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EFFECTS OF PAIR-SHARE APPROACH IN TEACHING SCIENCE AND HEALTH AMONG GRADE THREE PUPILS IN BURABOD ELEMENTARY SCHOOL

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ABSTRACT
This study aimed to determine the effects of pair-share approach in teaching Science and Health among Grade III pupils in Burabod Elementary School, Biliran, Biliran. This study employed the alternating strategy of the one group pretest-posttest design. The process of employing pair-share approach in teaching science among Grade III pupils was described by the teacher presenting a discussion by raising a topic or asking a specific question. The result of the pretest and post test performance in the control group indicated no difference. The result of the pretest and post test performance in the experimental group indicated a difference. The difference in the performance within the control and experimental groups in terms of incremental level and quiz performance showed a significant difference. The pupils' feedback/cases whose science performance is enhanced through the benefits obtained from the pair-share rating intervention indicated that employing the intervention of the experimental study, pupils acquired new skills in learning Science and Health. When pupils were paired, they tried out their best and refined their answers before discussing to the rest of their classmates. This enabled them to exchange ideas and provide opportunities for pupils who didn't have an answer to prepare one.

KEYWORDS: pair-share approach, Science and Health, control group, experimental group, Burabod Elementary School

INTRODUCTION
The teaching of Science and Health in the 2002 Basic Education Curriculum (BEC) expects the Filipino child, specifically the grade three learners, to develop/gain a functional understanding of science concepts and principles linked with real life situations and to acquire science skills as well as scientific attitudes and values needed in solving everyday problems.

But it is lamentable to note that the expectation cited above its not being realized due to the fact that there has been a consistent international concern for science education, alongside Mathematics and English. Such concern stemmed from the results of the Third International Mathematics and Science Study (TIMMS) where the Philippines did not perform satisfactorily.

Coral (2008) stressed that in the Philippines classroom only few pupils participated in class discussions and that they also performed poorly in examinations, particularly in the National Achievement Test (NAT). The Mean Percentage Score (MPS) will always be in the lowest rank as observed by the proponent. She has been teaching science for almost four (4) years.

Research shows that the result of the NAT given to Grade III completing elementary grades got a National Mean Percentage below the target mean score. Among those that get the lowest scores were English, Science and Health and Mathematics (Gloria, 1999).

One of the reasons identified by the study was the inadequate preparation of science teachers in the content area. Also, the teaching strategies should be provided with knowledge on various instructional approaches and techniques that would help them in teaching science effectively as further stressed by (Inciong).

In cognizance of the foregoing concern, specifically the poor learning achievement of the pupils, is a fact that alarms the Department of Education.

It is in this context that science should find ways or interventions to improve the learning achievement of the pupils.

Coral (2008) further emphasized that when pupils are actively involved in the learning, academic achievement is enhanced. Therefore, there is a need for pupils to be actively involved in class activities for mastery of the subject matter thereby enhancing their learning achievement.

One possible strategy to enhance involvement during class discussion is by exposing pupils to cooperative learning or allowing the pupils to discuss their answers with their groupmates based on the question given by the teacher. This can be done by the pair-share teaching approach.

Pair-Share Think Pair-Share teaching approach is a strategy designed to provide pupils with "food for thought" on a given topic enabling them to formulate individual ideas and share these ideas with another pupil. Rather than using a basic recitation method in which a teacher poses a question and one pupil offer a response, Pair-share encourages a high degree of pupil response and can help pupils on task (www.google.com) with think pair—share.

The goal of this study would bridge the gap on the problem faced by the teachers on Science and Health teaching and the pupils in terms of learning achievement. Results of this study shall eventually ascertain whether the pair share approach could be an effective tool in addressing the identified teaching-learning problem in Science and Health.

METHODOLOGY
This study employed the alternating strategy of the one group pretest-posttest design which focused on assessing the effects of Pair-Share Approach in Teaching Science and Health among grade III Pupils in Burabod Elementary School Biliran, Biliran. The experimental group and lecture method/control group served as the independent variables; whereas, the learning achievement in Science and Health of the Grade III Pupils in terms of the post test mean score was the dependent variable. The exam was done in the classroom.

Burabod Elementary School Burabod, Biliran, Biliran served as the venue of the study. The subject of this study was composed of 60 Grade III pupils of Burabod Elementary School. These pupils were matched according to the scores they obtained from the pretest in Science and Health for the control and experimental groupings. The first 30 pupils belonged to the experimental group and were exposed to Pair-Share approach and another 30 pupils belonged to the control group and were exposed to the traditional lecture approach.

This study utilized the researcher-made test as an instrument for the pretest and post test. It primarily intended to qualify the learning achievement of the pupils for both experimental and traditional groups. The test was administered twice, mainly for pretest and post test. It covered 35 items contained the following topics: Chemical Substances, Light and Sound Energy, Force and Motion, Sun, Earth (Land and Water).

In the gathering of data, permission was first secured. Likewise, a permit to conduct the study was obtained from the University President, Dean of the Graduate School as well as the DepEd School Division Superintendent, Supervisors and Principals of Burabod Elementary School.

The proponent conducted the study for both experimental and control groups since she was the subject-teacher in Science and Health for Grade III pupils. Learning achievement performance in the test was recorded. Data were also be collated, tallied, analyzed, interpreted, and presented in tables, graphs, and narrative description based on the variables of the study.

Data in this study were analyzed with the aid of statistical tool: Descriptive statistics just like percentage, frequency counts and mean were used to describe the respondents score in the pretest, posttest, incremental score and quizzes. The t-test was also used in determining differences in the experimental and control groups in terms of pretest, post test, incremental scores and quizzes.

RESULTS AND DISCUSSION
The Pair-Share (PS) Approach in Teaching
Science III among Grade III Pupils
Pair-Share approach empowers every pupil to become a discussion participant. This versatile strategy can be used as a pre- or post- activity, as a problem-solving tool, or as a "cognitive break" during a traditional lecture. The process started with a discussion by raising a topic or asking a specific question. Pupils think first about what they know or have learned about the topic. (Think-Pair-Share rests on constructivist learning theory that knowledge is "constructed" when prior experience confronts new ideas or situations.); have the students write down their observations. Pair each student with another student or a small group. Encourage each student to share prior knowledge about the topic with others. Expand the "share" into a whole-class discussion. Finally, with the collective prior knowledge "shared," have students read and analyze the text selection.

Pretest scores. The result of the pretest scores between the Traditional Lecture Approach (TLA) control and Pair-Share (PS) experimental groups were determined using a researcher-made test consisting of 35 items. Questions were derived from the topics in science that were delivered in the duration of the study. This is presented in Table1.

Table 1 Pretest Scores of the Control and Experimental Groups

Control Group Pretest Scores	f	Description	Experimental Group Pretest Scores	f	Description
23	1	Superior	26	2	Superior
21	2	Average	25	3	Superior
20	1	Average	22	2	Superior
19	3	Average	21	4	Average
17	3	Average	20	2	Average
16	4	Average	19	2	Average
15	2	Average	18	3	Average
14	5	Poor	17	2	Average
13	3	Poor	16	3	Average
12	2	Poor	15	4	Average
11	4	Poor	13	1	Poor
			11	1	Poor
			10	1	Poor
Total	**30**		**Total**	**30**	
Mean	**15.47**		**Mean**	**18.77**	
SD	**5.21**		**SD**	**6.25**	

The pretest scores of the control group ranged from 23-11 points. Most of the pupils got scores ranging from 11-19. Meanwhile, the experimental group pretest scores ranged from 26-10. Most of them got scores ranging from 15-26. Only one pupil obtained a description superior in the control group while 3 pupils acquired a description superior in the experimental group.

Posttest scores. The result of the post test scores of the control and experimental groups was presented in Table 2.

Table 2 Posttest Scores of the Control and Experimental Groups

Control Group Posttest Scores	f	Description	Experimental Group Posttest Scores	f	Description
24	1	Superior	35	3	Very superior
23	1	Superior	34	2	Very superior
22	1	Superior	33	4	Very superior
21	1	Average	32	2	Very superior
20	3	Average	31	1	Very superior
19	1	Average	30	3	Very superior
18	2	Average	29	6	Very superior
17	4	Average	28	3	Superior
16	2	Average	27	3	Superior
15	5	Average	26	1	Superior
14	3	Fair	25	1	Superior
13	2	Fair	24	1	Superior
12	4	Fair			
Total	**30**		**Total**	**30**	
Mean	**16.53**		**Mean**	**30.13**	
SD	**3.33**		**SD**	**5.07**	

Table 2 shows that in the posttest results, the control group attained a mean of 16.53 and obtained a standard deviation of 3.33. On the other hand, the experimental group received a mean of 30.13 and obtained a standard deviation of 5.07. In the control group, there were 3 pupils that reached the superior category, 17 pupils in average category and 9 pupils reached the poor level. On the other hand, in the experimental group, there were 9 pupils who fell under superior category and the remaining 21 students belonged to very superior level. This reveals that majority of the pupils in the experimental group belonged to very superior category. Result implies that the pair-share approach was effective that there is a higher increase of the scores of the pupils in the experimental group.

Incremental scores. The difference of the pupils' posttest and pretest is the incremental score. This is presented in Table 3.

Table 3 Incremental Performance of the Control Group and Experimental Group

Control Group Incremental Score	f	Experimental Group Incremental Score	f
7	1	15	1
4	2	15	2
3	6	14	2
2	6	13	4
1	6	12	3
0	4	11	9
-1	2	10	2
-3	2	9	4
-5	1	8	2
		2	1

38	Total	30	335	Total	30
1.27	Mean		11.17	Mean	
2.32	SD		3.32	SD	

Incremental scores of the pupils in the control group ranged from -5 to 7. Majority of them obtained 1-3 increment points. Negative to zero incremental scores mean that there is no improvement in score from pretest to post test. However, in the experimental group the highest incremental score obtained was 11 increment points and the lowest is 2. This signifies that most of the pupils had achieved a higher performance through the pair-share approach.

Quiz ratings of the control and experimental groups. Table 4 presents the quiz ratings of the pupils in the control and experimental groups.

Table 4 Quiz Ratings of the Control and Experimental Groups

Control Group Quiz Scores	f	Experimental Group Quiz Scores	f
19	1	24	2
18	1	23	4
17	3	22	6
16	1	21	4
15	3	20	4
14	3	19	3
13	2	18	2
12	4	17	4
11	4	15	1
10	4	-	-
9	1	-	-
8	2	-	-
Total	**30**	**Total**	**30**
Mean	**12.93**	**Mean**	**20.04**
SD	**4.48**	**SD**	**4.14**

The data presented in Table 3 tell the summation of the scores of the control and the experimental groups in the quizzes performance. The control group received a mean of 12.93 and obtained a standard deviation of 4.48. On the other hand, the experimental group acquired a mean of 20.04 and achieved a standard deviation of 4.14. These show that the quiz ratings of the pupils in the experimental group exposed to pair-share approach was higher than the control group who was exposed to traditional lecture approach.

RELATIONSHIP OF VARIABLES
This section presents the hypothesis tested in this study. To determine the relationship between variables, the t-test was used.
Pretest and posttest scores in the control group. The difference in the pretest and post test scores within the control group is presented in Table 5.

Table 5 Difference in the Pretest and Post test Scores in the Control Group

Control Group	N	Mean	SD	T-Computation	Tabled Value	Decision
Pretest	30	15.47	5.21	0.93	1.671	H_0 Accepted Not Significant

Post test	30	16.53	3.33			

Alpha level of significance (α) = 0.05   degree of freedom (df) = 58

The pretest had a mean of 15.47 and a standard deviation (SD) of 5.21 while the post test had a mean of 16.53 and a standard deviation (SD) of 3.33. Upon computation of the t-test at 0.05 alpha level of significance and a degree of freedom of 58, the computed T-value arrived at .93 which is less than the tabled value of 1.671. This means that the null hypothesis was accepted and concluded that there is no significant difference between the pretest and posttest in the control group.

Difference in the pretest and posttest scores in experimental group. Table 6 shows the difference in the pretest and post test scores in experimental group.

Table 6 Difference in the Pretest and Post test Scores in Experimental Group

Experimental Group	N	Mean	SD	T-Computation	Tabled Value	Decision
Pretest	30	18.77	6.25	7.72	1.671	H_0 Rejected Significant
Post test	30	30.13	5.07			

Alpha level of significance (α) = 0.05   degree of freedom (df) = 58

Based on the t-test, the difference in the pretest and post test scores in experimental group was rejected which means that there is no significant difference between the pretest and post test in experimental group.

Difference in the post test performance within the control and experimental groups. Table 7 presents the difference in post test performance within the control and experimental groups. The experimental group received a mean of 30.13 and a standard deviation of 5.07 while the control group attained a mean 16.53 and a standard deviation of 3.33. Upon computation of the t-test at 0.05 alpha level of significance and a degree of freedom of 58, the computed T-value arrived at 2.84 which is greater than the tabled value of 1.671. This means that the null hypothesis was rejected and concluded that there is a significant difference between post test performance within the control and experimental groups.

Table 7 Difference in the Posttest Performance within the Control and the Experimental Groups

Variables	N	Mean	SD	T-Computation	Tabled Value	Decision
Experimental Group	30	30.13	5.07			H_o Rejected
Control Group	30	16.53	3.33	2.84	1.671	Significant

Alpha level of significance (α) = 0.05   degree of freedom (df) = 58

Difference in the incremental scores within the control and experimental groups. Table 8 shows the difference in the incremental scores within the control and experimental groups. As gleaned from the data, the mean incremental score of the control group was 1.27 and a standard deviation of 2.32 while the mean incremental score of the experimental group was 11.17 and a standard deviation of 3.32. This implies that the incremental scores obtained by pair-share-approach group are significantly different and higher than the traditional-lecture-approach group.

Table 8 Difference in the Incremental Scores within the Control and the Experimental Groups

Variables	N	Mean	SD	T-Computation	Tabled Value	Decision
Experimental Group	30	11.17	3.32			Ho Rejected

Control Group	30	1.27	2.32	13.4		1.671	Significant

Alpha level of significance (α) = 0.05   degree of freedom (df) = 58

Difference in the quiz ratings within the control and experimental groups. Table 9 shows the difference in the quiz ratings within the control and experimental groups.

Table 9 Difference in the Quiz Ratings within the Control and the Experimental Groups

Variables	N	Mean	SD	T-Computation	Tabled Value	Decision
Experimental Group	30	20.4	4.14			H_0 Rejected
Control Group	30	12.93	4.48	6.67	1.671	Significant

Alpha level of significance (α) = 0.05   degree of freedom (df) = 58

As shown from the table, the mean quiz rating of the control group was 12.93 with a standard deviation of 4.48 while the mean quiz rating of the experimental group was 20.4 with a standard deviation of 4.14. This implies that there was a significant difference in quiz ratings within the control and experimental groups.

Pupil's feedback. The pupils revealed that the new learning approach is a very good style in teaching Science. Some said that it helped them to enhance their skills in Science and provided them eagerness to learn something out from their best. One pupil stressed out that she made better score in the post test and quiz when she was exposed to pair-share teaching approach rather than the traditional lecture approach. Furthermore, the pupils also learned to manage other's resources and coordinated works with their classmates. In fact, they were challenged to do the task and more approachable with their group because of their shared ideas and expertise. It helped them develop and expand their understanding of self and others. They became aware of variability in aptitude that may allow them to be more effective, to view errors as acceptable and to learn from failure.

CONCLUSION
The process of utilizing pair-share approach in teaching Science results to the improved academic performance of the pupils and is an effective strategy in the teaching-learning situation. The Pair-Share (PS) group obtains a slightly higher mean pretest score than the Traditional Lecture Approach (TLA) group, (M=16.53; M=15.47). The higher increase of the post test performance of the experimental group (M=30.13) compared to the control group (M=18.77) concluded that pair-share teaching approach employed as a teaching strategy in the said group is more effective than the traditional lecture approach used in the control group. In view of all these findings and ideas, it is safe to conclude that pair-share teaching approach employed in the experimental group is indeed an effective strategy and can develop a stronger foundation in acquiring concepts and skills in Science subject because this will allow the students to interact among their pairs.

RECOMMENDATIONS
The following recommendations are offered based on the findings and conclusions of the study. The Pair-Share teaching approach should be utilized by the teachers in teaching Science subject. School administrators should encourage and provide opportunities to the teachers by sending them to seminars or workshops that would enhance and update their knowledge, skills, and capabilities and be able to discover new teaching strategies in teaching Science. The pair-share approach should be valued and used not only by those teaching Science and Health but also others in the different subject areas. Future researchers are also encouraged to undertake research of the same nature in employing a larger scope of topics and duration in conducting an experimental study.

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