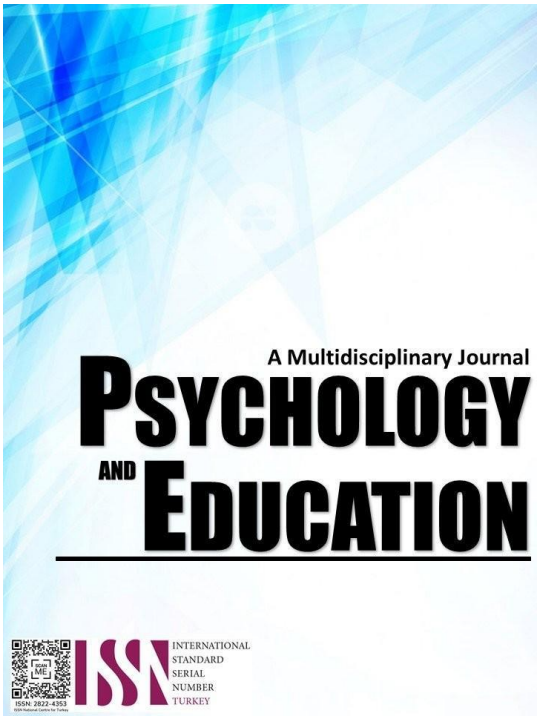
DIFFERENTIATED INSTRUCTION IN TEACHING FOURTH GRADE MATHEMATICS: BASIS FOR AN INSTRUCTIONAL MODULE



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Research Article

Differentiated Instruction in Teaching Fourth Grade Mathematics: Basis for an Instructional Module

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Abstract

This quasi-experimental study investigated the impact of differentiated instruction on the mathematical literacy of fourth-grade students at the University of St. La Salle – Integrated School. The study aimed to compare the effects of Conventional Teaching Approach (CTA) and Differentiated Instruction (DI) by analyzing pretest and posttest scores, mean gain scores, and differences in scores between the two approaches. Ninety-one students from two classes participated in the study during the 2012-2013 academic year. One class served as the Control Group, receiving CTA, while the other was the Experimental Group, receiving DI. The t-test for dependent samples was used to compare pretest and posttest scores within each group, and the t-test for independent samples was used to compare scores between groups. The results indicated a significant improvement in mathematical literacy for both groups. The Control Group showed an increase from a below-average pretest mean to an average posttest mean, while the Experimental Group also improved from below average to average. However, the Experimental Group demonstrated a higher mean gain score compared to the Control Group, suggesting that DI was more effective in enhancing mathematical literacy. The study recommends that school administrators and curriculum planners consider incorporating DI into math programs to enhance student learning. It also suggests that teachers receive training on both conventional and modern teaching approaches. Additionally, students should be encouraged to express their learning preferences, and parents should collaborate with schools to ensure quality learning. Future research is encouraged to explore similar studies in other subject areas and grade levels.

Keywords: *differentiated instruction, mathematics, instructional module*

Introduction

Mathematics is a universal language (Pierce, 2013). It is the only language known to people regardless of backgrounds, beliefs, gender, nationality, principles, or religion (Math in Daily Life, 2012). Mathematical processes (adding, subtracting, multiplying and dividing) are done exactly in the same manner regardless of the country a person belongs to. Like reading and writing, mathematics is an important component of learning and doing each academic discipline (Moursund, 2006). However, even with these facts, Mathematics is simply not every student's favorite subject.

Garcia (2011) mentioned that several students in Manila, Philippines were asked about what they thought of about mathematics and the responses the students gave were "alarming but at the same time, not surprising" as they described Mathematics as a "nightmare" and a "form of punishment". These perceptions of students regarding Mathematics affected their performance in the subject as reported by Horario (2012) stating that the Philippine Senate admitted that "the students' performance in terms of Science, Math and Technology remains lackluster, which contributed to the persistence of poverty in the country". Senator Edgardo Angara, who was then chairman of the Philippine Senate Committee on Education, Arts and Culture, even "lamented over the country's poor performance in worldwide competitiveness rankings especially in the mastery of math and science" (Horario, 2012).

Mathematical literacy has become one of the problems of the intermediate math teachers of the University of St. La Salle-Integrated School. This problem is evident in the oral and written test results of the students, most especially by those identified by the Otis-Lennon School Ability Test – Scholastic Ability Index (OLSAT-SAI) to have a below average scholastic performance. These students identified as below average have difficulties performing math tasks such as computing, analyzing, and applying mathematical concepts and ideas to real-life scenarios and perform slower as compared to their counterparts.

To see to it that the needs of these students are met, as well as avoid compromising the learning of those with average and above average scholastic performance, mathematics teachers must identify and find out the appropriate teaching approaches that would cater to the students' varying needs. In response to these concerns is Differentiated Instruction.

Varying teaching practices and strategies to meet the needs of all students in a class are the basis for the theory of differentiated instruction (Andrew, 2009). Clapper (2011) defines differentiated instruction as a student-centered approach to instruction that recognizes the varied and diverse nature of the learners, including the way they learn. It is a way of thinking about teaching and learning that leads to modifying what students learn (content), how they learn (process), and how they show what they've learned (product), based on students' individual needs (Gibson, 2005). As compared to the conventional educational practices that were based upon a

time when students were more similar in background and readiness

(Kingore, 2005), Differentiated Instruction recognizes that students differ in many ways, including prior knowledge and experiences, readiness, language, culture, learning preferences, and interests thus allowing the teachers to adapt their approaches to fit the vast diversity of students in the classroom to lead them to the same place, but take different paths (Metropolitan Center for Urban Education, 2008).

Differentiated Instruction's concept on the challenges brought about by the diversity of learners in any classroom formed the objectives of this study, particularly in the context of improving the mathematical literacy of students. As a mathematics teacher, the researcher is constantly faced with situations on how to create appealing and worthwhile activities for the students. The researcher supports the development of mathematical literacy by seeking and implementing teaching approaches that would address challenges brought about by today's educational system.

On the other hand, studies have also revealed that the conventional approaches of teaching are still effective in the teaching of math and other subject areas. It is in this regard that this study was conducted to determine the effects of using an innovative teaching approach in the form of Differentiated Instruction vis-a-vis the Conventional Teaching Approach on the mathematical literacy of the grade 4 students of the University of St. La Salle – Integrated School. The results of this study are to be used to design a teaching module to facilitate effective mathematics instruction.

Research Questions

This study aimed to determine the effects of using differentiated instruction on the mathematical literacy of the grade 4 students of the University of St. La Salle – Integrated School. Specifically, the study sought to answer the following questions:

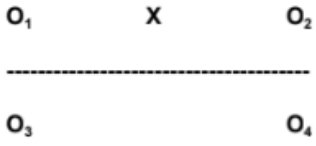
1. What are the pretest and posttest mean scores in Mathematics of the grade 4 students exposed to Conventional Teaching Approach and Differentiated Instruction?
2. What are the mean gain scores in Mathematics of the grade 4 students after exposure to Conventional Teaching Approach and Differentiated Instruction?
3. Is there a significant difference in the pretest and posttest mean scores in Mathematics of the grade 4 students exposed to Conventional Teaching Approach and Differentiated Instruction?
4. Is there a significant difference in the posttest mean scores in Mathematics of the grade 4 students exposed to Conventional Teaching Approach and Differentiated Instruction?
5. Is there a significant difference in the mean gain scores in Mathematics of the grade 4 students after exposure to Conventional Teaching Approach and Differentiated Instruction?

Methodology

This section discusses the research design, research locale, population, sample technique and sample size, the research instruments, the validity and reliability of the research instruments, the data gathering procedures, and the statistical treatment of data.

Research Design

The researcher utilized the Quasi-Experimental Design, specifically, the Nonequivalent Pretest – Posttest Control Group Design. The design is illustrated as follows:



O1 and O3 – Pretest of the Control and Experimental Groups
X – Treatment (Differentiated Instruction)
O2 and O4 – Posttest of the Control and Experimental Groups

Participants

The subjects of the study were the grade four students of the University of St. La Salle – Integrated School for academic year 2012-2013. Out of five sections in grade 4, two heterogeneous intact classes were identified as subjects of the study. They were the 4B and 4C classes having 46 students and 45 students, respectively, summing up to 91 students. The two classes identified as subjects of the study were the heterogeneous intact classes of grade 4 handled by the researcher. The researcher has looked into various factors like time, number of students in the class, scholastic ability, multiple intelligences and learning styles in the selection of the subjects of the study. To determine which of the two classes would be the Experimental Group and the Control Group, a toss coin was done. Table 1 shows the distribution of the subjects.

Table 1. *Distribution of Subjects*

Group	*Boys*	*Girls*	*Total*
Experimental Group (EG)	31	15	46
Control Group (CG)	27	18	45
Total	56	43	91

Instruments

A teacher-made test that served as pretest and posttest was utilized in this study. It was a test designed to measure the level of mathematical literacy of students in learning Math topics, specifically division, numbers theory and the concept of fractions. The teacher-made test (Appendix D) was made up of forty multiple choice test items, which included topics mentioned.

A table of specifications (Appendix C) following the A.M.T. (Acquisition, Meaning Making and Transfer) format was prepared prior to test construction to ensure proper distribution of test items while considering the level of cognition. To determine the level of mathematical literacy of the grade 4 students, the following arbitrary scale was used. Table 2 shows the Range of Scores and its corresponding verbal interpretation.

Table 2. *Pretest and Posttest Mean Scores Interpretation*

Range of Scores	*Verbal Interpretation*
32.01 - 40.00	Superior
24.01 - 32.00	Above Average
16.01 - 24.00	Average
8.01 - 16.00	Below Average
0.00 - 8.00	Low

The range of scores was attained by following these procedures: First, a range was obtained by subtracting the lowest value from the highest value. Range is the difference between the maximum and minimum values. Second, the range was divided by the number of verbal interpretations. And lastly, the quotient was then used as the interval. The verbal interpretation was adapted from the University of St. La Salle-Integrated School's OLSAT-SAI test interpretation.

Procedure

The researcher wrote a formal letter to the USLS- IS principal to request permission to conduct the experimental study. Copies of the said letter were also forwarded to the USLS-IS Vice Principal for Academics, Vice Principal for the Lower Grades and the Mathematics Department Chairperson. Details of the letter included the subjects of the study, particularly the Grades 4B and 4C and the schedule of the possible implementation of the experiment. The researcher was granted permission to conduct the study and allowed to get needed data from the University of St. La Salle - Integrated School's Guidance and Services Center to be used in grouping the subjects of the study.

The researcher and the mathematics chairperson had a talk with regards to the implementation and conduct of the experimental study. Likewise, a meeting was also held between the researcher and the Director of the Guidance Services Center in line with the data needed for the conduct of the study. These data were the Otis Lennon School Ability Test-Scholastic Ability Index (OLSAT-SAI), the Multiple Intelligences Development Assessment Scale (MIDAS), and the Learning Style Inventory (LSI). These data were used as bases for the groupings of the experimental group. Likewise, the data were also made as bases in identifying the appropriate differentiated instructional strategies employed.

Grades 4B and 4C classes were chosen as subjects of the study. Simple random sampling, specifically the Toss Coin method was employed to decide which of the two classes would be the experimental group and which would be the control group. The teacher – made test, which was validated and reliability-tested, was given to both the experimental and control group as pretest. The students in both groups were each given copies of the test to be answered on their own within 50 minutes. Before the pretest, students were encouraged to do their best to read and understand each question before answering. The researcher read the instructions and the students began to answer. After the students completed the pretest, all questionnaires were then retrieved, checked and scored. Results were noted and used as basis in answering the problems stated in the previous chapter. The schedule and duration of the conduct of the test for both groups was controlled by the researcher.

Conventional Teaching Approach

The actual implementation of the conventional teaching approach was realized after the conduct of the pretest. The Control Group followed the calendar of teaching and learning activities as designed in the teaching of the topics as seen in the scope and sequence of the Grade 4 Mathematics program of the USLS-IS. Five strategies under the conventional teaching approach namely Drill and Practice, Lecture, Problem Modelling, Direct Instruction and Notes-Taking were employed to the Control Group in teaching topics in the math chapters covered by this study, specifically Division, Number Theory and Fractions.

To ensure that the characteristics of the conventional teaching method were employed by the researcher in the conduct of her study,

invited observers were asked to observe the control group. The USLS-IS Formal Classroom Observation Form was used by the invited observers. The last day served as the implementation of the posttest. Students were reminded to read each item carefully and take their time in answering the test independently. After the posttest, the researcher collected and checked all the questionnaires. The posttest scores were noted and used for data processing.

Differentiated Instruction

The actual implementation of differentiated instruction was realized after the conduct of the pretest. Topics in math chapters covered in this study were taught using five strategies under differentiated instruction to the Experimental Group.

These differentiated instruction strategies were: Curriculum Compacting, Independent Learning, Tiered Lessons, Problem-Based Learning, and Flexible Grouping. The researcher created an eight-week plan for the topics to be taught following the modified template for planning differentiated learning. For each topic, the students will be given differentiated activities that will cater to their mental abilities, learning styles, and multiple intelligences done through the aforementioned differentiated instruction strategies.

To ensure that the characteristics of the differentiated instruction approach were employed by the researcher in the conduct of her study, invited observers were also asked to observe the experimental group. The USLS-IS Formal Classroom Observation Form was used by the invited observers. The last day served as the implementation of the posttest. Students were reminded to read each item carefully and take their time in answering the test independently. After the posttest, the researcher collected and checked all the questionnaires. The posttest scores were noted and used for data processing.

Results and Discussion

This section contains the results and discussions of the data collected to provide explanation to the problems raised for investigation. The presentation of results is done per problem followed by its discussions, interpretation and implications. The basis for interpretation in this study is the corresponding mean scores of the grade four students of the University of St. La Salle-Integrated School of academic year 2012-2013 in their pretest and posttest on the topics in division, number theory and the concept of fractions.

Moreover, this chapter also elucidates, interprets and denotes whether the differentiated instructional approach to teaching can be an effective teaching approach with regards to improving the mathematical literacy of the grade four students in comparison with the conventional teaching approach as evidenced by their pretest and posttest results.

On the pretest and posttest mean scores of the grade 4 students in Mathematics exposed to Conventional Teaching Approach and Differentiated Instruction (DI)

Table 3 shows the number of subjects exposed to the conventional teaching approach and those exposed to differentiated instruction, the mean scores and the standard deviation of the students in the pretest and posttest under the Conventional Teaching Approach and Differentiated Instruction.

Table 3. *Pretest and Posttest scores of the grade 4 students in Mathematics exposed to Conventional Teaching Approach and Differentiated Instruction (DI)*

	Pretest		*Posttest*	
	Conventional Teaching Approach	*Differentiated Instruction*	*Conventional Teaching Approach*	*Differentiated Instruction*
N	45	46	45	46
Mean	15.40	14.43	17.64	19.39
Standard Deviation	3.7014	4.3902	5.6735	5.3270
Interpretation	Below Average	Below Average	Average	Average

Table 3 reveals that before exposure to the conventional teaching approach, the mean equivalent rating in the pretest of the grade 4 students was 15.40 with a standard deviation of 3.7014. This finding was interpreted as below average. On the other hand, after the exposure to the conventional teaching approach, the mean equivalent rating in the posttest of the grade 4 students increased to 17.64 with a standard deviation of 5.6735 consequently interpreted as average.
In addition, Table 5 also shows that before exposure to Differentiated Instruction, the mean equivalent rating in the pretest of the grade 4 students was 14.43 with a standard deviation of 4.3902. The finding was given an interpretation of below average. However, after exposure to differentiated instruction, the mean equivalent rating in the posttest of the grade 4 students elevated to 19.39 with a standard deviation of 5.3270. This was given an interpretation of average.

It can be noted that posttest means are higher than the pretest means for both groups. This denotes an improvement in the test mean scores of both groups. The posttest standard deviation of both groups are also higher as compared to that of the pretest which means that the scores in the posttest are more spread as compared to that of the pretest. These findings suggest that the utilization of either the Conventional Teaching Approach or Differentiated Instruction can contribute to improvement in math test scores.

This finding supports the study of Leonor (2007), which concluded that the lecture method of teaching Chemistry was effective in increasing the academic performance of high school students. Similarly, the result confirms Dooley's (2009) finding that there was an

improvement in academic scores when differentiated instruction was used.

On the mean gain scores of the grade 4 students in Mathematics after exposure to Conventional Teaching Approach and Differentiated Instruction (DI)

Table 4 shows the mean scores, mean gain scores and the standard deviation of the mean gain scores of the students after exposure to Conventional Teaching Approach and Differentiated Instruction.

Table 4. *Mean gain scores of the Grade 4 students in Mathematics after exposure to Conventional Teaching Approach and Differentiated Instruction (DI)*

	Conventional Teaching Approach		*Differentiated Instruction*	
	Pretest	*Posttest*	*Pretest*	*Posttest*
N	45	45	46	46
Mean Scores	15.40	17.64	14.43	19.39
Mean Gain Scores	2.24		4.96	
Standard Deviation	4.40122		5.01977	

Table 4 shows that the pretest mean score of the students exposed to the Conventional Teaching Approach is 15.40 while their posttest mean score is 17.64. On the other hand, those students exposed to Differentiated Instruction have a pretest mean score of 14.43 and a posttest mean score of 19.39.

The mean gain score from the pretest mean score to the posttest mean score of the students exposed to conventional teaching approach is 2.24 while that of the students exposed to differentiated instruction is 4.96. Standard deviations of the mean gain scores of the students exposed to Conventional Teaching Approach and Differentiated Instruction are 4.40122 and 5.01977 respectively.

It can be seen that the mean gain scores of both groups are positive, thus signifying that the posttest scores are higher than the pretest scores for both groups. This implies that the utilization of Conventional Teaching Approach and Differentiated Instruction can produce increase in Mathematics test scores. However, it can be distinguished that the mean gain score of the students exposed to Differentiated Instruction (MG=4.96) is greater than those exposed to Conventional Teaching Approach (MG=2.24). This suggests that a great improvement can still be achieved by those students exposed to conventional teaching approach if they are to be taught using differentiated instruction.

This finding supports the findings of Tabligan (2012) and Cabalo (2008) which found a significant increase in the test scores of the students exposed to Differentiated Instruction.

On the significant difference in the pretest and posttest mean scores in Mathematics of the Grade 4 students exposed to the Conventional Teaching Approach and Differentiated Instruction

Table 5 illustrates the significant difference between the pretest and posttest mean scores of the grade 4 students exposed to Conventional Teaching Approach and Differentiated Instruction.

Table 5. *Significant difference in the pretest and posttest mean scores in Mathematics of the Grade 4 students exposed to Conventional Teaching Approach and Differentiated Instruction*

	Conventional Teaching Approach		*Differentiated Instruction*	
	Pretest	*Posttest*	*Pretest*	*Posttest*
N	45	45	46	46
Mean	15.40	17.64	14.43	19.39
Standard Deviation	3.7014	5.6735	4.3902	5.3270
Hypothesized Mean Difference	-2.244		-4.957	
df	44		45	
t-stat	-3.421		-6.697	
$P(T \leq t)$ two-tail	.001		.000	
Significance at 0.05	Significant		Significant	
Status of Hypothesis	Rejected		Rejected	

Table 5 shows a substantial result between the pretest and the posttest mean scores in Mathematics of the Grade 4 students exposed to the Conventional Teaching Approach and Differentiated Instruction.

Under the Conventional Teaching Approach, the table indicates a significant result between the pretest mean which is 15.40 and the post-test mean score which is 17.64 using paired samples t-test with t-stat equals -3.421 and hypothesized mean difference of -2.244. Furthermore, the p-value which resulted in 0.001 is less than the 0.05 level of significance.

Similarly, under Differentiated Instruction, significant findings were also seen between its pretest mean which is 14.43, and the posttest mean which is 19.39 using paired samples t-test with a t-stat of -6.697 and the hypothesized mean difference of -4.957. In addition, the p-value that is 0.000 is also less than the 0.05 level of significance.

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These findings show that both the Conventional Teaching Approach and Differentiated Instruction are effective teaching approaches. The significant increase in both groups' posttest means with mean differences of -2.244 and -4.957 respectively gives evidence to this. With this finding, the null hypothesis was rejected hence implying that there is a significant difference in the pretest and posttest mean scores in Mathematics of the Grade 4 students exposed to Conventional Teaching Approach and Differentiated Instruction.

This finding again supports the findings of Leonor (2007) that a significant difference was seen between the pre-test and post-test of the grade 10 high school students of the University of St. La Salle, Integrated School exposed to Lecture Method and Scientific Inquiry Method. Another finding by Cabalo (2008) was given support by the findings of this study. Cabalo (2008) also saw a significant difference between the employment of traditional learning instruction and differentiated instruction in teaching fractions in the lowest terms.

On the significant difference in the post-test scores in Mathematics of the Grade 4 students of the control group and the experimental group

Table 6 indicates no significant difference in the overall posttest mean scores in Mathematics of the Grade 4 students of the control and the experimental group.

Table 6. *A significant difference in the posttest scores in Mathematics of the Grade 4 students after exposure to Conventional Teaching Approach and Differentiated Instruction*

	Posttest	
	Conventional Teaching Approach	*Differentiated Instruction*
N	45	46
Mean	17.64	19.39
Standard Deviation	5.6735	5.3270
Hypothesized Mean Difference	-1.7467	
df	89	
t-stat	-1.515	
$P(T \leq t)$ two-tail	.133	
Significance at 0.05	No significant difference	
Status of Hypothesis	Accepted	

Table 6 shows that the mean of the posttest of the control group is 17.64 while that of the experimental group is 19.39 with a hypothesized mean difference of -1.7467. Using t-test for independent samples with t-stat of -1.515 and p-value of .133 which is greater than the .05 level of significance, the null hypothesis is accepted thus signifying that there is no significant difference in the posttest mean scores in Mathematics of the control and the experimental groups.

This result therefore proposes that both Conventional Teaching Approach and Differentiated Instruction can equally improve the mathematical literacy of the grade 4 students in Mathematics as evidenced by the test mean scores.

The finding also supports the study of Leonor (2007) on The Effects of Scientific Inquiry Method on the Academic Performance in Chemistry of High School Students in the University of St. La Salle-Integrated School which reveals that there was no significant difference in the academic performance of the students in the posttest scores of the control and the experimental group, implying that both methods were effective.

The finding likewise supports the finding of Alvarez (2008) which shows no significant difference in the level of proficiency of the Grade 2 pupils in Science when taught using Activity-based learning and Direct Instruction.

Furthermore, the finding substantiates the claim of Steedly, et. al. (2008) that instructional approaches namely systematic and explicit instruction, self-instruction, peer tutoring and visual representation found strong evidence that appear to help students with disabilities improve their math achievement.

On the significant difference in the mean gain scores in Mathematics of the Grade 4 students after exposure to Conventional Teaching Approach and Differentiated Instruction

Table 7 indicates a significant difference in the mean gain scores in Mathematics of the Grade 4 students after exposure to Conventional Teaching Approach and Differentiated Instruction.

Table 7. *Significant difference in the mean gain scores in Mathematics of the Grade 4 students after exposure to Conventional Teaching Approach and Differentiated Instruction*

	Conventional Teaching Approach	*Differentiated Instruction*
N	45	46
Mean Gain Scores	2.24	4.96
Standard Deviation	4.40122	5.01977
Hypothesized Mean Difference	-2.71208	

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df	89
t-stat	-2.738
P (T ≤ *t*) two-tail	.007
Significance at 0.05	Significant
Status of Hypothesis	Rejected

Table 7 presents that the mean gain score of the students under the conventional teaching approach is 2.24 while that of the students under differentiated instruction is 4.96 with a hypothesized mean difference of -2.71208. Using t-test for independent samples with t-stat of -2.738 and p-value of .007 which is less than the .05 level of significance, the null hypothesis is rejected thus signifying that there is a significant difference in the mean gain scores in Mathematics of the grade 4 students after exposure to the Conventional Teaching Approach and Differentiated Instruction.

This result therefore proposes that even if both the Conventional Teaching Approach and Differentiated Instruction can equally improve the mathematical literacy of the grade 4 students in Mathematics as evidenced by the mean scores, those taught using differentiated instruction gained better. This implies that if math lessons and topics were introduced and taught using Differentiated Instruction, students in the Control Group could achieve more.

This finding contrasts with the finding of Lopez (2012). He investigated the influence of the constructivist and traditional methods of teaching in the achievement scores of students. He found out that the students exposed to traditional approach performed better than those exposed to constructivist approach, considering the mean scores of the control and the experimental group.

The finding also contradicts that of Schwerdt and Wupperman (2010), which suggests that in terms of competencies tested in the TIMSS student achievement test, students taught by teachers who devote more teaching time to lecture style presentation rather than letting students solve problems on their own or with the teacher's guidance, learn more.

On the other hand, the finding corroborates the finding of Cabalo (2008) which reveals that students achieve better with a higher posttest mean and at the same time performed better as they were introduced with five differentiated instructional accommodation as compared to the traditional learning instruction which yields only a maintained posttest mean.

Likewise, the finding attests with the finding of Kaya, et. al (2007), that the students of the experimental group which employed the Multiple Intelligences Approach showed a significant increase in their achievement in and attitudes toward science as compared to those employed with traditional teaching. It also corroborates Tabligan's (2012) finding that an improvement in the reading comprehension of the students was seen after differentiated instruction was employed.

Conclusion

Based on the findings of the study, the following conclusions were drawn. The Conventional Teaching Approach employed in the Control Group effectively increased the level of mathematical literacy of the grade 4 students, as evidenced by a significant difference in their pre-test and post-test means. The Experimental Group, employed with Differentiated Instruction also displayed an increase in their mathematical literacy as evidenced by a significant difference in their pre-test and post-test means. This finding proved that Differentiated Instruction was likewise an effective teaching approach. The Conventional Teaching Approach and Differentiated Instruction are effective teaching approaches and can improve the mathematical literacy of the grade 4 students. However, Differentiated Instruction proved to be more effective in enhancing the mathematical literacy of the Grade 4 students compared to the Conventional Teaching Approach, as evidenced by a significant difference in their mean gain scores.

The following recommendations are made in light of the findings and conclusions drawn from the study. For the school administrators. They look into the findings of this study regarding the effectiveness of both the Conventional Teaching Approach and Differentiated Instruction in improving mathematical literacy, specifically that of the Grade 4 students, and make these findings as bases to supplement and update the existing math programs of the school. For curriculum planners. That they review and consider the results of this study on the effectiveness of both the Conventional Teaching Approach and Differentiated Instruction in improving mathematical literacy, specifically that of the Grade 4 students for possible inclusion in the present math curriculum that develops the ways students learn. For mathematics teachers. They are more exposed to training, conferences, lectures, seminars, and workshops on conventional and modern approaches to teaching mathematics to update themselves with the suitable approaches to be adapted. For students. They be given more chances to express their own ideas in coming up with how they learn and grasp important ideas and concepts of the lessons taught. For parents. They work hand-in-hand with the school to ensure that quality learning is achieved. For future researchers. They conduct similar studies, not only in mathematics and the grade 4 level but also in other subject areas and grade levels.

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