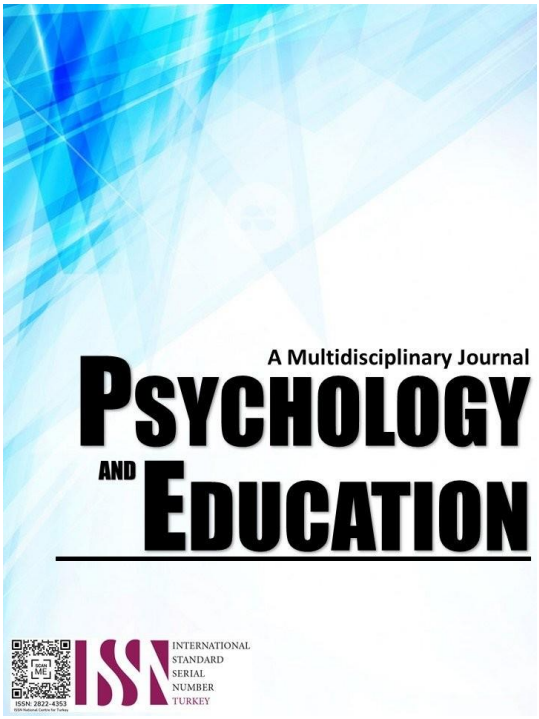
LEARNERS' DIFFICULTIES AND TEACHER - RELATED VARIABLES IN RELATION TO ACADEMIC ACHIEVEMENT OF LOW PERFORMING LEARNERS IN MATHEMATICS



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Research Article

Learners' Difficulties and Teacher - Related Variables in Relation to Academic Achievement of Low Performing Learners in Mathematics

Norhaya D. Ibad*
For affiliations and correspondence, see the last page.

Abstract

Learning mathematics is challenging to learners. It is a unique subject and it is a fundamental part of the curriculum yet Scarpello (2007) reported that seventy-five percent of Americans stop the study of mathematics and stay away from many careers related to mathematics. This study focused on the learners' difficulties encountered in learning mathematics and teacher-related variables in relation to academic achievement of low performing learners in mathematics. A researcher-made survey questionnaire was administered to 61 low performing learners of Mandanas Elementary School. The learners were purposively identified by their respective classroom advisers and have an average grade of 75 to 79 in mathematics for the first and second quarter of the academic year 2019-2020. The average grade of learners is the basis of the academic achievement of the learners and stand as the dependent variable in this study. The result shows that the learners are indeed having difficulties in learning mathematics in terms of their interest and study habits. The teacher-related variables such as personality traits, teaching skills, and instructional materials used by the teacher gained a positive rating from the learners. The result depicts that there is no significant relationship between the learners' difficulties encountered and teacher-related variables. This means that teacher-related variables or the performance of the teachers do not affect the difficulties encountered by the learners in mathematics as perceived by the learners. Finally, both the learners' difficulties and teacher-related variables have no substantial evidence to affect the academic achievement of the low performing learners in mathematics.

Keywords: *learners' difficulties, academic achievement, low performing learners, mathematics*

Introduction

Learning mathematics is challenging to learners. It is a unique subject and it is a fundamental part of school curriculum. It is an instrument for the development of all other sciences. Knowingly or unknowingly, mathematics is useful in every facet of life. However, majority of learners across the world dislike mathematics. Scarpello (2007) reported that seventy-five percent of Americans stop the study of mathematics and stay away from many careers that are related to mathematics. In such a word, those who understand and can do mathematics will have better opportunities that others who do not. Mathematical competence opens doors to productive futures. A lack of mathematical competence closes those doors. Meanwhile, learners' interests and study habits in mathematics vary as mathematics is also commonly identified as one of the most difficult subjects encountered by learners in schools and even adults. Several studies have investigated the prevalence of learning difficulties in mathematics.

If a learner performs better in mathematics subjects, the learner tends to have a lot of opportunities in his future career for he has a lot of choices considering that most of the courses nowadays involves mathematics subject. Perhaps, most of high courses deals with the use of mathematics skills such as engineering, architecture and medicine courses. Subjects might not be all math-related but some basic concept of mathematics is truly needed for the learner to perform well in the chosen course. With that, identifying the learning difficulties in terms of the learners' interest and study habits, as well as some teacher-related factors as perceived by the learners might be a great help to help learners in preparing themselves for the future and for them to cope up for today's curriculum. This might also lead in defining the poor academic achievement of the learners.

According to Schereiber (2000), those who have positive attitudes toward mathematics have a better performance in this subject. Mathematics achievement has shown that the learners from each major level of education in Asia seemed to outperform their counterparts. Many studies have examined learners' thinking about school and their attitude toward Mathematics. Mathematics performance involves a complex interaction of factors on school outcome. Although the relationship between mathematics performance and learner's factor has been studied widely, it is important to explore the factors that contribute students' mathematics performance.

Learners interest in mathematics refers to learners' motivation to learn mathematics, their confidence in their ability to succeed in mathematics and their emotional feelings about mathematics. Learners' interest in mathematics plays a key role in the acquisition of math skills and knowledge – students who are interested in the learning process will tend to learn more and be more receptive to further learning. Learners interest also has an impact upon course selection, educational pathways and later career choices.

In line with this, the Department of Education of Cotabato City Division personnel also encouraged the teaching forces to identify problems within the schools particularly within classrooms. It was advised also to do researches and suggested to divert the focus on other subject area such as science and mathematics instead of making researches focuses on reading problems because there were already a lot of researches submitted to the division concerning reading problems of learners. One of the reasons of the said encouragement is the alarming rate of the Cotabato City Division in the previous National Achievement Test which was only 36% that made Cotabato City Division one of the last three low performing division in Region XII. With that, the division personnel are expecting

the teaching forces to come up with researches in identifying the problems of the learners and to have suggestions and solutions for the problem.

With the foregoing premises, the researcher ventured to study the learners' difficulties and teacher-related variables in relation to academic performance of low performing learners in mathematics at Mandanas Elementary School.

Research Questions

The study determined the learners' difficulties and teacher-related variables in relation to academic achievement of low performing learners in mathematics of Mandanas Elementary School. Specifically, it sought to answer the following questions:

1. What is the academic achievement of learners in math subjects?
2. What is the level of difficulty encountered by the learners in terms of:
    2.1. interest; and
    2.2. study habits?
3. What are the ratings of the learners on teacher-related variables in terms of:
    3.1. personality traits;
    3.2. teaching skills; and
    3.3. instructional materials used?
4. Is there a significant relationship between the difficulties encountered by the learners and their academic achievement in math?
5. Is there a significant relationship between the difficulties encountered by the learners and the teacher-related variables as evaluated by the learners?

Methodology

Research Design

This study determined the difficulties encountered by low performing learners in learning mathematics at Mandanas Elementary School. The descriptive – correlation method was used in this study.

In descriptive method, Calmorin (1994) as cited by Bagayana (2006), wrote that the study focuses on the present condition. The purpose is to find new truth, which may come in different forms such as increased quantity of knowledge, a new generalization, or increased insights into variables, which are operating, the discovery of a new causal relationship, a more accurate formulation of the problem to be solved and many others.

Since this study measures data that already exists and the number of respondents is not large, the descriptive – correlation method of studies was best suited. As mentioned, the learners' difficulties in terms of interest and study habits, and the teachers-related variables in terms of personality traits, teaching skills and instructional materials used were generated using researcher – made questionnaire.

Respondents

The respondents in this study were the low performing learners in learning mathematics of Mandanas Elementary School for school year 2019-2020. Particularly, among Grade 4,5, and 6 learners whose average grade in mathematics ranges 75-79.

The study was conducted at Mandanas Elementary School located at Ruffo Mañara Street, RH10, Malagapas, Cotabato City. It is one of the small public elementary schools in District III in Schools Division of Cotabato City. It is headed by Mr. Jeriel M. Hupanda with 15 teachers.

Instruments

The main tool used in this study was a researcher – made survey questionnaire. Set of survey questionnaire was constructed for the respondents. The survey questionnaire consisted of the learners' difficulties encountered in Mathematics in terms of interest and study habits. Another set of survey questionnaire was constructed which includes teachers' personality traits, teaching skills and instructional materials used in teaching as perceived by the students.

Part 1 on the survey questionnaire obtained the learners' difficulties encountered in Mathematics in terms of their interest and study habits.

Part 2 obtained teachers' personality traits, teaching skills and instructional materials used in teaching as perceived by the learners. There were also ten (10) statements for each variable and was given one set of scale also.

Procedure

The researcher asked permission from the Schools Division Superintendent of Cotabato City Division and to the school head upon conducting the study. A letter of permission indicating the purpose of the survey was secured. A validity test to test how valid the survey questionnaire was conducted. The survey for the learners' difficulties in terms of interest and study habits were administered to the respondents. After that, the survey questionnaire of teacher - related variables as perceived by the learners in terms of personality

traits, teaching skills and instructional materials used were also given to the respondents.

Data Analysis

After collecting the data, mean, frequency, and frequency percentage were computed to interpret the data for Problem 1. Also, mean and standard deviation were computed to analyze the survey questionnaire for statement of the Problem 2 and 3. ANOVA and Pearson r were applied to measure the relationship for Problem 4 and 5.

Results and Discussion

Academic Achievement of Identified Low Learners

The first problem of the study focused on the academic achievement of the learners. The respondents have an average grade of 75-79 in mathematics which identified them as low performing learner in this study.

Table 1 shows that nineteen (19) out of sixty-one (61) respondents or 31.1% of the population has an average grade of 78. Furthermore, seventeen (17) among the respondents or 27.9 % of the population has an average grade of 77, fifteen (15) respondents or 24.6 % of the respondents has an average grade of 79, nine respondents or 14.8% has an average grade of 76 and only one respondent or 1.6% of the population has an average grade of 75 for their first and second quarter grade in mathematics.

Table 1. *Frequency Distribution of Mathematics Achievement of Identified Low Performing Learners*

Academic Achievement	*f*	*f%*
79	15	24.6
78	19	31.1
77	17	27.9
76	9	14.8
75	1	1.6
Total	61	100.0
Mean Grade = 77.62 (fairly satisfactorily)		SD = 1. 067

It revealed that the learners' academic achievement as manifested in their grades in mathematics is fairly satisfactory ($\bar{x}$=77.62; SD = 1.067). There is a total of 61 respondents who are identified as low performing learners out of a population 150 intermediate pupils (grade 4, 5, and 6 learners) for the first and second quarter of school year 2019-2020 identified by the assigned classroom advisers. Majority of the respondents have their average grades which fall on 77 to 79.

Learners' Difficulties Encountered in Mathematics

The second problem focused on the level of learners' difficulties encountered in mathematics in terms of interest and study habits as shown in Table 2 and Table 3.

Table 2. *Level of Difficulty Encountered by the Learners in terms of Interest*

Statement	*Mean*	*Description*	*SD*
1. I am distracted with the unpleasant noise of my classmates during math class.	3.30	Strongly Agree	0.90
2. I feel hungry during math class.	2.61	Agree	1.16
3. I believe that math is not important in everyday life.	2.57	Agree	1.26
4. For me, math is hard to understand.	2.79	Agree	1.17
5. I hate dealing with numbers and worded problems.	2.10	Disagree	1.11
6. I am afraid of making mistakes while doing math because I don't like to get embarrassed inside the class.	2.57	Agree	1.19
7. I am not comfortable with the seating arrangement in the classroom.	2.51	Agree	1.23
8. I am confused of the terminologies used in math.	2.64	Agree	1.08
9. I do not like math because it is not relevant to my dream course/profession.	2.13	Disagree	1.22
10. I am afraid of sharing my ideas and opinions during discussion because I am not confident in my ideas.	2.49	Disagree	1.15
Overall Mean	2.57	Agree	1.15

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

On Interest

As reflected on Table 2, statement 1 "I am distracted with the unpleasant noise of my classmates during math class." ranked first with an average weighted mean of 3.30, SD=0.90, and a description of Strongly Agree. This entails that respondent highly unified their ratings that the unpleasant noise of their classmates contributes to their learning difficulties mathematics. In addition, six among the ten (10) statements described as Agree. These are statement 4 "For me, math is hard to understand" ($\bar{x}$=2.79, SD =1.15); statement 8 "I am confused of the terminologies used in math" ($\bar{x}$= 2.64, SD=1.08) ; statement 2 "I feel hungry during math class" ($\bar{x}$= 2.61, SD=1.16); statement 3 "I believe that math is not important in everyday life" ($\bar{x}$=2.57,SD1.26); statement 6 " I am afraid of making mistakes while doing math because I don't like to get embarrassed inside the class" ($\bar{x}$=2.57, SD=1.19); and statement 7 "I am not

comfortable with the seating arrangement in the classroom." ($\bar{x}$=2.51, SD=1.23). This implies that respondents affirmed that the above-mentioned statements are factors that contributes to their difficulties in learning mathematics.

With the idea that a learner will have a comfortable seatmate who is not noisy, the learner will increase his interest during math classes because the learner is no longer distracted and he will be able to understand those difficult terminologies operationally and will lessen their perception that mathematics is a hard subject. For the following factor, the learner said that they feel hungry during math classes. This maybe because math makes learners thinks a lot and it consume a lot of their energy in their body. For this, the learners may bring their snacks when going to school and they may have their snack before their math class starts. Above all, the learners just need to feed their stomach to make their mind works and will not humper their learning ability.

However, the table also shows that there are three statements which have a description of disagree such as statement 10 "I am afraid of sharing my ideas and opinions during discussion because I am not confident in my idea" ($\bar{x}$=2.49, SD=1.15); statement 9 "I do not like math because it is not relevant to my dream course/profession" ($\bar{x}$=2.13, SD=1.22); and statement 5 "I hate dealing with numbers and worded problems." ($\bar{x}$=2.10, SD=1.11). This explains that respondents do not consider statement 10, statement 9, and statement 5 as factors that affects their difficulties in learning mathematics.

Thus, Table 2 reflected that the respondents have positive interest in Mathematics with an over-all mean of 2.57 with a standard deviation of 1.15 and a description of Agree. This means that respondents agree that they have difficulties encountered in learning mathematics in terms of their interest. Learners' level of interest in Mathematics was rated based on the learners' self-perceived level of preparation for the mathematics subject, attention given to teacher's lectures, active participation in class, their desire to get good grades and their desire to listen to discussions or attention during the class. Specifically, respondents affirmed that statement 1, statement 4, statement 8, statement 2, statement 3, statement 6, and statement 7 contributes to their learning difficulties in mathematics while statement 10, statement 9, and statement 5 do not contribute at all

Similarly, interest in mathematics could be regarded as predictor for mathematics achievement (Heinze, & Reiss et al. 2005). To address interest as one of the difficulties learners faces in learning mathematics and as a predictor of mathematics achievement, learners with sequencing difficulties needs help to maximize their engagement and improve their retention of learning use humor, unexpected introduction and various other attention grabbers to stimulate their interest in the lesson (Fulk, 2002).

On Study Habits

Table 3. *Level of Difficulty Encountered by the Learners in terms of Study Habits*

Statement	*Mean*	*Description*	*SD*
1. I do not do assignments regularly.	2.57	Agree	1.28
2. I do not have conducive place to study at home.	2.43	Disagree	1.20
3. I do not have math books or any references at home to study.	2.79	Agree	1.05
4. I cannot study math alone.	2.21	Disagree	1.16
5. I cannot comprehend math problems well.	2.31	Disagree	1.19
6. No one motivates me to improve my math skills.	2.97	Agree	1.00
7. I do not join group studies with my classmates.	2.20	Disagree	1.14
8. Nobody helps me in doing my assignments at home.	2.49	Disagree	1.18
9. I find it difficult in getting correct solution.	2.64	Agree	1.10
10. I always struggle in dealing with numbers.	2.77	Agree	1.04
Overall	2.54	Agree	1.13

Legend: 3.25-4.00, Strongly Agree; 2.50-3.24, Agree; 1.75-2.49, Disagree; 1.00-1.74, Strongly Disagree

Table 3 shows the rating level of learners' difficulties in mathematics in terms of study habits. This presents that five (5) among the ten (10) statements described as Agree. These are statement 6 "No one motivates me to improve my math skills" ($\bar{x}$=2.97,SD=1.00); statement 3 "I do not have math books or any references at home to study" ($\bar{x}$=2.79, SD=1.05); statement 10 "I always struggle in dealing with numbers" ($\bar{x}$=2.77, SD=1.04); statement 9 "I find it difficult in getting correct solution" ($\bar{x}$= 2.64, SD=1.10); and statement 1 "I do not do assignments regularly" ($\bar{x}$=2.57, SD=1.28). This implies that the respondents considered statement 6, statement 3, statement 10, statement 9, and statement 1 as factors that contributes to their learning difficulties in mathematics in terms of study habits.

Furthermore, this revealed that most of the respondents agreed to these statements because no one encourages them to study and improve their math skills such as in solving as well as in worded problem comprehension. Parents and guardians might not be active in motivating the learners in learning mathematics. Moreover, there is no one constantly checking the performance of the learners in school specially in math subject. To deepen the discussion, one of the reasons also why they have poor study habits because they do not have books or any references at home to study. Availability of math books or any other references is a big help to boost the learners' study habits. It will be a great time if they spend their leisure time in scanning books and do an advance study to their possible math lessons or even review their previous lessons.

To continue, there are also five (5) statements which are described as Disagree. The statements are statement 8 "Nobody helps me in doing my assignments at home" ($\bar{x}$=2.49, SD=1.18); statement 2 "I do not have conducive place to study at home" ($\bar{x}$=2.43, SD=1.20);

statement 5 "I cannot comprehend math problems well" ($\bar{x}$=2.31, SD=1.19); statement 4 "I cannot study math alone" ($\bar{x}$=2.21, SD=1.16); and statement 7 "I do not join group studies with my classmates" ($\bar{x}$ 2.20, SD=1.14); This mean that statement 8, statement 2, statement 5, statement 4, and statement 7 do not contribute to the difficulties of learners in mathematics in terms of study habits.

Consequently, the table also shows the overall mean of learners' difficulties in term of study habits which is 2.54 and a standard deviation of 1.13 with a description of Agree. This implies that the respondents generally agree to the statements stated in the survey questionnaire and that they really had difficulties in learning mathematics in terms of study habits as statement 6, statement 3, statement 10, statement 9, and statement 1 were identified above.

With that, learners with learning problems may still have generally inefficient and ineffective study habits and skills. Marc (2011) explained in his study that to be aware of ones learning habits or styles will help them understand the cause of their frustration with common study methods. He observes that good study habits are essential to educational success; as they contribute to a successful academic future. Good study habits lead to good grades while good grades lead to admissions to better colleges and universities, possibly with a scholarship thrown in. This in turn, will lead to a great career. Developing good study habits is very crucial for every learner irrespective of his level of education. It boosts learners' ability to be self-disciplined, self-directed and ultimately successful in their future careers. Therefore, learners must understand their learning study habits because this is essential to educational success.

Teacher-Related Variables as Perceived by Learners

The third problem focused on the ratings of the learners on teacher-related variables in terms of personality traits, teaching skills, and instructional materials used by the teacher in teaching mathematics. This is shown in Table 4, Table 5, and Table 6 below.

On Personality Traits of Teachers

Table 4. *Ratings of the learners on Personality Traits of Teachers*

Statement	*Mean*	*Description*	*SD*
The teacher ...			
1. has a good relationship with the students and teachers.	3.20	Often	1.12
2. shows smartness, confidence and firmness in making decisions.	2.93	Often	1.05
3. imposes proper discipline and is not lenient in following the prescribed rules.	2.87	Often	1.16
4. has an appealing personality with good sense of humor.	2.70	Often	1.16
5. is open to suggestions and opinions and is worthy of praise.	2.90	Often	1.08
6. enters the classroom prepared, feeling that they want to be there, and with the attitude that we are all going to have a solid learning experience.	3.30	Always	0.94
7. models respect by speaking the language of respect in interactions with pupils and by taking pupils' thoughts and feelings seriously.	3.03	Often	1.11
8. uses rules as the starting point for effective instruction and learning—not the end point.	3.18	Often	1.06
9. builds rapport with pupils that makes it easier for them to talk about problems, be receptive to moral guidance, and care about what their learners think.	2.89	Often	1.08
10. spends dedicated time developing a social conscience by participating in activities that can make a difference.	3.02	Often	1.04
Overall Mean	3.00	Often	1.08

Legend: 3.25-4.00, Always; 2.50-3.24, Often; 1.75-2.49, Sometimes; 1.00-1.74, Never

Table 4 shows the rating of learners on the personality traits of their teacher. Statement 6 "The teacher enters the classroom prepared, feeling that they want to be there, and with the attitude that we are all going to have a solid learning experience" rank first among the rest of the statements with an over-all mean of 3.30, SD= 0.94 and a description of Always. This simply says that the respondents always see that their teacher is always prepare in their math class and because of that they feel excited and believes that they can have a fruitful learning from the teacher. Concurrently, nine (9) out of the ten (10) statements described as Often. The statements are statement 1 "The teacher has a good relationship with the students and teachers" ($\bar{x}$=3.20,SD=1.12); statement 8 "The teacher uses rules as the starting point for effective instruction and learning—not the end point" ($\bar{x}$=3.18, SD=1.06); statement 7 "The teacher models respect by speaking the language of respect in interactions with pupils and by taking pupils' thoughts and feelings seriously" ($\bar{x}$=3.03, SD=1.06); statement 10 "The teacher spends dedicated time developing a social conscience by participating in activities that can make a difference" ($\bar{x}$=3.02, SD= 1.04) statement 2 "The teacher shows smartness, confidence and firmness in making decisions" ($\bar{x}$=2.93, SD= 1.05); statement 5 "The teacher is open to suggestions and opinions and is worthy of praise" ($\bar{x}$=2.90, SD= 1.08); statement 9 " The teacher builds rapport with pupils that makes it easier for them to talk about problems, be receptive to moral guidance, and care about what their learners think" ($\bar{x}$=2.89, SD=1.08); statement 3 " The teacher imposes proper discipline and is not lenient in following the prescribed rules" ($\bar{x}$=2.87, SD=1.16); and statement 4 "The teacher has an appealing personality with good sense of humor" ($\bar{x}$=2.70,SD=1.16).

Finally, the table shows that the rating of learners on the personality traits of their teacher has an over-all mean of 3.00 with a standard deviation of 1.08 and a description of often. Generally, this implies that respondents unified their rate as "often" to the above-mentioned statements in the table that pertains to the personality traits of teacher in mathematics. This means that they often see those personality traits in their teachers.

The content of teacher effectiveness includes some aspects of teachers' personality traits that are being tolerant, having a good sense of humor, being warm and friendly and being concerned about learners. Based on the review above, teachers that possess a good personality trait toward learners is a great luck of a teacher to be effective and efficient in teaching (Magno and Sembrano 2008).

On Teaching Skills of Teachers

Table 5 presented on the next page shows the rating of teaching skills of teachers in Mathematics as perceived by the learners. Subsequently, statement 1 "The teacher explains the objectives of the lesson clearly at the start of each period" was first in rank with an average mean of 3.44 and a standard deviation of 0.85 with a description of Always. This implies that teachers always let the learners be informed of the objectives of the lesson at the start of the class. This is a great help for the learners for them to be directed to what exactly is the aim of the lesson for the day. offers tutoring to students who seek additional help" ($\bar{x}$=2.95,SD=1.16); statement 2 "The teacher has mastery of the subject matter" ($\bar{x}$=2.92, SD=1.02); statement 3 "The teacher is organized in presenting subject matters by systematically following course outline" ($\bar{x}$=2.92, SD=1.10); statement 6 "The teacher constantly diagnosing each child's emotional state, cognitive level, and interests" ($\bar{x}$=2.89, SD=1.05); statement 5 "The teacher uses various strategies, teaching aids/devices and techniques in presenting the lessons" ($\bar{x}$=2.85, SD=1.15); and statement 9 "The teacher is concerned with having pupils learn and demonstrate understanding of meaning rather than memorization" ($\bar{x}$=2.80, SD=1.11).

Table 5. *Ratings of the learners on Teaching Skills of Teachers*

	Statement	*Mean*	*Description*	*SD*
The teacher...				
1.	explains the objectives of the lesson clearly at the start of each period.	3.44	Always	0.85
2.	has mastery of the subject matter.	2.92	Often	1.02
3.	is organized in presenting subject matters by systematically following course outline.	2.92	Often	1.10
4.	is updated with present trends, relevant to the subject matter.	3.02	Often	1.04
5.	uses various strategies, teaching aids/devices and techniques in presenting the lessons.	2.85	Often	1.15
6.	constantly diagnosing each child's emotional state, cognitive level, and interests	2.89	Often	1.05
7.	stresses meaningful conceptualization, emphasizing the student's own knowledge of the world	3.11	Often	1.05
8.	gives clear examples and offers guided practice.	2.97	Often	0.95
9.	is concerned with having pupils learn and demonstrate understanding of meaning rather than memorization	2.80	Often	1.11
10.	re-teaches pupils who did not achieve mastery and offers tutoring to students who seek additional help	2.95	Often	1.16
	Overall Mean	2.99	Often	1.05

Legend: 3.25-4.00, Always; 2.50-3.24, Often; 1.75-2.49, Sometimes; 1.00-1.74, Never

The table presents the overall weighted mean of the teachers in terms of teaching skills as perceived by the learners is 2.99 and a standard deviation of 1.05 which is interpreted as often. This explains that the respondents rating to the teachers necessary teaching skill is often good enough.

Informatively, studies in different subject fields that compare teachers with and without preparations found higher ratings result evidence and greater student learning gains for teachers who have formal preparation for teaching was put into details in the study of Hice (1970). In addition, a result showed that teacher qualities as measured by their education, knowledge, experience and certification have been linked to higher student achievement in terminal examinations in the study of Scheerens (1999).

On Instructional Materials Used by Teachers

Table 6. *Ratings of the learners on Instructional Materials used by Teachers*

	Statement	*Mean*	*Description*	*SD*
1.	Using chalk and blackboard alone is enough for the solution of the problem.	3.15	Often	0.95
2.	Pupils textbook /workbook is utilized to enlighten the class discussion.	2.92	Often	1.08
3.	Computer, projector or television motivates students to learn.	2.95	Often	1.10
4.	ICT and Math Application is utilized in lesson development.	3.02	Often	1.04
5.	Activity sheets are helpful in maximizing the time for learnings.	2.89	Often	1.05
6.	Video Presentations is used in motivating the learners.	2.85	Often	1.08
7.	Charts, meta cards, and models are used for further understanding the lesson.	2.69	Often	1.15
8.	Modules are used to follow-up or to have an advance study about the lesson.	2.95	Often	1.02
9.	Tarpapel or Visual Aids attracts the interest of the learners and become more participative during the discussion.	2.75	Often	1.01
10.	Real objects or math devices is utilized in making the lesson more realistic.	2.93	Often	1.18
	Overall Mean	2.91	Often	1.07

Legend: 3.25-4.00, Always; 2.50-3.24, Often; 1.75-2.49, Sometimes; 1.00-1.74, Never

Table 6 shows that all of the statements are described as often. Among the instructional materials mentioned, statement 1 "Using chalk

and blackboard alone is enough for the solution of the problem" ranked first with an average mean of 3.15 and a standard deviation of 0.95. It was then followed by item 3 "Computer, projector or television motivates students to learn" ($\bar{x}$=2.95, SD= 1.08); statement 8 "Modules are used to follow-up or to have an advance study about the lesson" ($\bar{x}$=2.95, Sd= 1.02), statement 10 "Real objects or math devices is utilized in making the lesson more realistic" ($\bar{x}$=2.93, SD= 1.18); statement 2 "Pupils textbook /workbook is utilized to enlighten the class discussion" (mean=2.92, SD= 1.08); statement 5 "Activity sheets are helpful in maximizing the time for learnings" ($\bar{x}$=2.89, SD=1.05); statement 6 "Video Presentations is used in motivating the learners." ($\bar{x}$=2.85, SD=1.08); statement 9 "Tarpapel or Visual Aids attracts the interest of the learners and become more participative during the discussion" ($\bar{x}$= 2.75, SD=1.01); and statement 7 "Charts, metacards, and models are used for further understanding the lesson" ($\bar{x}$= 2.69, SD=1.15).

In general, the table shows the rating of the learners on instructional materials used by the teacher in teaching mathematics with an over-all mean of 2.91 and a standard deviation of 1.07, and an over-all description of "often" as perceived by the learners. This implies that respondents rate the above-mentioned instructional materials as "often" used by the teacher in teaching mathematics. Since that the respondents' rate is often, it seems that they do not have problems in terms of the instructional materials used by the teacher in teaching them.

An emphasis on the use of technology as means for engaging students in thinking rather than being just a conveyor of information was cited in the study of Jonassen, Peck, & Wilson (1999). More specifically, technologies should be used to pose problems to students, provide related cases and information resources, a social medium to support learning through collaboration, interaction, and intellectual partners to support learning by reflecting. In the study of Rohwes W. Jr. Et al. as cited by Sainz (2000) further discussed that teachers need to find ways of determining whether or not her instruction have been successful. The procedure and method of determining such success can take the form of test of various kinds to determine whether the students have reached the objectives they have set for them. Meanwhile, Wang & Woo (2007) stated that to facilitate student-centered learning, many authors suggest the use of media and technology. The use of technology as tool for the teaching and learning process is highly recommended.

Relationship Between Academic Achievement and Difficulties Learners

The fourth problem focused on relationship between the difficulties encountered by the learners and their academic achievement in math as shown in the table 7 below.

Table 7. *Pearson's r Results Between Academic Achievement and Difficulties of Learners*

Independent Variable	*Dependent Varibale*	*r-value*	*p-value*	*Interpretation*
Academic Achievement	Interest	.461	.232	Not significant
	Study Habits	.400	.496	Not significant

**p > .05 is not significant at .05 level of significance (two-tailed)*
** Statement 7 (interest) "I am not comfortable with the seating arrangement in the classroom", p= 0.16*

In table 7, it revealed no significant relationship between learners' interest and academic achievement (r=.461, p=.232). This means that the null hypothesis of "there is no significant relationship between learners' interest and academic achievement" is not rejected. Furthermore, it implies that the difficulties of learners on their interest do not affect their academic achievement. However, only statement 7 "I am not comfortable with the seating arrangement in the classroom" appeared to be significant among the ten statements with a p-value of .016. This means that learners find this reason that distracts their interest in mathematics.

Similarly, table 7 also shows no significant relationship between learners' study habits and academic achievement (r= .400, p=.496.). This means the null hypothesis of "there is no significant relationship between learners' study habits and academic achievement" is not rejected. Hence, it implies that the difficulties of learners on their study habits do not improve their academic achievement.

Thus, the difficulties encountered by the learners in terms of interest and study habits do not have positive effect on their academic achievement. The result is in contrast to the study of Heinze & Reiss et.al (2005) which presented the result of an empirical study with 500 German students of grades 7 and 8. In particular, the results show that the development of an individual students' achievement between grade 7 and grade 8 depends on the achievement level of specific classroom and therefore on the specific mathematics instruction. They emphasized in the result of their study that interest in mathematics could be regarded as predictor for mathematics achievement.

Relationship Between Learners' Difficulties and Teacher-Related Variables

The fifth problem focused on the relationship between the learners' difficulties encountered and the teacher-related variable as evaluated by the learners.

Relationship Between Interest and Teacher Related Variables

As shown in Table 8, there is no significant relationship between personality traits of the teacher and learners' interest in learning mathematics (r= .228, p=.077). This means that the null hypothesis that "there is no significant relationship between personality traits of the teacher and learners' interest" is not rejected at .05 level of significant. Hence, it implies that the personality traits of the teacher do not affect the learners' interest.

Table 8. *Pearson (r) results between Interest and Teacher-Related Variables*

Independent Variable	*Dependent Varibale*	*R value*	*P value*	*Interpretation*
Interest	Personality Traits	.228	.077	Not significant
	Teaching Skills	.026	.844	Not significant
	Instructional Materials	-.012	.929	Not significant

**p > .05 is not significant at .05 level of significance (two-tailed)*

Likewise, it also revealed no significant relationship between teaching skills of the teacher and learners' interest in learning mathematics (r= .026, p=.844). This means the null hypothesis of there is no significant relationship between teaching skills of the teacher and learners' interest is not rejected. Hence, it implies that the teaching skills of the teacher do not affect the learners' interest.

Similarly, it also shows no significant relationship between instructional materials and learners' interest in learning mathematics (r= -.012, p=.929). This means the null hypothesis of there is no significant relationship between instructional materials and learners' interest is not rejected. Hence, it implies that the instructional materials used by teacher as perceived also by the learners do not affect the learners' interest.

In conclusion, teacher-related variables do not affect the difficulties of learners in learning mathematics in terms of interest.

Relationship Between Study Habits and Teacher Related Variables

Table 9. *Study Habits and Teacher-Related Variables*

Independent Variable	*Dependent Variable*	*r value*	*p value*	*Interpretation*
Study Habits	Personality Traits	.017	.896	Not significant
	Teaching Skills	-.076	.561	Not significant
	Instructional Materials	-.108	.409	Not significant

**p > .05 is not significant at .05 level of significance (two-tailed)*

In table 9 shows no significant relationship between personality traits of the teacher and learners' study habits in learning mathematics (r= .017, p=.896). This means the null hypothesis of there is no significance relationship between personality traits of the teacher and learners' study habits is not rejected. Hence, it implies that the personality traits of the teacher do not affect the learners' study habits.

Likewise, it also revealed no significant relationship between teaching skills of the teacher and learners' study habits in learning mathematics (r= -.076, p=.561). This means the null hypothesis of there is no significance relationship between teaching skills of the teacher and learners' study habits is not rejected. Hence, it implies that the teaching skills of the teacher do not affect the learners' study habits.

Similarly, it also shows no significant relationship between instructional materials and learners' study habits in learning mathematics (r= -.108, p=.409). This means the null hypothesis of there is no significant relationship between instructional materials and learners' study habits is not rejected. Hence, it implies that the instructional materials used by teacher as perceived also by the learners do not affect the learners' study habits.

Moreover, this means that there is no significant relationship between teacher-related variables and learners' study habits. It implies that teacher-related variables do not affect the difficulties of learners in learning mathematics in terms of study habits.

Generally, the result shows no significant relationship between the teacher-related variables and the learners' difficulties in mathematics. This means the null hypothesis of there is no significant relationship between the teacher-related variables and the learners' difficulties in mathematics is accepted. Thus, implies that teacher-related variables do not affect the learners' difficulties encountered in mathematics.

In contrast, a study examined the relationship between teacher variables as predictors of academic achievement of primary school pupils in mathematics by Tella (2008), and its result reveals that teacher variable such as teacher self- efficacy and interest had significant correlation with pupils' achievement scores. Teacher's self- efficacy, being the best predictor of pupil's academic achievement in mathematics was followed by teacher's interest. Attitude, qualification, and experience were not significant correlation with pupil's achievement in mathematics. The result of his study that teacher variables had significant relationship with learners' academic achievement is in contrast to the result of this study which shows no significant relationship with the teacher-related variables and the learners difficulties encountered in mathematics. This shows as well that there is no significant relationship between teacher-related variables and academic achievement of low performing learners in mathematics of Mandanas Elementary School.

Conclusions

Learners perceived variables such as uncomfortable seating arrangement in the classroom, unnecessary noise of their classmates and no conducive place to study at home are reasons that hampers their interest and study habits in learning mathematics. This is because it was not address all the time by the teacher. However, teacher-related variables and learners' difficulties has no substantial evidence to affect the learners' academic achievements.

Based on the conclusions made, the following recommendations are given: The school curriculum planner should have an alternative strategy to help the low performing learners in mathematics such as conducting appropriate remedial classes intended for the said learners. The class advisers may consider this study to conduct action research limited to their advisory classes and in line with the DepEd Guidelines on Action Research. By this, class advisers may able to grasp an opportunity to talk with the learners' parents and subject teachers regarding their difficulties in mathematics. Subject teachers in mathematics should use more interactive teaching techniques that will boost learners' interest and study habits in mathematics. Parents must coordinate with the class advisers to check the learning progress of their children in mathematics. They need also to extend a hand for their children in helping them identify what kind study habits is best for them. The future researcher should have a thorough and more concentrated research about the learners' difficulties in mathematics considering more variables.

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Affiliations and Corresponding Information

Norhaya Datukali Ibad, LPT, MSCIED, PhD(c)
Notre Dame Village National High School
Department of Education – Philippines