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PUPILS' RESPONSIVENESS TOWARDS MATHEMATICS SIX: BASES TO ENHANCE THEIR LEARNING PERFORMANCE AND OUTCOMES

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RATIONALE

Noteworthy nowadays are the declining interest and skills of pupils in mathematics, it is evident on their grades from their previous curriculum level, it is quite alarming that only few sustain their enthusiasm towards the subject. Pupils mindset about mathematics as the most difficult subject must be eradicated. Teachers can't help but to find ways on how to elevates pupils' academic performance towards mathematics.

Teachers' cognizance of pupils' responsiveness provides grounds on which teachers may be able to assess and evaluate their pupils' competencies. Knowledge and appreciation of pupils' responsiveness are indicators that contribute to the success in school work among pupils; they, likewise, aid teachers to identify the conditions and situations that promote reactive learning among the pupils. Strategies to embellish instruction grounded on teachers' awareness of pupils' responsiveness spell success in the effective conveyance of teaching-learning scenarios.

Teaching mathematics must be responsive to the needs of pupils, to their interests towards the subject and to their competencies in mathematics. From the researchers' observation the following aspects may arouse or deflect the responsiveness of the pupils towards the subject; their driving force, comprehension skills, aptitude, sense of involvement and perceptions.

For mathematics as a subject to become more reactive to the level of pupils understanding and, likewise, to elicit their interests towards the subject, it is necessary for teachers to explore some non- intellectual aspects

that may intensify pupil's enthusiasm. There is the need to look into pupils' comportment and behavior that leads to productive learning.

For the mathematics teachers it is necessary to build the connections with the pupils' since they have a perception that it is the most difficult subject, thus, the teacher must be mindful of this matter. Knowing the level of pupils' responsiveness promotes a better learning outcomes. The teacher must not exceed to the level of pupil's competencies.

Noteworthy are the 20 percent of the enrolees in grade six for the school year 2019-2020 who got 74 percent and below on their first quarter grade. It is an alarming situations on the part of the teachers. As well as to the performance of the school. Identifying the specific root cause of the problem will aid the math teachers to improve their instruction and strategies in mathematics.

RELATED LITERATURE

What factors influence the academic performance of pupils in mathematics? According to Peralta [2018] assigned tasks, teacher quality, confidence and perceived competence are the aspects that affects the performance of the pupils in mathematics these four aspects shows significant interrelationship with the academic performance of the pupils.

Peralta [2018] cited on his study that focused on grades six and five pupils of Maximino V. Pangilinan Elementary School, Tanza, Cavite, that pupils' success in mathematics can be attributed to the self-evaluations of the pupils related to their teachers' capabilities and competencies. Further, when pupils' evaluations of their teachers' capabilities to perform and undertake tasks in their subject in mathematics is approbatory- performance, achievement and success in mathematics among the pupils ensue.

The beliefs teachers themselves have about teaching and learning and the nature of the expectations they hold for the pupils also exert a powerful influence [Raffini, 2012]. Ojima [2013] says, "pupils look ahead to learn if their teachers insist them to learn".

Research involves the driving force of an individual for success in work becomes imperative. McDupont [2014] pointed out that driving force revolves around achieving a certain level of competency and skill, obtaining a particular personal fulfillment or reward, or realizing some dimensions of accomplishment.

Walberg, et al. [2011] cited that to increase pupils' achievement of cognitive and effective outcomes includes nine factors [a] ability of prior achievement; [b] age; [c] driving force; [d] quantity of instruction; [e] quality of the instructional experience; [f] home environment; [g] classroom environment; and [h] mass media.

Clavecilla's [2009] study focused on the interaction of self- efficacy and the perceived usefulness of mathematics to achievement in mathematics. Significant findings of the study disclosed that male and female pupils do not differ in their self- efficacy in mathematics about similar in their perceptions of the value mathematics and there is a significant interaction between achievement in mathematics and self -efficacy and the perceptions of the usefulness of mathematics.

Orduna's [2013] study focused on high school pupils' achievement in mathematics and its interaction to three affective factors, namely competency beliefs, enjoyment of mathematics and value of mathematics. Her study disclosed the following; competency beliefs of the pupils was fair and their perceptions of the usefulness of mathematics were on the moderate level, there is no significant difference between achievement in mathematics and the pupils' competency beliefs.

The study of Mendoza [2010] correlated pupils' performance in mathematics to their appraisals of mathematics along four constructs. The study involves the intermediate pupils of Sto. Tomas Elementary School, Penaranda, Nueva Ecija during the third quarter of the academic year 2013-2014. She arrived at the following salient findings; the performance of pupils in mathematics takes on a symmetrical normal curve with mean of 80.097 from a range of 21 with 82 as maximum and 71 as minimum; the pupils have favorable values towards mathematics, average in self- confidence, consideration and driving force; academic performance in mathematics is significantly related to self-confidence and driving force; no significant interaction was observed between academic performance and values towards mathematics and consideration; and gender is significantly related to values toward mathematics; however, curriculum year level is not significantly related to values toward mathematics.

Wetzel [2009] offered some strategies that challenge pupils in mathematics. He said that the road to learning math is pitted with potholes full of pupils who could not grasp the connecting links between concepts. One reason for these pupils failing to understand math was being peppered with the concepts similar to a pitching machine throwing baseball to a batter. The batter misses the first ball and while trying to discover why the first ball was missed after swinging the bat, two more balls whiz by the batter's bat. Now this pupil is becoming overwhelmed and lost. He likewise added that the key to tang math so pupils internalize and transfer their

knowledge is to make learning mathematics personal. No matter how many worksheets pupils complete, they will never make a connection between math concepts until it is concrete and relates to their personal lives.

HYPOTHESES

1. The five indicators of pupils' responsiveness are interrelated
2. The five indicators of pupils' responsiveness towards mathematics affects their performance in mathematics

SCOPE AND DELIMITATION

The study focused on the dimensions of pupils' responsiveness towards Mathematics, namely; Driving force, Sense of involvement, Perception, Aptitude and Comprehension skills. Pupils' academic learning performance was based on the results grade during the first grading period in Mathematics.

Participants of the study were grades six pupils of Maximino V. Pangilinan Elementary School, Tanza, Division of Cavite who got 74 percent and below on their first quarter grade during the school year 2019-2020. The choice of intermediate pupils as participants was based on the rationale that whatever findings drawn can serve as benchmarks to improve the teaching-learning process in their Mathematics subjects as they advance to higher curriculum levels.

Checklist was the main tool to gather data; the techniques of interviews and observations were employed to validate significant findings

RESEARCH METHODOLOGY

This study utilized the descriptive method of research. Gay (2013) defines the descriptive research as involving collection of data in order to test the hypotheses concerning the current status of the subject of study. A universal sampling among grade six pupils of Maximino V. Pangilinan Elementary School will be utilized. Gathering data will be through an interview using questionnaire.

PARTICIPANTS OF THE STUDY

Participants of the study were the 20 percent of grades six pupils of Maximino V. Pangilinan Elementary School, Tanza, Cavite during the school year 2019-2020 who got a failing grades in Mathematics during the first quarter period. A random Sampling was utilized.

Grade	Male	Female	Total
Six	20	23	43

Data Gathering Tool

Pupils Responsiveness Towards Mathematics Checklist.

The checklist consists of six parts with five (5) item-statements each: Driving Force, sense of involvement, perception, aptitude and comprehension skills. Six options were offered to the pupils for an answer which are the following; 6- I strongly agree, 5 – agree, 4 – I slightly agree, 3- slightly disagree, 2 – disagree, 1 strongly disagree.

To arrive at verbal ratings of each item-statements, the following arbitrary numerical guide was followed: 5.16 - 6.00- strongly agree, 4.32 - 5.15 - agree , 4.31- 3.48 – slightly agree 2.66 - 3.47 slightly disagree, 2.65 - 1.82 –disagree, 1.00- 1.81 strongly disagree.

To determine the degree or level of pupils' responsiveness towards Mathematics, the following limits and categories were used: 5-9- very low, 10-14 low, 15-20- moderate, 20-25- high, 26-30- very high.

Administration of instrument

Permission to administer the checklist to the respondents was sought from the proper authorities. Checklist was personally administered to the pupils. The respondents were told that it is not a test nor the results affect their grade in Mathematics. The pupils were requested to answer all the item-statements with all honesty. No disclosure of their identity was emphasized and that everything is in strict confidence.

Procedure of analysis

The frequency counts and weighted mean of the responses of each item-statement in the six responsiveness was used to arrive at verbal ratings. Likewise, the frequency count and percentage distribution were used to determine the degree or level of the pupils' responsiveness along the five responsiveness.

The Pearson Moment of Correlation was utilized to test the hypothesis: pupils' responsiveness are not interrelated.

PRESENTATION, INTERPRETATION AND ANALYSIS OF DATA

In this part the data collected from the respondents were interpreted and analyzed for a clear and coherent presentation of data.

1. **The five dimensions of pupils' responsiveness in Mathematics do not affect their academic performance.**

Driving Force

Table 1 presents the degree or level of pupils' responsiveness in terms of Driving Force.

Table 1 Degree and frequency distribution of pupils responsiveness in terms of Driving Force				
Limits	Categories	F	%	Cum %
5-9	Very Low	15	34.89	34.89
10-14	Low	17	39.53	74.42
15-20	Moderate	4	9.30	83.72
21-25	High	3	6.98	90.70
26-30	Very high	4	9.30	100.00
Total		43	100.00	

Majority of the pupils, 32 or 74.42 percent were found to be low to very low in their responsiveness in terms of assigned tasks. The finding implies that the majority of the respondents have low inner drive or motivation to learn and cope up with the lessons in mathematics and further excel in mathematics.

Noteworthy are the pupils who always want to give their best and yet they don't want to answer problems on board, the finding implies that they are afraid of criticisms from their classmates when they answered wrong.

Table 2 presents the verbal ratings of item-statements in terms of Driving Force.

Table 2 Presents the obtained weighter means and verbal ratings of itewm-statements relative to the responsiveness of the pupils in terms of Driving Force		
Driving Force	Weighted Mean	Verbal ratings
1. I am always interested in our Math lesson.	3.41	Slightly Disagree
2. I always want to answer the Mathematical problems that were given by our teacher.	2.91	Slightly Disagree
3. I am praised whenever I answer in Math.	2.16	Disagree
4. I am always eager to learn new concepts in Math.	4.02	Slightly agree
5. I always to want to give my best.	4.13	Slightly agree
Average Weighted Mean	3.33	Slightly Disagree
Legend:5.16 - 6.00- strongly agree, 4.32 - 5.15 - agree , 4.31- 3.48 – slightly agree 2.66 - 3.47 slightly disagree, 2.65 - 1.82 –disagree, 1.00- 1.81 strongly disagree.		

Pupils slightly disagree that the driving force are essentials in the teaching and learning process especially in mathematics. The findings suggest that the pupils are eager to learn new concepts in mathematics and yet they only have a little amount of motivation to do it.

No matter how much they want to give their best in mathematics their feelings to answer on board holds them back because they feel that when they answered wrong they will be teased by their classmates and yet they don't receive compliments when they answered correct.

Sense of Involvement

Table 3 presents the degree or level of pupils’ responsiveness in terms of Sense of Involvement.

Table 3				
Degree and frequency distribution of pupils’ responsiveness in terms of sense of Involvement				
Limits	Categories	F	%	Cum%
5-9	Very low	0	0	0.00
10-14	Low	4	9.30	9.30
15-20	Moderate	11	25.58	34.88
21-25	High	16	37.21	72.09
26-30	Very high	12	27.91	100.00
Total		43	100.00	

Majority of the pupils, 28 or 65.12 percent were observed to be high to very high in their responsiveness in terms of sense of involvement. Findings suggest that the majority of the pupils are aware of their importance in the learning process.

The findings suggest that pupils are taking their parts in the teaching and learning process but they don’t always do their activities assigned by their math teachers.

Pupils have known from the beginning of the significance of the subject mathematics, the very reason they always join in the group activities set by their teachers and likewise finish their activities given to them

Table 4 presents the verbal ratings of item-statements related to pupils’ responsiveness in terms of sense of involvement.

Table 4 Obtained Weighted means and the vernal ratings of item-statements relative to the responsiveness of the pupils in terms of sense of involvement		
Sense of Involvement	Weighted Mean	Verbal Rating
1. I always join in all the activities given by our teacher in Math.	4.08	Slightly Agree

2. I listen carefully in our teacher whenever he is discussing in front	3.44	Slightly Agree
3. I always do all the activity that was given to us.	3.57	Slightly Agree
4. I finish all the activity that was given to us.	4.00	Slightly Agree
5. I know that it is important for me to learn concepts in Math.	5.13	Agree
Average Weighted Mean	4.04	Slightly agree
Legend:5.16 - 6.00- strongly agree, 4.32 - 5.15 - agree , 4.31- 3.48 – slightly agree 2.66 - 3.47 slightly disagree, 2.65 - 1.82 –disagree, 1.00- 1.81 strongly disagree.		

The pupils slightly agree that they play a vital role in the learning process. They agree that it is important to learn new concepts in mathematics, however, they only slightly agree that they listen to their teachers and participates in the activities given to them by their teachers, pupils’ somewhat feels that they have to do and finish their activities given to them.

Despite of knowing the importance of the subject and likewise the lessons taught by their teacher, the findings denote that they sometimes do not listen to their teachers.

Perception

Table 5 presents the degree or level of pupils’ responsiveness in terms of Perception.

Limits	Categories	f	%	Cum%
5-9	Very low	0	0	0
10-14	Low	3	6.98	6.98
15-20	Moderate	9	20.93	27.91
21-25	High	13	30.23	58.14
26-30	Very high	18	41.86	100.00
Total		43	100.00	

Majority of the pupils, 31 or 72.09 percent were found to be high to very high in their responsiveness along this indicator. Finding implies that pupils have an insight and perception that mathematics is the most difficult and boring subject, furthermore they found the lessons in mathematics difficult and complicated.

Pupils have prior perception and insights that mathematics was difficult to understand and they likewise look at the subject’s complexity rather than on its ways of making it easy and solving the math problems in any ways.

Table 6 Presents the verbal ratings of item statements relative to the responsiveness of the pupils in terms of Perception

Table 6 Obtained weighted means and the verbal ratings of item-statements relative to the responsiveness of the pupils in terms of perception		
Perception	Weighted Mean	Verbal ratings
1. Math is the hardest subject.	4.20	Slightly agree
2. Math is a boring subject.	2.90	Slightly disagree
3. The lesson in Math is always difficult	3.15	Slightly disagree
4. Math is a complicated subject.	3.76	Slightly agree
5. It is difficult to understand Math and it always challenges me.	3.90	Slightly agree
Average Weighted Mean	3.58	Slightly agree
Legend: 5.16 - 6.00- strongly agree, 4.32 - 5.15 - agree , 4.31- 3.48 – slightly agree 2.66 - 3.47 slightly disagree, 2.65 - 1.82 –disagree, 1.00- 1.81 strongly disagree.		

Pupils slightly agree that mathematics is the most difficult subjects and it always challenges them they likewise found mathematics as a complicated subject and difficult to understand, though they slightly disagree that math is a boring subject

Pupils make sense that math is a difficult subject and nonetheless they said that it is not a boring subject, thus, the results suggest that pupils are opened to take out the prior perception on mathematics as it is the most difficult subject provided that their teachers provides math class an interesting and to have fun with.

Table 7 presents the degree or level of pupils' responsiveness in terms of Aptitude

Table 7 Degree and frequency distribution of pupils' responsiveness in terms of aptitude				
Limits	Categories	f	%	Cum%
5-9	Very low	7	16.28	16.28
10-14	Low	11	25.58	41.86
15-20	Moderate	16	37.21	79.07
21-25	High	6	13.95	93.02
26-30	Very high	3	6.98	100.00
Total		43	100.00	

Majority of the pupils, 27 or 62.79 percent were observed to be low to moderate in their responsiveness in terms of this dimension. The pupils feel not comfortable in answering math problems and equations on board. Much to the desire of the pupils to face the rigors of mathematics, the pupils exert efforts to try answering the problems and activities given to them. The findings likewise suggest that they are not comfortable in saying that they are more competent than their other classmates as well as the pupils are not aware that they are capable of doing activities that has to be taken.

Table 8 presents the verbal ratings and weighted mean in each item statements related to the responsiveness of pupils in the indicator aptitude.

Table 8 Obtained weighted means and the verbal ratings of item-statements relative to the responsiveness of the pupils in terms of aptitude		
Perception	Weighted Mean	Verbal ratings
1. It is not difficult for me to answer Math Problems/Equations.	3.07	Slightly disagree
2. I always answer all the Math problems even how difficult it is.	2.57	Disagree
3. I know that I am better than my classmates.	1.95	Disagree

4. I immediately finish our activities in Math.	2.69	Slightly disagree
5. I can answer mentally the problems in Math.	2.63	disagree
Average Weighted Mean	2.58	disagree
Legend:5.16 - 6.00- strongly agree, 4.32 - 5.15 - agree , 4.31- 3.48 – slightly agree 2.66 - 3.47 slightly disagree, 2.65 - 1.82 –disagree, 1.00- 1.81 strongly disagree.		

The pupils disagree that they are skilled in computations, however they slightly disagree that they have difficulty in answering math problems. They feel nervous and tense when asked by their teacher in mathematics to solve problems on the chalkboard

Very evident among the pupils about their cognizance on themselves is that they are limited and have a little competence in numeracy thus they are not confident of themselves especially in presenting their answers on the board. They likewise feel challenge whenever asked by their teacher to answer and show and share their work with their classmates.

Table 9 presents the degree and frequency distribution of pupils’ responsiveness in terms of comprehension skills

Table 9 Degree and frequency distribution of pupils’ responsiveness in terms of comprehension skills				
Limits	Categories	f	%	Cum%
5-9	Very low	2	4.65	4.65
10-14	Low	2	4.65	9.30
15-20	Moderate	24	55.81	65.11
21-25	High	7	16.28	81.39
26-30	Very high	8	18.61	100.00
Total		43	100.00	

Majority of the pupils, 24 or 55.81 percent were observed to be moderate in their responsiveness in terms of comprehension skills. The finding suggests that pupils somehow understand the terminologies used in mathematics and that they can analyze problems and data presented by their mathematics teacher.

Likewise, the finding implies that they can understand the lesson taught by their teacher though they have difficulty in executing the same by themselves alone. However, pupils are positive that they understand mathematics.

Table 10. presents the weighted mean and verbal rating along the indicator comprehension skills

Table 10 Obtained weighted means and the verbal ratings of item-statements relative to the responsiveness of the pupils in terms of comprehension skills		
Perception	Weighted Mean	Verbal ratings
1. I can analyze Mathematical problems.	3.12	Slightly agree
2. I understand how to solve questions in Math.	3.12	Slightly agree
3. I can interpret data.	4.42	Agree
4. I understand symbols and terminologies that are used in Math.	3.23	Slightly disagree
5. I can easily understand the lessons taught by my teacher.	3.61	Slightly agree
Average Weighted Mean	3.50	Slightly agree
Legend:5.16 - 6.00- strongly agree, 4.32 - 5.15 - agree , 4.31- 3.48 – slightly agree 2.66 - 3.47 slightly disagree, 2.65 - 1.82 –disagree, 1.00- 1.81 strongly disagree.		

Pupils agree that they can interpret and understand the data presented by their mathematics teacher, thus, makes the learning more convenient.

They slightly agree that they are capable of analyzing and answering mathematical problems, these infers that they have difficulty in analyzing math problems, thus resulting to incorrect responses.

Noteworthy among the respondents are their competence in interpreting and analyzing data which is a very important part of learning mathematics. However, they have difficulties in understanding the symbols, terminologies and the formulas that are used in mathematics, they found it complicated whenever numbers were substituted by letters, they likewise have difficulty in memorizing the formulas used in solving.

2. Interrelationships of the five dimensions of pupils' responsiveness towards Mathematics

Table 11 presents the coefficients of relationship of the five dimensions of pupils' responsiveness

Table 11 Coefficients of interaction of the five indicators of pupils' responsiveness towards mathematics					
	Driving Force	Sense of Involvement	Perception	Aptitude	Comprehension Skills
Driving Force	X	.155**	.301**	.676**	-.0302
Sense of Involvement	X	X	.301**	.488**	-.038
Perception	X	X	X	.105**	.152**
Aptitude	X	X	X	X	-.198
Comprehension Skills	X	X	X	X	X

**** correlation is significant at .01 level of significance**

Driving force was observed to be significantly related to Sense of Involvement [.155**]; perception [.301**]; and, Aptitude [.676**]. Result suggests that the more they exert efforts on accomplishing their tasks in mathematics no matter how difficult it is, they are still motivated to learn new concepts in mathematics, likewise the more the pupils perceived themselves as possessing numeracy skills the more they become more eager and vigorous.

Sense of involvement bears significant interaction with perception [.301**]; and, aptitude [.676**]. Findings insinuate that the more they involve themselves in the activities and on the learning processes on mathematics, the more they acquire competence and the wrong perceptions about mathematics are eliminating gradually.

Perception was found to be significantly related to Aptitude [.676**]; and, comprehension skills [.152] result suggests that the more the pupils acquire numeracy skills and the more they understand the lessons and concepts in mathematics, their previous perception towards the mathematics changes, they likewise perceived themselves to be more skilled and equipped with competence.

Noteworthy is the comprehension skills that shows no significant interaction on Driving force [-.0302]; sense of involvement [-.038]; and aptitude [-.198]. The results insinuate that comprehension does not affect their motivation and their sense of belongingness as well as their perception on their skills in mathematics, the finding also implies that comprehension skills have nothing to do with their numeracy skills.

The hypothesis that the five indicators of pupils' responsiveness are interrelated was, thus, accepted.

3. Relationship of pupils' academic performance in mathematics and their responsiveness towards the subject along the five indicators.

	Driving force	Sense of Involvement	Perception	Aptitude	Comprehension Skills
Pearson r	-0.425	0.138**	-0.649	0.104**	.316**
Sig. [2-tailed]	0.411	0.820	0.162	.817	.528
N	43	43	43	43	43

Three (3) of the pupils' responsiveness indicators were observed to be significantly related to their learning performance and outcomes; the Sense of involvement [.138**]; aptitude [.104**]; and, comprehension skills [.316] but their driving force (-.425) have nothing to do with their grades as well as their perception (-.649) towards the subject does not affects their learning performance.

Pupils have found themselves motivated because they done what they are required to undertake in their math class, thus, their motivation does not affect their learning performance or grades.

Their prior perception about mathematics can be erased when the teachers provide an accommodating and responsive classroom atmosphere, interesting lessons, and activities worth to make fun while learning.

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The researchers looked into responsiveness of pupils along five indicators and their relationships on the academic performance and outcomes of the low performing pupils in mathematics six. The five indicators were, driving force, sense of involvement, perception, aptitude and comprehension skills. Participants of the study were the 43 low performing pupils in grade six of Maximino V. Pangilinan Elementary School in the District of Tanza, Division of Cavite during the school year 2019-2020. The following null hypotheses were tested at .05 level of significance: The five indicators of pupils' responsiveness are interrelated; The five indicators of pupils' responsiveness towards mathematics affects their performance in mathematics

SUMMARY OF FINDINGS

Summary of the findings are as follows:

1. Pupils' responsiveness towards Mathematics along five indicators

Driving Force

- Majority of the pupils, 32 or 74.42 percent were found to be low to very low in their responsiveness in terms of assigned tasks. The finding implies that the majority of the respondents have low inner drive or motivation to learn and cope up with the lessons in mathematics and further excel in mathematics.
- Noteworthy are the pupils who always want to give their best and yet they don't want to answer problems on board, the finding implies that they are afraid of criticisms from their classmates when they answered wrong
- Pupils slightly disagree that the driving force are essentials in the teaching and learning process especially in mathematics. The findings suggest that the pupils are eager to learn new concepts in mathematics and yet they only have a little amount of motivation to do it.
- No matter how much they want to give their best in mathematics their feelings to answer on board holds them back because they feel that when they answered wrong they will be teased by their classmates and yet they don't receive compliments when they answered correct.

Sense of Involvement

- Majority of the pupils, 28 or 65.12 percent were observed to be high to very high in their responsiveness in terms of sense of involvement. Findings suggest that the majority of the pupils are aware of their importance in the learning process.
- The findings suggest that pupils are taking their parts in the teaching and learning process but they don't always do their activities assigned by their math teachers.
- Pupils have known from the beginning of the significance of the subject mathematics, the very reason they always join in the group activities set by their teachers and likewise finish their activities given to them.
- The pupils slightly agree that they play a vital role in the learning process. They agree that it is important to learn new concepts in mathematics; however, they only slightly agree that they listen to their teachers and participate in the activities given to them by their teachers, pupils' somewhat feels that they have to do and finish their activities given to them.

- Despite of knowing the importance of the subject and likewise the lessons taught by their teacher, the findings denote that they sometimes do not listen to their teachers.

Perception

- Majority of the pupils, 31 or 72.09 percent were found to be high to very high in their responsiveness along this indicator. Finding implies that pupils have an insight and perception that mathematics is the most difficult and boring subject, furthermore they found the lessons in mathematics difficult and complicated.
- Pupils have prior perception and insights that mathematics was difficult to understand and they likewise look at the subject's complexity rather than on its ways of making it easy and solving the math problems in any ways.
- Majority of the pupils, 24 or 55.81 percent were observed to be moderate in their responsiveness in terms of comprehension skills. The finding suggests that pupils somehow understand the terminologies used in mathematics and that they can analyze problems and data presented by their mathematics teacher.
- Likewise, the finding implies that they can understand the lesson taught by their teacher though they have difficulty in executing the same by themselves alone. However, pupils are positive that they understand mathematics.

Aptitude

- Majority of the pupils, 27 or 62.79 percent were observed to be low to moderate in their responsiveness in terms of this dimension. The pupils feel not comfortable in answering math problems and equations on board. Much to the desire of the pupils to face the rigors of mathematics, the pupils exert efforts to try answering the problems and activities given to them. The findings likewise suggest that they are not comfortable in saying that they are more competent than their other classmates as well as the pupils are not aware that they are capable of doing activities that has to be taken.
- The pupils disagree that they are skilled in computations, however they slightly disagree that they have difficulty in answering math problems. They feel nervous and tense when asked by their teacher in mathematics to solve problems on the chalkboard
- Very evident among the pupils about their cognizance on themselves is that they are limited and have a little competence in numeracy thus they are not confident of themselves especially in presenting their

answers on the board. They likewise feel challenge whenever asked by their teacher to answer and show and share their work with their classmates.

Comprehension Skills

- Majority of the pupils, 24 or 55.81 percent were observed to be moderate in their responsiveness in terms of comprehension skills. The finding suggests that pupils somehow understand the terminologies used in mathematics and that they can analyze problems and data presented by their mathematics teacher.
- Likewise, the finding implies that they can understand the lesson taught by their teacher though they have difficulty in executing the same by themselves alone. However, pupils are positive that they understand mathematics.
- Pupils agree that they can interpret and understand the data presented by their mathematics teacher, thus, makes the learning more convenient.
- They slightly agree that they are capable of analyzing and answering mathematical problems, these infers that they have difficulty in analyzing math problems, thus resulting to incorrect responses.
- Noteworthy among the respondents are their competence in interpreting and analyzing data which is a very important part of learning mathematics. However, they have difficulties in understanding the symbols, terminologies and the formulas that are used in mathematics, they found it complicated whenever numbers were substituted by letters, they likewise have difficulty in memorizing the formulas used in solving.

2. Relationship of the Five Dimensions of Pupils' Responsiveness

- Driving force was observed to be significantly related to Sense of Involvement (.155**); Perception (.301**); and, Aptitude (.676**).
- Results suggests that the more they exert efforts on accomplishing their tasks in mathematics no matter how difficult it is, they are still motivated to learn new concepts in mathematics, likewise the more the pupils perceived themselves as possessing numeracy skills the more they become more eager and vigorous.
- Sense of involvement bears significant interaction with perception [.301**] ; and, aptitude [.676**]. Findings insinuates that the more they involve themselves in the activities and on the learning processes on mathematics, the more they acquire competence and the wrong perceptions about mathematics are eliminating gradually.

- Perception was found to be significantly related to Aptitude [.676**]; and, comprehension skills [.152]. result suggests that the more the pupils acquire numeracy skills and the more they understand the lessons and concepts in mathematics, their previous perception towards the mathematics changes, they likewise perceived themselves to be more skilled and equipped with competence.
- Noteworthy is the comprehension skills that shows no significant interaction on Driving force [-.0302]; sense of involvement [-.038]; and aptitude [-.198]. The results insinuate that comprehension does not affect their motivation and their sense of belongingness as well as their perception on their skills in mathematics.
- The hypothesis that The five indicators of pupils' responsiveness are interrelated was, thus, accepted.

3. Relationship of pupils' academic performance in Mathematics and their responsiveness towards the subject along the five indicators.

- Obtained coefficients of interaction of pupils' academic performance in mathematics and their responsiveness along the five indicators disclosed significant interrelationships. The following coefficients obtained were: -.425 for driving force; .138** in Sense of Involvement; -.649 for Perception; .104** for Aptitude; and, .316** for comprehension skills.
- Three (3) of the indicators were observed to be significantly related to the academic performance of the pupils. These are Sense of Involvement, Aptitude and Comprehension Skills.
- Results suggest that pupils' academic performance in mathematics can be enhanced when the pupils exert efforts to participate in all activities given to them.
- The more they comprehend the math problems and the procedure that has to be taken in order to solve the mathematical equations and problems the more they acquire skills in numeracy, thus, resulting to a better performance.
- Noteworthy is the driving force that shows no significant interaction with the academic performance of the pupils in mathematics, the results insinuate that the pupils are motivated to do the tasks and activities given by their teacher.
- Perception does not affect the academic performance of the pupils because their insights about the mathematics as the hardest subject have nothing to do with their performance hence it does not affect their grades.

CONCLUSIONS

Based from the findings drawn, the following conclusions were arrived at:

1. Pupils are low to moderate in their responsiveness in terms of Driving Force, Aptitude and Comprehension Skills.
2. The five indicators of Pupils responsiveness towards mathematics are interrelated.
3. Three (3) of the indicators were observed to be significantly related to their academic performance in mathematics. These are the Sense of Involvement, Aptitude and the Comprehension Skills.

RECOMMENDATIONS

In view of the findings arrived at and the conclusions drawn, the following recommendations were offered:

1. The mathematics teacher must provide an attention-grabbing activity that will arouse their driving force to participate actively in all the tasks given by their teacher as well as provide a lesson that will cater their level of receptiveness likewise to eliminate their perceptions towards mathematics as difficult, boring and complicated subject.
2. Teachers should be sensitive to the needs of the pupils, specifically in building or developing the self-confidence of the pupils because it affects their enthusiasm to participate in class discussions.
3. The school head must call for a focus group discussion with the math teachers of all levels to address the same thing on other grade level and look for the best possible intervention to elevate the performance of the low performing pupils.
4. The pupils should exert efforts to comprehend the lessons, moreover not only do activities for compliance only likewise they must always contribute to the group or class whenever needed.
5. The researchers recommended that a replicate study to be done in other district or municipality.

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