher's positive outlook, she will attempt to propose and develop an effective combination of teaching strategies for EPP to face the predicaments and generate interest among students for them to better love and appreciate the EPP subject.

It is the role of the teacher to have a possession of adequate knowledge of the objectives and standards of the curriculum, skills in teaching, interests, appreciation and ideals. He needs to exert effort to lead children or students into a life that is large, full, stimulating and satisfying. Some students seem naturally enthusiastic about learning, but many need or expect their instructors or teachers to inspire, challenge or stimulate them. "Effective learning in the classroom depends on the teacher's ability to maintain the interest that brought students to the course in the first place (Erickson, 1978). Not all students are motivated by the same values, needs, desires and wants. Some students are motivated by the approval of others or by overcoming challenges. Since students and classroom settings are diverse, we need to come up with a combination of teaching strategies that will work for the EPP subject and avoid sticking to the traditional lecture method or any single teaching method or strategy.

Vis-à-vis with the implementation of the K-12 program, this research focused solely on the EPP subject, considering its curricular design and considering both the traditional and new teaching strategies for the 21st century learners.

This action research utilized a combination of teaching strategies that was used as intervention. It is believed to be locally effective by the researcher after a deep and careful scrutiny of previous studies, along with her personal experiences as an EPP teacher and coordinator, and coupled by her silent but keen observation. The researcher coined the term Combined DISCs which is a combination of Demonstration method, Interactive Computer Learning System, Service Learning, and Collaborative Learning strategies. After a thorough reading and studying of related literature, she was convinced that this combination will have a positive effect on Grade 4 students' performance in EPP.

The aim of the researcher is to implement the strategy / intervention in her classroom, and in all EPP classes in the Division.

According to Alicia G. Rudio (2017), "A good strategy in EPP instruction is finding a common approach, which can be used to stimulate small learning group based on different collaborative learning methods. The importance of teacher and student involvement in the learning process must be emphasized"

She also believes that in EPP, the demonstration method can be exercised in several ways. It provides opportunity in learning new exploration and visual learning tasks from a different perspective where the teacher is also a participant. The teacher will do the work with his students for their help. Another strategy for her is the service learning method which increases motivation and retention of academic skills as specific learning goals and which are tied to existing community needs in terms of EPP instruction. By solving real problems and addressing real needs, students learn to apply EPP classroom learning to real word context. And lastly, she stated that, there are calls to move away from the traditional lecture to interactive computer learning systems that allow students access to information when and where they need it, especially in EPP.

II. Methodology

Type of Research

This action research study employed a quasi-experimental pretest-posttest comparison group design. See Figure 2 for a description of the research variables and data collected. The independent variable consisted of the type of teaching strategy employed by the teacher in teaching EPP to which students were exposed and was characterized by two levels: 1) Combined DISCs during whole class for four consecutive weeks and 2) traditional lecture-discussion (i.e., comparison group) during whole class for four consecutive weeks. Students in the intervention group experienced the utilization of the demonstration method on the first day of the week, interactive computer learning system on the second day of the week, service learning on the third day of the week, collaborative learning strategy on the fourth day of the week and a weekly assessment on the fifth day of the week for a period of one month or four consecutive weeks. Students in the comparison group experienced the traditional lecture-discussion four days a week and a weekly assessment on the last day of the week for a period of one month or four consecutive weeks. The dependent variable, performance of students in EPP, was operationally defined as the score on a multiple-choice assessment and the researcher log observations.

Independent Variable: Type of Teaching Strategy employed by the Teacher in teaching EPP		
	Intervention Group: Combined DISCs	Comparison Group: Lecture-Discussion
Dependent Variable: Performance of Students in EPP	1. Multiple Choice Assessment 2. Researcher Log Observations	1. Multiple Choice Assessment

Figure 2: Variables and Data Sources

Respondents

This action research study was conducted in Pandayan Elementary School, a semi-urban kindergarten through sixth grade school that served approximately 900 students and with 23 teachers in the division of Meycauayan. This school is presently headed by Mr. Edgar Allan R. Calora, Principal 1.

There were 30 fourth grade students in the experimental classroom under the advisory of Ms. Melody Salvador, Teacher 1. There were 30 students in the comparison classroom under the advisory of Ms. Arlene Lunaria, Teacher 1.

The researcher for this project has twenty years of teaching and administrative experience in private schools, and three years teaching experience in public school. She is a Doctor in Educational Management and presently the guidance coordinator and research committee chairperson of Pandayan Elementary School. She is the EPP subject teacher of both the intervention and comparison groups.

Sampling Method

This study made use of probability sampling. It used simple randomization and took steps to ensure all members of a population have a chance of being selected. The variation on this type of sampling that the researcher utilized was the simple random sampling where every member has an equal chance of being chosen.

The researcher utilized the lottery method. Each of the N population members of the class was assigned a unique number. The numbers were placed in a bowl and thoroughly mixed. Then, researcher, being blind folded selected n numbers. Population members having the selected numbers were included in the sample.

Instrument/Intervention

The teaching intervention occurred four consecutive days a week for 4 consecutive weeks. Each week's discussion utilized the combined DISCS – demonstration method on the first day of the week; interactive computer learning system on the second day of the week; service learning on the third day of the week; and collaborative learning strategy on the fourth week of the week. The fifth day of the week is for the weekly assessment and for the recording in the researcher's log. The amount and type of discussion varied from days one through four; however, all days 'discussions lasted for fifty (50) minutes.

Alicia G. Rudio (2017), Teacher III at Justino Sevilla High School, Arayat, Pampanga, believes that Edukasyong Pantahanan at Pangkabuhayan or EPP, is an important subject, and teachers create an impact as to whether or not the students have captured the concepts of EPP every time they deliver topics on technology and livelihood or entrepreneurship. The interest on EPP is often generated by the teacher. She also suggested several strategies which she believes will have an impact on the performance of students. The strategies include collaborative learning, demonstration, interactive computer learning system, service learning, The researcher of this study sought to find out the effect of the combined strategies, which she named combined DISCs – demonstration, interactive computer learning system, service learning, and collaborative learning strategies, to the performance of students in EPP. The researcher would like to find out whether this teaching intervention, which makes use of discussion to veer away from traditional classroom procedure of the question and answer and recitation style, best suits EPP instruction. In this way, the teacher and students cooperatively consider certain EPP topics or problems in an interactive and two-way manner and is believed to have a positive impact on students' performance.

Data Collection Procedure

The researcher asked the permission of the principal by giving a letter of request explaining the purpose of the pretest and post test that will be administered. The principal immediately signed and approved the said request.

Thirty (30) Grade 4 students from 2 sections were randomly selected and were given a pre and post test for each unit studied in EPP. There were 30 fourth grade students in the experimental classroom under the advisory of Ms. Melody Salvador, Teacher 1. There were 30 students in the comparison classroom under the advisory of Ms. Arlene Lunaria, Teacher 1.

The post test measured students understanding of the concepts that they were taught. Quizzes were collected once a week. The questions will be a in a variety of levels of Bloom’s taxonomy. The researcher chose the selected Grade 4 students to be the respondents of her study because at present, she is handling the EPP classes of all Grade 4 students.

The pretest and the post test were constructed by the researcher and were validated by the Education Program Specialist for EPP, Dr. Ramilo C. Cruz and two colleagues who have been handling EPP subjects – Jency Rodina and Marife Abad Velasco.

III. Results and Discussion

At the close of this study, the results from the multiple choice pre-and post-assessment were compared. The experimental/intervention group (n = 30) demonstrated a mean gain of eleven points (See Figure 3). The comparison group (n = 30) demonstrated a mean loss of 0.4 points (See Figure 4).

	Pretest Raw Score	Posttest Raw Score
Mean	6.7	17.73333333
Variance	12.49310345	4.685057471
Observations	30	30
Pooled Variance	8.58908046	
Hypothesized Mean Difference	0	
Df	58	
t Stat	-14.58072211	
P(T<=t) one-tail	2.34303E-21	
t Critical one-tail	1.671552763	
P(T<=t) two-tail	4.68606E-21	
t Critical two-tail	2.001717468	

Figure 3: Pre and Post Assessment Mean Scores of the Intervention Group

	Pretest Raw Score2	Posttest Raw Score
Mean	8.133333333	7.733333333
Variance	15.84367816	18.06436782
Observations	30	30
Pooled Variance	16.95402299	
Hypothesized Mean Difference	0	
Df	58	
t Stat	0.3762437	
P(T<=t) one-tail	0.354054272	
t Critical one-tail	1.671552763	
P(T<=t) two-tail	0.708108545	
t Critical two-tail	2.001717468	

Figure 4: Pre and Post Assessment Mean Scores of the Comparison Group

Comparing the post test raw scores of the two groups – intervention and comparison group, the table shows that there is a difference of 10 points favoring the intervention group (See Figure 5). The results suggest that the utilization of combined DISCS in teaching EPP positively impact the performance of Grade 4 students in the said subject.

	Posttest Raw Score (Intervention Group)	Posttest Raw Score (Comparison Group)
Mean	17.733333333	7.733333333
Variance	4.685057471	18.06436782
Observations	30	30
Pooled Variance	11.37471264	
Hypothesized Mean Difference	0	
df	58	
t Stat	11.48353009	
P(T<=t) one-tail	7.20162E-17	
t Critical one-tail	1.671552763	
P(T<=t) two-tail	1.44032E-16	
t Critical two-tail	2.001717468	

Figure 5: Post Test Mean Scores of the Intervention and the Comparison Group

The intervention group’s mean gain scores were significantly higher than the comparison group’s scores which ultimately have a positive impact on their performance in EPP indicating success of the intervention. Furthermore, the intervention showed positive results for students regardless of assessed performance on the said subject.

The researcher log was analyzed and coded for themes related to the research question. The most widely coded theme centered on student engagement during all phases of the intervention. Of the 30 entries that were made during the course of the instructional intervention, the words

“engaged,” “enjoyed,” “enthusiasm,” and “eager” appeared the most. Entries were made from the first day of the intervention up to the last day. During discussion for example, it was noted that “students were very engaged in the demonstration” or that “students have a natural curiosity about sewing skills.” Even though the second day of the intervention each week was interactive computer learning system, students expressed their love for the topic and their excitement about participating in the learning system or discussion. For example, “students gasped and raised their hands” in anticipation of the correct answer in the text. Day three of the intervention for each week was characterized by performing the skills to their schoolmates, classmates, parents or even teachers in school, engagement was very high: “students were very eager to participate, and get a little miffed at me because I can’t call on everyone every time to share their experience to the class.”

The next theme is related to the researcher’s realization of the value of collaboration and group activities. During collaborative activities, it was noted that students were so engaged with the group work. They were so eager to participate in group activities. It was also noted during the last week of the intervention, students were “more in tune for the lessons and the method of teaching...because they are already familiar with the strategy, and they know how and when demonstration will be used, and when computers will be used during discussion. They already anticipate that the skills shall be performed to the people in school and that on the fourth day of the week, group work shall be utilized.