

DETERMINANTS OF THE EFFICACY OF MATHEMATICS INSTRUCTION IN THE SCHOOLS DIVISION OF OLONGAPO CITY

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<https://doi.org/10.54922/IJEHSS.2024.0863>

ABSTRACT

The research study aimed to determine the determinants of efficacy of Mathematics instructions in the Schools Division of Olongapo City. The study made use of the descriptive method as the main instrument to gather necessary data. The descriptive method is use for the study that needs an interpretation and analysis of the gathered data to accomplish its objectives. The researcher utilized item analysis, the use of descriptive statistics for the frequency, percentage, rank and mean. Analysis of Variance and Pearson Correlation Coefficient to determine the determinants of efficacy of mathematics instruction. The study proves that there was a highly significant difference in the perceived qualities of the Mathematics teachers when grouped according to teacher-respondent's length of service and there was a significant difference in the perceived qualities of the Mathematics teachers when grouped according to teacher-respondents' sex, civil status, grade level taught, highest educational attainment and number of relevant trainings attended for Mathematics. The researcher strongly recommended teachers to attend also in in-service trainings and workshop to improve their craft. Teacher should also pursue their graduate education to become more updated on the trend in education. Mathematics teachers shall possess qualities of an effective facilitator of learning, And, School administrator/teachers should provide textbooks, worksheets and other appropriate learner's material. Another similar study is hereby recommended to test the validity of the present study.

Keywords: Efficacy, Mathematics Instruction, Determinants, Descriptive Method.

1. INTRODUCTION

Mathematics is an extremely important subject of study. It plays an important role in forming the basis of all other sciences which deal with the material substance of space and time. Mathematics may be described as the fundamental science. It may be broadly described as the science of space, time and number. The universe exists in space and time, and its constituted of units of matter. To calculate the extension or composition of matter in space and time and to compute the units that make up the total mass of the material universe is the object of Mathematics. For the space-time quantum is everywhere full of matter and we have to know matter Mathematically in the first instance. Knowledge of Mathematics is absolutely necessary for the study of Physical Sciences, computation and calculation are the bases of all the studies that deal with matter in any form. Even the physician who has to study biological cells and bacilli need to have a knowledge of Mathematics, if he means to reduce the margin of error which alone can make his diagnosis dependable. To the mechanic and engineer it is a constant guide and help, and without exact knowledge of Mathematics, they cannot proceed one step in coming to grips with any complicated problem. Be it the airplane or the atomic bomb, radio communication or nuclear power, anything that has to do with anything concerning matter in any form, a knowledge of the

principles of Mathematics is the one thing absolutely necessary. Of course, it goes without saying that an elementary knowledge of the simplest branch of Mathematics, arithmetic is the daily requirement of every man and woman in the ordinary affairs of life. Mathematics has a most important bearing on the intellect as such. Study of Mathematics promotes habits of accuracy and exactitude, and prevents a man from being careless and slipshod. It sharpens the reasoning powers of a man and increase his mental alertness. On the whole, a mathematically minded man is usually more dependable than one who is otherwise disposed. That is why the study of some Mathematics is compulsory up to the secondary stage of all education systems, and its habit has to be sedulously fostered. In the modern age, the intensely abstract nature of pure Mathematics has brought the science nearer to philosophy. Knowledge of Mathematics is indispensable both for the man in the street as well as for scientist and philosophers. In the school curriculum, Mathematics is one of the vital subjects. Numeracy is quite needed by an individual for effective functioning in a day to day life. The child is considered to be able to relate to other people most effectively if he possesses the fundamental mastery of numbers and its operations. With such skills, his coping and learning capabilities are enhanced. The development of basic numeracy serves as the basic guidelines for Mathematics educators and teachers in undertaking projects that relate to curriculum development and evaluation.

2. OBJECTIVES OF THE STUDY

The study assessed the Mathematics instruction in the public elementary schools in the Schools Division of Olongapo City and the problem met by intermediate (Grade IV, V, VI) Mathematics teachers.

It will answer the following questions:

1. What is the professional background of the respondents in relation to the following profile variables?:
 - 1.1 Highest educational attainment;
 - 1.2 Length of service;
 - 1.3 Number of relevant trainings attended for Mathematics;
 - 1.4 Designation
 - 1.5 Sex
 - 1.6 Civil Status
2. How do the respondents assess Mathematics instruction with respect to the following components?
 - 2.1 Qualities of Mathematics Teachers
 - 2.2 Learners' Study Skills
 - 2.3 Teaching Methods and Strategies
3. What are the problems encountered by the teachers in teaching Mathematics?
4. Is there a significant difference in the perception on the qualities of the Mathematics teachers when grouped according to the teacher's profile variables?
5. Is there a significant difference in the perception on the learners' study skills when grouped according to the teachers' profile variables?
6. Is there a significant difference in the perception on the teaching methods and strategies when grouped according to the teachers' profile variable?

3. MATERIALS AND METHODS

The study made use of the descriptive method of research with the questionnaire as the primary instrument to gather the needed data. This method is the most appropriate in assessing Mathematics instruction in Schools Division of Olongapo City. Descriptive research method used to describe the nature of situation as it exists at the time to study, and to explore the courses of a particular phenomenon. The descriptive method as an activity involves collection of data in order to test hypothesis or to answer questions concerning the current status of the subject of the research. A descriptive study determines and reports the way things are. The study was conducted at the selected public elementary schools and the respondents were seventy-three (73) in Schools Division of Olongapo City.

The researcher made use of the survey questionnaire to gather data. The questionnaire was composed of three (3) parts. The first part dealt with profile of respondents those that pertain to the highest educational attainment, length of service, number of relevant trainings attended for Mathematics, designation, sex and civil status. Part II composed of reference to the essentials of Mathematics instruction such as qualities of the Mathematics Teachers, learner's study skills and instructional methods strategies and the third part includes a list of the problem encountered by teachers in teaching Mathematics.

The researcher secured permission from the Schools Division Superintendent of Olongapo City by a way of a letter request duly endorsed by the Dean of the Graduate School, President Ramon Magsaysay Technological University, Iba, Zambales. After the approval of the authorities, the questionnaires were distributed to the target respondents.

4. RESULTS AND DISCUSSIONS

Table 1. Frequency and Percentage Distribution of the Respondents by School

No.	School	Frequency	Percentage
1	Asinan Elementary School	3	4
2	Balic-Balic Elementary School	5	7
3	Banicain Elementary School	3	4
4	Baretto II Elementary School	5	7
5	Barretto I Elementary School	5	7
6	East Bajac-Bajac Elementary School	3	4
7	Gordon Heights I Elementary School	6	8
8	Gordon Heights II Elementary School	5	7
9	Ilalim Elementary School	3	4
10	Iram Elementary School	2	3
11	James L. Gordon Integrated School	3	4
12	Kalalake Elementary School	3	4
13	Mabayuan Elementary School	4	6
14	Nellie E. Brown Elementary School	3	4
15	New Cabalan Elementary School	3	4

16	Old Cabalan Integrated School	2	3
17	Olongapo City Elementary School	2	4
18	Sergia Soriano Esteban Integrated School of Kalaklan	3	4
19	Sta. Rita Elementary School	3	4
20	Tabacuhan Elementary School	3	4
21	Tapinac Elementary School	3	4
Total:		73	100

Table 2. Distribution of the Demographic Profile of Mathematics Teachers

Demographic Profile		Frequency	Percent	
Sex	Male	51	69.90	
	Female	22	30.10	
	Total	73	100.00	
Civil Status	Single	17	23.30	
	Married	55	75.30	
	Widowed	1	1.40	
	Total	73	100.00	
Grade Level Taught	Grade IV	26	35.60	
	Grade V	22	30.10	
	Grade VI	25	34.30	
	Total	73	100.00	
Length of Service (Years)	1-9	24	32.90	
	10-19	22	30.10	
	20-29	19	26.00	
	30 and above	8	11.00	
	Total:	73	100.00	
Mean = 16.17 years Designation	Teacher I	33	45.20	
	Teacher II	23	31.50	
	Teacher III	6	8.20	
	Master Teacher I	10	13.70	
	Master Teacher II	1	1.40	
	Total	73	100.00	
	Highest Educational Attainment	BSEEd/ BEED	41	56.16
		BSEd Math	2	2.74
		BSEd General Math	1	1.37
		BSEEd/BEED with Masters Units	14	19.18
BSEEd/BEEd with Doctorate Units		1	1.37	
MAEd		13	17.81	
MPA		1	1.37	

	Total	73	100.00
Number of Training Attended for Mathematics	0-4	47	64.40
	5-9	18	24.70
	10-14	6	8.20
	15-20	2	2.70
	Total	73	100.00

From a total of 73 respondents, there were more female (51 or 69.90%) than male (22 or 30.10%) teachers. There were 55 (or 75.30%) who are married compared to 1 (or 1.40%) who is widowed. There were 26 (Or 35.60%) teachers who teach Grade 4 compared to 22 (or 30.10%) who teach Grade 5 learners. The length of service of 24 (or 32.90%) teachers is from 1-9 years while 8 (or 11.00%) have served more than 30 years with a mean of 16.17 years.

Table 2 shows the distribution of the teachers’ the designation, highest educational attainment, and the number of trainings attended for Mathematics.

The designation of 33 (or45.20%) is a Teacher I compared to 1 (or 1.40%) Master Teacher II. The highest educational attainment of 41 (or 56.16%) is BSEEd/BEED; 14 (or 19.18%) are graduates of BSEEd/BEED with Master’s units, 13 (or 17.81%) are holders of MAED degree. There were 0-4 training courses attended by 47 (or 64.40%) teachers, while 2 (or 2.70%) attended 15-20 training courses in Mathematics.

Table 3. Perceptions on the Qualities of Mathematics Teachers

Qualities of Mathematics Teachers	Weighted Mean	Qualitative Interpretation	Rank
1. Provides opportunities to develop and sustain learners’ interest in Mathematics.	4.45	Always	3
2. Facilitates suitable learning experiences for the development of desirable attitudes towards Mathematics.	4.53	Always	6
3. Motivates learners to participate actively in Mathematical games and competitions in the classroom.	4.53	Always	2
4. Utilizes available materials in teaching Mathematics.	4.33	Always	5
5. Radiates enthusiasm and promotes creativity.	4.23	Always	7
6. Exercises patience and self-control in maintaining class discipline.	4.40	Always	4
7. Conducts action research for improvement of instruction.	2.90	Sometimes	10

8. Attends relevant in-service training activities to improve instructional skills and competencies.	3.89	Often	9
9. Employs a variety of instructional methodologies, strategies and techniques to facilitate the teaching and learning process.	4.15	Often	8
10. Makes fair evaluation of learners' progress in Mathematics.	4.59	Always	1
Overall Weighted Mean	4.18	Often	

The teacher-respondents perceived that the Mathematics Teacher Always “10 makes fair evaluation of learners’ progress in Mathematics (with a rating of 4.59, rank 1), but Sometimes “7. Conduct action research for improvement instruction” (with a rating of 2.90, rank 10). Overall, it was perceived that Mathematics instruction could often be assessed in terms of qualities of a Mathematics teacher, with a mean rating of 4.18.

Table 4. Perceptions of Learners’ Study Skills

Learners’ Study Skills	Weighted Mean	Qualitative Interpretation	Rank
1. Accomplish homework and daily assignments.	4.23	Always	1
2. Review lessons during free times.	3.85	Often	8
3. Take notes from teachers discussion.	3.75	Often	9
4. Instruction given by the teacher are clearly understood and followed.	4.11	Often	2
5. Submit complete and organized assignments.	3.86	Often	7
6. Perform assigned classroom tasks/duties before playing or watching TV.	3.62	Often	10
7. Attentively listen to the teacher while explaining or presenting the lessons.	3.95	Often	4
8. Show interest in doing Mathematics activities.	4.05	Often	3
9. Clarify lessons or tasks that are not understood.	3.92	Often	6
10. Accomplish assignments with the help of parents, siblings and classmates.	3.93	Often	5
Over-all Weighted Mean	3.93	Often	

Assessment of Mathematics instruction in terms of learners’ study skills as perceived by the teacher-respondents is shown in Table 5. Among the study skills, the Mathematics teachers perceived that the learners Always “1. Accomplish homework and daily assignments” (with a

rating of 4.23, rank 1) However, it was perceived that the learners Often “6. Perform assigned classroom task/duties before playing or watching TV” (with a rating of 3.62, rank 10).

Overall, it was perceived that Mathematics instruction could Often be assessed in terms of the learners’ study skills, with a mean rating of 3.93

Table 5. Perceptions on the Teaching Methods and Strategies

Teaching Methods and Strategies	Weighted Mean	Qualitative Interpretation	Rank
1. Uses Discovery Approach,	4.07	Often	5
2. Uses Problem-Solving Approach	4.21	Always	3
3. Uses Lecture-Discussion Method	3.99	Often	7.5
4. Uses Question and Answer Method	4.15	Often	4
5. Uses Drill Method	4.33	Always	1
6. Uses Cooperative Learning	4.32	Always	2
7. Uses Inductive Method	3.96	Often	9
8. Uses Deductive Method	3.89	Often	10
9. Uses Collaborative Method	4.03	Often	6
10.Uses Manipulative Method	3.99	Often	7.5
Overall Weighted Mean	4.09	Often	

The perceptions on the teaching methods and strategies as show in Table 5 were used in the Assessment of Mathematics instruction. The teacher-respondents perceived that the Mathematics Teacher Always”5. Uses Drill Method “(with a rating of 4.33, rank 1) and Often “8. Uses Deductive Method “(with a rating of 3.89, rank 10).

Overall it was perceived that the Mathematics instructions could Often be assessed in terms of the teaching methods and strategies, with a mean rating of 4.09.

Table 6. Summary of Perceptions on the Indicators of Assessment of Mathematics Instruction

Indicators of Assessment of Mathematics Instruction	Over-all Weighted Mean	Qualitative Description	Rank
Qualities of the Mathematics Teacher	4.18	Often	1
Learners’ Study Skills	3.93	Often	3
Teaching Methods and Strategies	4.09	Often	2
Overall Mean	4.07	Often	

The respondents perceived that among the indicators, the qualities of the Mathematics teacher (rank 1), teaching methods and strategies (rank 2) and the learners’ study skills (rank 3) could Often be used to assess Mathematics instruction.

Table 7. Perceptions on the Problems Encountered by Teachers in Teaching Mathematics

Table 7 shows data on the perception on the problems encountered by teachers in teaching Mathematics.

Problems Encountered by Teachers in Teaching Mathematics	Weighted Mean	Qualitative Interpretation	Rank
1. Teacher's lack of mastery of subject content and methodology.	2.70	Sometimes	9
2. Insufficient time allotment.	3.14	Sometimes	6
3. Insufficient workbook/worksheets.	3.64	Often	1
4. Inadequate textbooks and references.	3.27	Sometimes	5
5. Lack of comprehension among learners.	3.59	Often	2
6. Lack of administrative support (monitoring and supervision of instruction).	2.77	Sometimes	8
7. Non-mastery of four fundamental operations among learners.	3.47	Often	3
8. Classroom not conducive to learning.	2.40	Seldom	10
9. Inadequate instructional materials.	2.85	Sometimes	7
10. Negative attitude of learners towards the subject.	3.42	Often	4
Overall Weighted Mean	3.12	Sometimes	

The teacher-respondent perceived that "3. Insufficient workbook/worksheets was Often the problem encountered by teachers in teaching Mathematics (with a rating of 3.64, rank 1). It was perceived that "8. Classroom not conducive to learning" was Seldom the problem encountered by teachers in teaching Mathematics (with a rating of 2.40, rank 10). Overall, it was perceived that Mathematics Teachers Sometimes encountered problems, with a mean rating of 3.12.

Table 8. Difference in the Perceptions on the Qualities of the Mathematics Teachers When Grouped According to the Teachers' Demographic Variables

The data on the difference in the perception on the qualities of Mathematics teachers when grouped according to the teachers' demographic variables is shown in Table 8.

Demographic Variables	Sources of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Sex	Between Groups	0.01	1	0.01	0.06 ns	0.801
	Within Groups	8.83	71	0.12		
	Total	8.83	72			

Civil Status	Between Groups	0.00	2	0.00	0.01 ns	0.992
	Within Groups	8.83	70	0.13		
	Total	8.83	72			
Grade Level Taught	Between Groups	0.29	3	0.10	0.78 ns	0.510
	Within Groups	8.54	69	0.12		
	Total	8.83	72			
Length of Service	Between Groups	1.65	3	0.55	5.27 **	
	Within Groups	7.19	69	0.10		
	Total	8.83	72			
Designation	Between Groups	1.34	4	0.34	3.04 *	0.023
	Within Groups	7.49	68	0.11		
	Total	8.83	72			
Highest Educational Attainment	Between Groups	0.57	6	0.10	0.76 ns	0.601
	Within Groups	8.26	66	0.13		
	Total	8.83	72			
Number of Relevant Trainings Attended for Mathematics	Between Groups	0.77	3	0.26	2.19 ns	0.098
	Within Groups	8.07	69	0.12		
	Total	8.83	72			

** Highly significant at the 0.01 alpha level of significance (Ho is rejected)

*-Significant at the 0.05 alpha level of significance (Ho is rejected)

ns-Not significant (Ho is accepted)

There was highly significant difference in the perceived qualities of the Mathematics teacher when grouped according to the teacher-respondents' length of service (Sig = 0.002). The computed significance value (Sig) is less than 0.01 alpha level of significance. There was a significant difference in the perceived qualities of the Mathematics teachers when grouped according to the teacher-respondents' designation (Sig = 0.023). The computed significance value (Sig.) is less than 0.05 alpha level of significance.

There was no significant difference in the perceived qualities of Mathematics teacher when grouped according to the teacher-respondents' sex (Sig = 0.801), civil status (Sig = 0.992), grade

level taught (Sig. = 0.510), highest educational attainment, and the number of relevant trainings attended for Mathematics are greater than the 0.05 alpha level of significance.

Table 9. Post Hoc Comparison of the Treatment Means of the Perceptions on the Qualities of the Mathematics Teacher Using Duncan’s Multiple Range Test

With the highly significant difference obtained from the analysis of variance, Table 10 shows the post hoc comparison of the treatment means of the perceptions on the qualities of the Mathematics teacher for the variable length of service using the Duncan’s multiple range test.

Length of Service (Years)	Weighted Mean
30 and above	4.35
20-29	4.33
10-19	3.97
1-9	4.18
Means followed by the same letter are not significantly different	

There was highly significant difference in the weighted mean rating on the perceived qualities of the Mathematics teacher when grouped according to the respondent’s length of service. The respondents whose length of service ranged from 20-29 and 30 and above, gave significantly higher mean ratings of 4.35 and 4.33 respectively compared to 3.97 given by the teachers who have served from 10-19 years.

Table 10. Difference in the Perception on the Learners’ Study Skills When Grouped According to Teachers’ Demographic Profile

The data on the difference in the perception of learners’ study skills when grouped according to the teachers’ demographic variable is shown in Table 10.

There was no significant difference in the perceived learners’ study skills when grouped according to the teacher-respondents’ sex (Sig. = 0.422), civil status (Sig. = 0.095), grade level taught (Sig. = 0.672), length of service (Sig. = 0.442), designation (Sig. = 0.213), and the number of relevant trainings attended for Mathematics (Sig. = 0.236). The computed significance values (Sig.) for sex, civil status, grade level taught, length of service, designation and the number of relevant trainings attended for Mathematics are greater than 0.05 alpha level of significance.

Demographic Variables	Sources of Variation	Sum of Square	Df	Mean Square	F	Sig.
Sex	Between Groups	0.21	1	0.21	0.65 ns	0.422
	Within Groups	22.92	91	0.32		
	Total	23.13	72	0.75		
Civil Status	Between Groups	1.56	2	0.75	2.44 ns	0.095

	Within Groups	21.62	70	0.31		
	Total	23.13	72			
Grade Level Taught	Between Groups	0.26	2	0.13	0.40 ns	0.672
	Within Groups	22.86	70	0.33		
	Total	23.13	72			
Length of Service	Between Groups	0.88	3	0.29	0.91 ns	0.442
	Within Groups	22.25	69	0.32		
	Total	23.13	72			
Designation	Between Groups	1.87	4	0.47	1.50 ns	0.213
	Within Groups	21.25	68	0.31		
	Total	23.13	72			
Highest Educational Attainment	Between Groups	4.72	6	0.79	2.82 **	0.017
	Within Groups	18.430	66	0.28		
	Total	23.13	72			
Number of Relevant Trainings Attended for Mathematics	Between Groups	1.37	3	0.46	1.45 ns	0.236
	Within Groups	21.755	69	0.32		
	Total	23.13	72			
** - Highly significant at the 0.01 alpha level of significance (Ho is rejected) ns – Not significant (Ho is rejected)						

There was a significant difference in the perceived learners' study skills when grouped according to the teacher-respondents' highest educational attainment (Sig. = 0.017). The computed significance value (Sig.) is less than 0.05 alpha level of significance.

Table 11. Difference in the Perceptions on the Teaching Methods and Strategies When Grouped According to the Teachers' Demographic Variables

The data on the difference in the perceptions of teaching methods and strategies when grouped according to the teacher's demographic variable is shown in Table 11.

Demographic Variables	Sources of Variation	Sum of Squares	Df	Mean Square	F	Sig.
Sex	Between Groups	0.09	1	0.09	0.33	0.565

	Within Groups	19.28	71	0.27		
	Total	19.38	72			
Civil Status	Between Groups	0.60	2	0.30	1.11	0.335
	Within Groups	18.78	70	0.27		
	Total	19.38	72			
Grade Level Taught	Between Groups	0.20	3	0.07	0.25	0.865
	Within Groups	19.17	69	0.28		
	Total	19.38	72			
Length of Service	Between Groups	1.93	3	0.64	2.54	0.064
	Within Groups	17.81	68	0.26		
	Total	19.38	72			
Designation	Between Groups	1.57	4	0.39	1.50	0.213
	Within Groups	17.81	68	0.26		
	Total	19.38	72			
Highest Educational Attainment	Between Groups	0.83	6	0.14	0.50	0.810
	Within Groups	18.54	66	0.28		
	Total	19.38	72			
Number of Relevant Trainings Attended for Mathematics	Between Groups	1.40	3	0.47	1.80	0.156
	Within Groups	17.97	69	0.26		
	Total	19.38	72			
ns – Not significant (Ho is accepted)						

There was no significant difference in the perceived on the teaching methods and strategies when grouped according to the teacher-respondent’s sex (Sig. = 0.565) civil status (Sig. = 0.335), grade level taught, (Sig. = 0.865), length of service (Sig. = 0.064), designation (Sig. = 0.214), highest educational attainment (Sig. = 0.510), and the number of relevant trainings attended for Mathematics (Sig. = 0.516). The computed significance values (Sig.) for sex, civil status, grade level taught, length of service, designation. Highest educational attainment, and the number of relevant trainings attended for Mathematics are greater than the 0.05 alpha level of significance.

5. CONCLUSIONS

1. From 73 respondents, there 69.90% female than 30.10% male teachers. There were 55 who were married compared to 1 who is widowed. There were 26 who teach Grade 4 compared to 22 who teach Grade 5. The length of service of 24 teachers from 1-9 years while 8 have served more than 30 years. The designation of 33 teachers is Teacher I compared to 1

Master Teacher II. The highest educational attainment of 41 (or 56.16%) is BSEEd/BEED; 14 (or 19.18%) are graduates of BSEEd/BEED with Master's units, 13 (or 17.81%) are holders of MAED degree. There were 0-4 training courses attended by 47 (or 64.40%) teachers, while 2 (or 2.70%) attended 15-20 training courses in Mathematics.

2. In learners' study skills, the Mathematics teachers perceived that the learners, Always, accomplish daily homework and assignments however it was perceived that the learners, Often, performed assigned task/duties before playing/watching TV. In teaching Methods and Strategies, the teachers perceived that among the indicators, the qualities of Mathematics Teachers Always, uses Drill Method, and Often, uses Deductive Method. The respondents perceived that among the indicators, the qualities of Mathematics teachers (rank 1), teaching methods and strategies (rank 2) and learners' study skills (rank 3) could often be used to assess Mathematics instruction.
3. In problems encountered by teacher in teaching Mathematics, the teacher perceived that Insufficient workbooks/ worksheets was often the problem encountered by teachers in teaching Mathematics and classroom not conducive to learning was seldom problem encountered. Overall, it was perceived that Mathematics Teachers Sometimes encountered problems.
4. There was highly significant difference in the perceived qualities of the Mathematics teachers when grouped according to teacher-respondents' length of service. There was also a significant difference in the perceived qualities of the Mathematics teachers when grouped according to teacher-respondent designation. There was no significant difference in the perceived qualities of the Mathematics teachers when grouped according to teacher-respondents' sex, civil status, grade level taught, highest educational attainment and the number of relevant trainings attended for Mathematics. Using Duncan's Multiple Range Test, there was a highly significant difference in the weighted mean rating on the perceived qualities of the Mathematics teachers when grouped according to respondents' length of service.
5. There was no significant difference in the perceived learners' study skills when grouped according to teacher-respondents' sex, civil status, grade level taught, and the number of relevant trainings attended for Mathematics. But, there was a significant difference in the perceived learners' study skills when grouped according to teacher-respondents' highest educational attainment.
6. There was no significant difference on the teaching methods and strategies when grouped according to teacher-respondents' sex, civil status, grade level taught and the number of relevant trainings attended for Mathematics.

6. RECOMMENDATIONS

1. Encourage learners to prioritize assignments or the school-related tasks before playing gadgets or watching TV.
2. Employ varieties of Teaching Methods Strategies to motivate learners and ensure high interest of learning.
3. Qualities of Mathematics teachers play an important role towards effective learning. They have to attend in-service trainings and workshops to improve their craft.
4. School administrator/teacher should provide textbooks, worksheets and other appropriate learner's material.
5. Teachers should continue their graduate education to become more updated on the trend in education.
6. Encourage learners to engage to some activities that boost their interest to learn Mathematics. There are ways to motivate children to love Math. Teachers may incorporate technology into the lessons. There are numerous Math applications on the market that provide students with challenging games. Another powerful trigger to cultivate love for Math is the teachers' enthusiasm in teaching.
7. Another study is highly recommended to test the validity of the study.

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