PREDICTORS OF MATHEMATICS ACHIEVEMENT OF GRADE III PUPILS

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APPROVAL SHEET

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DEDICATION

To my ever supportive and loving husband,

Rico P. Bongalon Sr.

and

to my children,

Rico C. Bongalon Jr.

Roque C. Bongalon

Maria Rica C. Bongalon

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ABSTRACT

The study determines the predictors of mathematics achievements of Grade III pupils of Catbalogan II Central Elementary School, Catbalogan, Samar for the school year 2009-2010. The study used the descriptive correlational method of research aimed at explaining and describing the predictors of mathematics performance of the grade III pupils of Catbalogan II Central Elementary School for SY 2009-2010. The parent-related factors used to predict mathematics achievement based on the District Achievement Posttest score when the variance in all the other variables are controlled. This probability value is less than the probability value of .05 which means that this variable is a significant predictor. The parent-related factors that can predict Mathematics achievement of the pupil-respondents based on the District Achievement Posttest score in Mathematics III is father's religion, textbook writers and Mathematics III teachers should give mathematics example in the textbooks which will developed pupils values of honesty, thrift, patience, and others which are both personal and family values which will not contradict religious teaching. The mathematics curricula should emphasize interactions between learners and learning tasks, the teachers must continually adjust the level of his or her help in response to the pupil's level of performance. If pupils are deficient in computational skills for example which is needed in the succeeding tasks a review should be conducted by the teacher or exercises should be given to hone the skills.

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Chapter 1

THE PROBLEM AND ITS SETTING

Introduction

The function of education at the elementary level is to develop the whole being of the child in all aspects of individual development and in all fields of life. It is the society's main avenue for the proper development of learning, attitudes and skills that will enable the pupils to become more productive, versatile and totally developed citizens (Zulueta, 2006: 26).

English and Mathematics are two of the most important subject in the elementary school curriculum. They play a vital role in the life and education of every pupil. Some subject in the elementary level are fused with other subject but English and Mathematics remained as independent subjects in the curriculum. This is because of the country's demand for higher degree of mathematical literacy and communication competency in English. Failure to handle these subjects effectively places the burden not only in the school but in the country as a whole. Mathematics is very important to the pupils, teacher, and to the country as a whole.

Measures of achievement have long been employed as an integral part of the educational program. An efficient program of evaluation however does not consist merely in the effort to check the completed process but rather in a continual appraisal of pupils' progress toward the attainment of established goals and

objectives. Such a program should be outlined in terms of significant instructional objectives. There is, probably, accurate measure than a careful assessment of each evaluation program; the technique used; the aims; objectives; and function implied and the interpretation and used of obtained result (Ornstein, 1990: 211-254).

In the view of these facts, Dela Cruz (1998:12) emphasized that an active outcome-oriented and self-regulated learning where meaning is negotiated, multiple perspectives encouraged and learners map their way through ever-changing information and knowledge is highly needed by the pupils. Furthermore, such ethics of excellence requires a mastery of subject matter in literacy as well as numeracy, to promote clear and coherent thinking and the ability to reason on the basis facts.

The desired outcome of the English and Mathematics instructions include increased achievement as well as positive attitudes of pupils that are usually measured in terms of teacher-made achievement test which evaluate the specific objectives of classroom instructions.

The available data on National Achievements Test result in the Mathematics of grade III pupils for the test last three school years, for Catbalogan II Central School for SY 2007-2008, 2008-2009, and 2009-2010 - showed that for Mathematics III, the total MPS was 96.42, 95.83 and 95.93 respectively. The data show a fluctuating MPS in Mathematics III. However, the overall MPS for Catbalogan II Central Elementary School shows and increasing overall MPS since, 2007-2008 the overall MPS was 83.86; in 2008-2009 the overall MPS is 88.66 while

in 2009-2010 it is 92.15. Based on the NAT result for the Mathematics III it allows us to tentatively conclude that there is an exemplary achievement in mathematics of pupils in Catbalogan II Central Elementary School having met and exceed the target MPS of 75.00 percent.

In the District Achievement Posttest, the performance of the same school in Mathematics III is fluctuating for it shows a higher MPS is school year 2009-2010 with 83.00 percent and for school year 2010-2011 it obtained only 78.62 percent in Mathematics III in terms of MPS.

In the Division Achievements Posttest, it shows an increasing performance in Mathematics III based of the posttest scores for the last two school years having obtained an MPS of 78.56 for SY 2009-2010, and 80.20 for SY 2010-2011.

Although this performance is fluctuating, this is a challenge for the teacher in Mathematics in the other schools to investigate on some factors/predictors that may have influence on the achievements of pupils in the said subjects.

Understanding why some pupils achieve better performance in Mathematics than other pupils involves knowing some factors that may have influence on the pupils' Mathematics achievements. These factors may be inherent in the school, in the pupils, in the teachers and their homes/parents. The home, especially the parents, plays a vital parts in inculcating in their mind the value of education as early as when they are small children as it is at home that the children learned about the basic of reading, writing and arithmetic (Panopio et al., 1994: 4).

Among those that children may pattern after their parents are their educational attainment and their relationship with trier own children.

Besides their parents, pupils' achievements may also be influenced by factors that are inherent in themselves such as their study habits and their attitudes towards the subjects. However, the greatest task of enhancing the learning of the pupils rest upon the teacher. Aquino (1988:515) stressed that since teacher have the responsibility of instilling upon the children the love for their education they are pursue excellence and competence such as in their knowledge of content and ability to use suitable learning environment for the needs of the pupils.

With the importance of knowing some factors that influence achievements in the mathematics of the pupils, the researcher, being a mathematics teacher of Catbalogan II Central Elementary School, has though of this research geared towards determining the predictors of mathematics of grade III pupils of Catbalogan II Central Elementary School. Hence, this research was conducted for the purpose of knowing what pupil-related and home/parent-related factors can predict achievements in Mathematics of Grade III pupils of Catbalogan II Central Elementary School.

Statement of the Problem

The study determines the predictors of mathematics achievements of Grade III pupils of Catbalogan II Central Elementary School, Catbalogan, and Samar for the school year 2009-2010.

Specially, the study sought answer to the following questions:

1. What is the profile of the pupils-respondents in terms of:
   - 1.1 age;
   - 1.2 sex;
   - 1.3 number of sibling (boys and girls);
   - 1.4 birth order;
   - 1.5 final grades in English III and Health & Science III;
   - 1.6 general weighted average (GWA) grade in Grade III;
   - 1.7 district achievements posttest rating in English and Health and Science in Grade III;
   - 1.8 distance home from school;
   - 1.9 study habits, and
   - 1.10 attitude towards mathematics?
2. What is the profile of the teacher-respondents in terms of:
   - 2.1 age;
   - 2.2 sex;
   - 2.3 civil status;
   - 2.4 average monthly family income;
   - 2.5 highest educational attainment;
   - 2.6 teaching experience in Mathematics;
   - 2.7 relevant trainings and seminars;
   - 2.8 RPAST rating;

2.9 religion;

2.10 instructional material used in teaching mathematics, and

2.11 attitude towards teaching Mathematics?

3. What is the home/parents profile of the pupil-respondents with respect to the following?

3.1 parents' age;

3.2 parents' educational attainment;

3.3 parents' occupation;

3.4 parents' religion;

3.5 average family income;

3.6 household size, and

3.7 parents' attitude towards Mathematics?

4. What is the level of Mathematics of the Grade III pupil respondents based on the following:

4.1 final grade in Mathematics III, and

4.2 District Achievement Posttest (DAP) result in Mathematics III?

5. Is there a significant relationship between the pupil-respondents' level of Mathematics achievements and the following:

5.1 teacher-related factors;

5.2 pupil –related factors, and

5.3 home/parent- related factors?

6. Which of the aforementioned factors considered best predict the mathematics achievements of grade III pupils in Catbalogan II Central Elementary School?

7. What implication for instruction redirections may be derived from the finding of the study?

Hypothesis

To shed light to the problems raised in this study, the following hypothesis was tested:

1. There is no significant relationship between the pupil-respondents' level of Mathematics achievements and the following:

1.1 teacher-related factors;

1.2 pupil-related factors, and

1.3 home/parents-related factors.

Theoretical Frameworks

This study is based primary on the nature and nurture theory espouse by psychologists, namely: Jean Piaget and B.F Skinner. The said theory maintains that an individual is a unique creature that is the result of the interactions between hereby predispositions transmitted by their parents, and environments, the conditions outside the organism that influence behavior, developments and life processes, except genes (Sevilla et al., 1988: 63). For this reason, Hildreth, cited by Sevilla et al. (1988: 63), stresses that people are not equal in development, because

they are biologically unequal to begin with, and the resulting interplay with the environment forces makes for still greater differentiation.

Based on this theory, it is safe to say that mathematics performance is influenced by factors that are either from the genetic predisposition of the learners and from those conditions that are present in their environment. According to Dixon (2002:1), a professor at the University of Hawaii, during his inaugural address at the International Union of Anthropological and Ethological Science in Tokyo, the neurophysiologic basis of number sense is found in the angular gyrus. This finding implies that mathematics performance has something to do with physiology that, in turn, may be dictated upon by genetic forces (Dixon, 2002: 1). As such, mathematics can be instilled into the child's mind during the early years of this development. However, the rest of his mathematics learning comes from the environment such as the alcohol, which gave some form of cultural enrichment. This shows the interplay and nurture in the mathematics performance of students.

Likewise, this study finds its basis on Piaget's theory of cognitive development. Piaget (1972: 56) espouses that an individual behavior is controlled through mental organizations called schema that he used to represent the world and designated action. This adaption is driven by biological drive to obtained balance schemes and the environment. In explaining how an individual attempts to adapt, Piaget described two processes, namely, (a) assimilation and (b) accommodation. He averred that both of these processes are used throughout the

person's life as the person increasingly adapts to the environments in a complex manner (Piaget, 1997:59). Moreover, he proposed that cognitive growth takes place in development stage which means that the nature and make-up of intelligence change significantly over time. The stage of cognitive growth broadly represents major transportation of mental organizations, which proceeds from assimilation to accommodation. The activity of assimilation allows individuals to assimilate certain experience from the environment that force the child to accommodate or internalize those experiences. These processes then result to adaptation that is a kind learning attainment.

The above-mentioned theory implies that the learner goes into several stage of cognitive development that the school, the teacher and the parents have to take into accounts. The school, through its curriculum should provide specific educational experience, based on the children's development level, to foster intellectual growth; especially in the fields of mathematics. The teacher should provide meaningful experience to the learned for the letter to be able to assimilate and accommodate concepts and principles in mathematics. Besides them, the parents are also responsible for guiding their children as they progress through the different stage of cognitive growth.

The field theory of Lewin states that behavior is the function of the present life space (Gregorio, 1976: 85-86). Learning is a change in the cognitive structure or in the way of perceiving events and giving meaning to them. This theory has also extended the concept of "wholeness "of the learning situation by

demonstrating the role played by the cultural and social environment in determining what people respond to what meaning they give to what they perceive. The culture environment of the individuals shapes the selectively of his perceptions and violation. The followers of this theory no longer speak of a learning act but a learning situation and the forces operating in it- the individual including his perceptual "selectivity", his purposes and needs, the demands of his culture, and his previous learning. Lewin's topological theory of behavior is among the derivations of classical Gestalt physiology. The topological theory is so called because it was based on the branch of mathematics used in the preparation of maps. To understand a person's behavior, according to Lewin, one must recognize his position on a kind of map in relation to the goals he is trying to attain. This map of Lewin is called "life space". The life space of an individual includes all the forces that are acting upon him at a given moment. It is to this pattern or field of forces that he or she reacts. In addition to the material object and other external tension or drives which motivate him/her towards some goal in the environment (Gregorio, 1976:85-86). As applied in this study, it can be state that teacher, pupils, and parents have their individuals "life space" which may be influenced by external and internal factors outside and inside this individuals teacher, pupils, and parents. Thus the teacher' assessment of the performance of the pupils may be influenced by factors such as age, sex, civil status and other.

The theories cited here clearly explained that mathematics performance is highly an individual experience that progress through several stages and that is

influenced by some factors that come either from nature or from nature, from the teacher from the school or from the pupils themselves.

Conceptual Framework

The schema in the next page shows the conceptual framework of the study.

At the base frame of the schema are grade III Mathematics teacher, pupils and their parents of Catblaogan II Central Elementary school, the respondents and research environment, respectively. This was conducted during the school year 2010-2011, the time frame of the study.

The base frame is connected by a single-edged, unidirectional arrow to the bigger frame which contains the research process. The study is a descriptive-correctional which aimed at determining the relationship, as shown by the double-edge arrow, between certain teacher, pupils and parents-related factors and the achievement of the pupil-respondents in Mathematics III based on final grade in Math III and the District Achievement Posttest in Math III.

The pupil-related factors determine here are the following: (a) age, (b) sex, (c) number of sibling (boys and girls); (d) birth order, (e) final grade in grade III, (g) District Achievement Posttest (DAP) score in English, and Health and Science in grade III, (h) distance of home from school, (i) study habits; and (j) attitude towards mathematics.

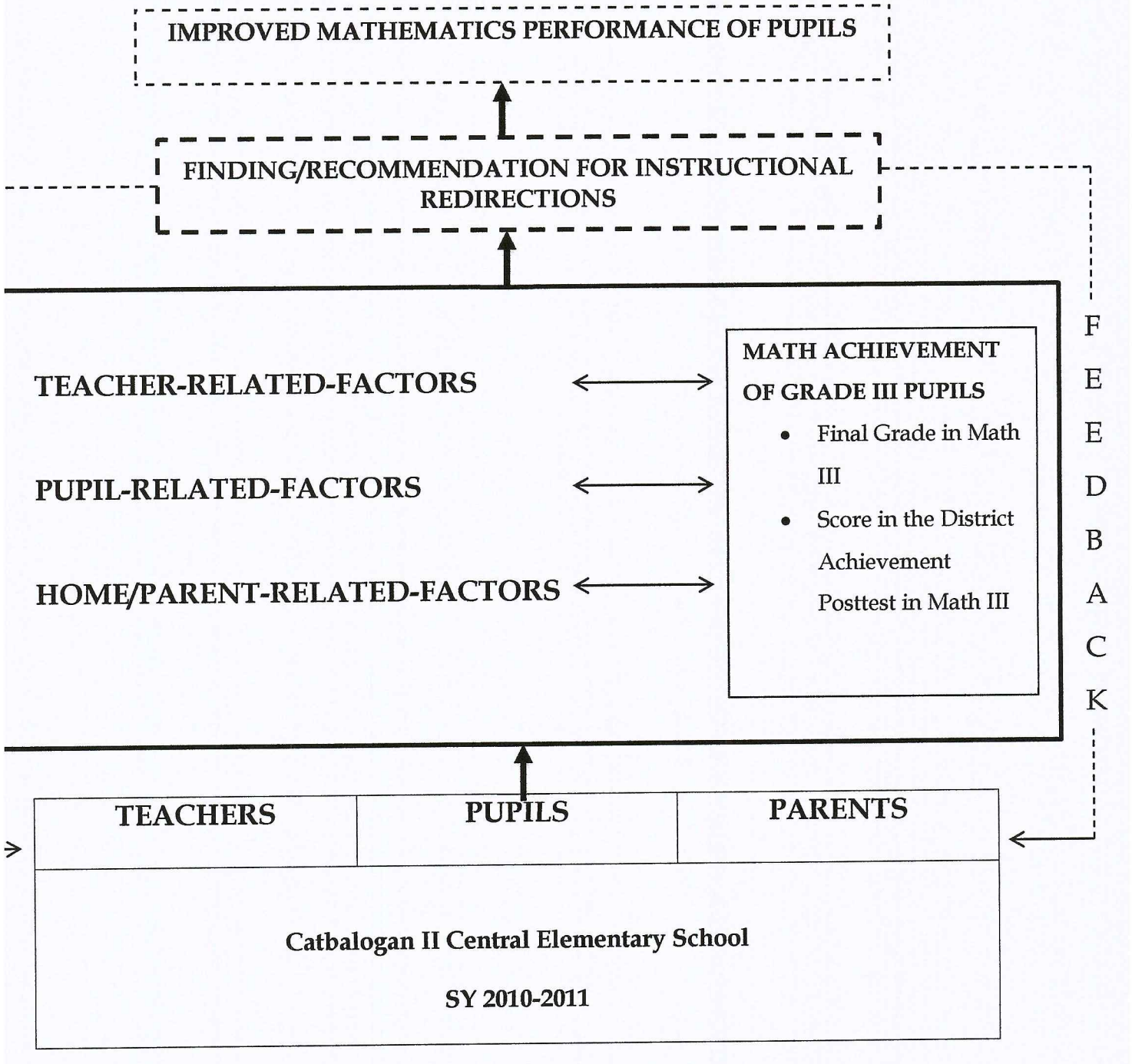

Figure 1. Conceptual Framework of the Study

Among the teacher-related factors studied here were as follow: (a) age, (b) sex, (c) civil status (d) average family monthly income, (e) highest educational attainment (f) teaching experience in Mathematics, (g) relevant training/Seminar attended, (h) RPAST rating, (i) religion, (j) instruction materials used in teaching mathematics, (k) teaching used in teaching mathematics, and (l) attitudes towards teaching Mathematics.

The home/parent-related factors are (a) parents' age, (b) parents' educational attainment, (c) parents' occupation, (d) parents' religion, (e) household size, (f) average family monthly income, (g) parents' attitude towards Mathematics.

After collecting the needed data, they were analyzed and interpreted to arrive at major findings of the study. The recommendations based on finding of the study would serve as instructional redirection, shown by the 3rd box. The study ultimately at improving mathematics performance of the grade III pupils.

Significance of the Study

The findings of this study would provide valuable insights and practical suggestions to the following people involved teaching Mathematics in the Division of Samar particularly in Catbalogan II Central Elementary School.

To the Grade III Pupils. The result of this research would equip them with the necessary skill in Mathematics needed in attaining the goals of elementary

mathematics. This would also provide them with baseline information about factors which strongly influence performance and achievement in Mathematics.

To the Mathematics Teachers. The study would involve the relationship of certain variants with Mathematics achievement/performance of students. As such, this research would prove to be primary importance because this will served as guide in utilizing appropriate teaching that will develop every elementary pupils to be mathematically proficient.

To the School Head. The present investigation would serve as baseline information for school administration to create measure that will increase the attainment of the goals of elementary mathematics under the BEC curriculum, that is, the production of the quality elementary graduates that are mathematically competent.

To DepEd Policy Makers. This study would enable policy makers, that is, those who are connected with the Department of Education (DEPED), to gain insights into the establishment of program that aim to enhance the effectiveness of the Elementary Mathematics Curriculum.

To the Parents. The present study would help them understand their roles in the school mathematics performance of their children. The parents in turn would be able to develop ways to encourage their children to study more, specifically in Mathematics.

To the Future Researcher. The study would provide insights to future researcher to conduct a study that specifically deals with each of the variates. This

would also serve as bases for future researcher to conduct assessment studies on Elementary Curriculum given the factors that are studied here.

Scope and Delimitation

The study is a descriptive-correlational one that is aimed at determining factors that can predict the Mathematics achievement of grade III pupils of Catbalogan II Central Elementary School during the school year 2009-2010 who are now in Grade IV. (The result of the study will serve as basis for delete instructional redirections).

Moreover, the factors/predictors studied are categories into three, namely: (a) pupils related-factors such as: age, sex, number of siblings (boys and girls), birth order, final grades in English III and Health & Science III, general weighted average grade in grade III, District Achievement Posttest Scores in English, and Health & Science in grade III, general weighted average in grade III, distance of home from school, study, habits, and attitude towards mathematics ; (b) teacher-related factors such as: age, sex, civil status, average family monthly income highest educational attainment, teaching experience relevant training/seminars attended, RPAST rating, religions, instructional materials used in teaching mathematics, teaching strategies used in teaching mathematics, and attitude toward teaching Mathematics; and (c) home/parent-related factors such as: parents' age, parents' educational attainment, parents' occupation, parents'

religion, household size, average family monthly, and parents' attitudes toward Mathematics.

The study involved five grade III Mathematics teacher of the five sections of grade III in Catbalogan II Central Elementary School, 117 grade III pupils of school year 2009-2010 who are now grade IV and their respective parents.

The study was conducted during the school year 2010-2011 in Catbalogan II Central School, Catbalogan, Samar.

Definition of Terms

To be able to facilitate the readers' comprehension of his study, the following terms, as used in the study would mean as follows:

Attitudes. This refers to certain emotionalized response that determines the nature of conduct in a variety of situations, and causes it to conform to curtained general requirement (Kishor, 2000: 21). In this study is the response and the pupil-respondents, and parent-respondents in the questionnaire.

Attitudes towards mathematics. This refer to a personal view of mathematics, either favorable or unfavorable, an opinion or general feeling about mathematics, its concepts, symbols and principles (Microsoft Encarta Dictionary, 2003). In this study, this is used to refer to the teacher's, pupils' and parent disposition or tendency to respond positively or negatively toward teaching and studying Mathematics, as reflected in their to the attitude statement indicators.

Attitude towards mathematics teaching. It refers to the learned predisposition to respond in a consistently favorable or unfavorable manner to mathematics teaching (Lefton, cited in Mcleod, 1992: 596). In this study, this was determined through the teacher-respondents' responses on a 10-item Modified Mathematics Teaching Attitudes Scale (MMTAS), adopted from Fennema and Sherman (1976: 71).

Correlates. This term refer to bring into mutual or reciprocal relations (The New Webster Dictionary of the English Language, International Edition, 2004: 145). As applied to this study, these are factors related to the teacher, pupils, and home/parents which may have significant relationship with the mathematics achievement of grade III of Catbalogan II Central Elementary School which are the contents of the four sets of questionnaire.

Highest educational attainment. This pertains to the level of educational attainment reached by the grade III mathematics teacher in Catbalogan II Central Elementary School such as college graduate, with units in master, master's degree, etc.

Family income. It is the combined income of the father and the mother and other resources such as yield from agricultural lands. Operationally, it is the income of the whole family.

General weighted average (GWA) grade. In this study, this term refer to the average rating obtained by the pupil-respondent in grade III by multiplying

assigned weights to grade obtained for each subject and dividing by the total number of units/credits.

Home/parents-related factors. In this study this refer to the characteristics of the home of the student-respondents each as their parents' age, parents' educational attainment, parents' occupation, parents' religion, household size, average family monthly income, and attitude of parents Mathematics.

Instructional materials. These are pieces of equipment or mechanism designed for specific purpose or special function that are used in teaching lessons to involve a desired reaction in the learner (Good, 1945: 117). In this study this refers to books, charts, picture, etc. used by the teacher-respondents in teaching Mathematics III.

Mathematics III. A subject in the elementary that deals with the concepts, process, and skills in whole number (four fundamental operation-Addition, Subtraction, Multiplication, Division), rational number, geometry, measurement (time measure, linear area, mass measure), maps and graph (Mercado and Castro, 1997: Table of Contents). It is in the same context that this term is defined as used in this study.

Mathematics performance. This refer to what a person does in school, as influenced by various factors other than what a person knows (Sevilla et al., 1988: 23). In this study, this will refer to what a grade III pupil does in his/her mathematics subject. In addition, this will pertain to the final grade of the grade III pupil in mathematics. This term is used to refer to mathematics achievement.

Pupil-related factor. In this study refer to the pupil-respondents characteristics such as- age, sex, number of sibling (brother and Sisters), birth order, final grades in English III and Health & Science III, general weighted average grade in grade III, District Achievement Posttest rating in English II and health & Science III, distance of home from school, study habits; and attitude toward mathematics.

Relevant seminar and Training attended. This referred to the frequently or count of seminar attended and trainings participated which will include the number of hours garnered.

Study Habits. This term means "the consistent patterns behavior pupils used to do the work for his/her classes" (Aquino, 1988: 329). As used in the study, study habits refer to the behavior and ways of the pupils in studying Mathematics.

Teacher-related factors. It is anything which is connected or in relation with the teacher (Merriam Webster's Collegiate Dictionary, 2003:1050). In this study this refer to the mathematics teacher-respondents characteristics such as: age, sex, civil status, average family income, highest educational attainment, highest experience, relevant training/seminar attended, RPAST rating, religion, instructional material used in teaching mathematics, teaching strategies used in teaching materials, and attitude toward teaching Mathematics.

Teaching strategies. This refers to a series of related and progressive acts performed by the teacher to accomplish the general and specific aims of the lesson (Gregorio, 1976: 245). In this study, it refer to the methods of teaching applied by

the elementary grade III teacher in teaching Mathematics III such as deductive method, inductive method, demonstration, discovery, discussion, expositor, and others.

Chapter 2

REVIOR RELATED LITERATURE AND STUDIES

This chapter includes the review of related literature and studies which are considered pertinent and relevant to the study. The researcher reviewed a number of published and unpublished articles, books, magazines, and on-line references or web-based references. These references help the researcher to established some basic facts and principle which were useful in the conduct of this study.

Related Literature

Mathematics is a study of relationship among qualities, magnitudes, and properties and of logical operation by which unknown qualities, magnitudes, and properties may be deducted (Microsoft Encarta, 2003). It is acknowledge that it is an important driving force that would speed up the development of the country by creating mathematically gifted graduates competent in business, banking, commerce and other related fields. In spite of the intrinsic value of mathematics, almost all students in learning institutions regard mathematics as a difficult subject thereby causing deficiencies in performance in the said subject. Result of the assessment made by the "third International Mathematics and Science Study (TMISS) in 1999 and 2003 showed that in the Philippines fall below the international average of 36 countries in mathematics. In fact the Philippines placed 4th to the last. The fact was obtained after giving achievement test constructed

according to the principle of modern test construction, supplemented with student questionnaire on demographic background variables, motivation and students' perceptions the classroom environments.

The goal of elementary in the BEC is that pupils will demonstrates understanding and skill in computing with considerable speed and accuracy, estimating, thinking analytically and critically, and in solving problems in daily life using appropriate technology (Zulueta, 2006: 26).

To accomplish this goal the education sectors considers the teacher factor or characteristics-personal and scholastic characteristics. The personal characteristics of the leader include physical, mental, personal and moral. The physical characteristics of a teacher cover personal appearance, poise, health, cleanliness and neatness. The scholastic characteristics of a leader cover academic preparation, mastery of the subject matter, communication skills, and experience (Iral, 2007: 10-11).

The pupils' factors which influenced learning are the pupils' physical ability, mental ability and moral conduct in the classroom (Iral, 2007:11). The school, parents, intellectual factors and non-intellectual factors contributes to the academic performance (Ames & Archer, 1988:1).

Different variables such as pupil, teacher, and parents characteristics as well as other variables that can predict mathematics performance is cited in this section.

Sex is strong predictors of human and contract and many differences have been documented between the attitude, behavior and achievement of males and females. Females are superior in verbal ability from 10-11 years old, males are superior in quantitative skills and visual spatial ability from the onset of adolescence as pointed out by Deux, cited by Banks et al. (1988: 365).

Gender differences in intellectual ability were documented by Archer and Llyod (1985: 203). They found out male superiority in mathematical ability, which they discovered also in early adolescence.

Male superior performance of cognitive task is due to their ability to extract and logical relationship independently of the contextual compound of the task. The ability helps them to cope with the rather abstract scientific concepts, especially when the concepts introduced are mathematically quantitative. Girls on the other hand are less analytical, and they tend to elucidate the meaning of the concept from the connotative content. They also pass the form association between seemingly unrelated ideas (Levy, 1990: 313).

Mathematics is considered a difficult subject by many pupils because of their experience. Mathematics experience is purified even more by the attitudes that teachers and profile have towards mathematics (McLeod, 1992: 1).

Mathematics is considered a difficult subject by many pupils because of their experiences. Mathematics experience is prejudiced even more by the attitudes that teacher and pupils have toward mathematics (McLeod, 1992: 1). The attitudes that pupils bring into the classroom are factors that can impede learning

math or hinder the extent to which they develop use full math skills and apply them to experience outside the classroom (Gal and Ginsburg, 1994: 1).

A positive attitude towards mathematics contributes to higher achievement in learning mathematics. In learning mathematics, pupil learns more affective when they are interested in what they learned. They would achieve better in mathematics if the like and enjoy the subject (Jadar and Quinn, 1987:366).

Learning is habit formation, but under cognitive-field psychology, habit comes to be a special definition. Habit is not an act which is repeated automatically simply because of frequent repetition in the past. Neither, it is a fix sequence of acts that can be explained adequately of performed pathways in the nervous system (Bigge and Hunt, 1958: 416). Many highly intelligent pupils fail because they do not know how to do efficient work and have never learn how to study effectively and practice some effective study technique that have to be learned and never practiced such as making plans, scheduling of work, note-taking, using the library, solving word problems and developing reading skill. Pupils who make this effectively study practiced show better academic (Foe and Lee, 1988:251). Study habits is the pupils accustomed approach to units of learning, his consistency in ignoring destructions, his attentiveness to the specific material being studied and the efforts that he exerts throughout the process. Pupils who studied efficiently demonstrate that they have developed methods of learning which aid in the acquisition of knowledge, when they are preparing for the test or the examination with limited time available (Van, 1997: 2076). One can even

improve his body habits to response to the solution of mathematical problem which eventually would lead him to develop critical thinking skill which is most useful and relevant in real life situation (Silva, 1985: 5). Within the past several decades, there has developed among educators at all scholastic level a widespread interest determining hoe pupils should be guided and directed so that they may acquire as habit methods, pupils which will function effectively both in school and in life. From this interest, there have resulted a large number of research investigations dealing with various aspect of how to study a problem. In the particular, two aspects of this this problem have been subjected to intensive investigation. The first of this aspect has involved attempts to discover the actual study skill that pupil possessed and practices. The second aspect of this problem has involve endeavors to devise of training pupils in the application and what are considered to be effective methods of study. One of the major weakness of this research has been that emphasized the pupils' knowledge of good study procedure rather than his habitual use of them (Kelly, 1965: 273).

There are study guides for pupils according to Kelly. First, the physical condition which is fairly recognized that if one to be capable of superior physical performance he must be careful to follow certain rules of physical hygiene and he must train himself physically for the performance in question; for mental activity, in contrast, pupils often acts as if mental activity, were unrelated to body nutrition. They will go without proper food, stay up most of the night before an examination,

failed to get proper physical exercise and recreation, and still be surprised when an abused nervous system fails to respond as desired during exanimation.

Pupil engagement refer to the pupils deeply and intellectually involved in curriculum topics and mentally engaged in class activities and lessons which take time for pupils' reflection. Some pupils in classroom are usually observed to be disengaged, and can be described as physically and mentally absent. As passive learners, are lost in classroom discussion. Some are seen napping, daydreaming, talking or doing some mischief. Some wait for the bell to ring so they can engage in more challenging tasks. Some slouch in their seats preparing to entertain themselves with views seen through window jalousies. Some learners however seriously immersed in the day's lesson, while the unmotivated one seems indifferent.

The essential that could improve pupils' engagement, pupils motivation should be priority in creating a school culture that supports and sustains the pupils' achievement. The value and inherent satisfaction of lifelong learning of pupils should be demonstrated. Teacher should works individually with the school staff to ensure personal and professional assistance. The school climate should recognize pupils' differences, encourage retention, and application of knowledge, of facts, and of information derived in class textbooks, class discussion, lectures, and other resources materials. Through practices and in the performance of the said school tasks, these methods become habitual (Kelly, 1965: 272).

Intelligence is one of the factors that affect the learning process (Isidro, 2011: 9). In fact, it has something to do with the learning abilities of the pupils, hence, the higher the intelligence the greater is the ability to learn. Another theoretical frame of references is Atkinson's (1966:75) model of the dynamics of cumulative achievement. In this theory, academic achievement as defined by the final grade in a course is best predicted by previous performance. The final grade is reflective of the achievement in the academic undertaking related to the subjects.

The influence of family background of academic achievement was pointed out by Scarr and Weinberg (1978:43). They discussed the long term effects of family background influences on adult intellectual, occupational, and economic outcomes. Family environment and genetic difference can account for some differences in adult achievement. Half or more of the long term effects of family background on children's intellectual attainment depend upon genetic, not environmental transmission.

Prior achievement and home environment influenced subsequent achievement most powerfully; motivation, exposure to extramural reading media, peer environment, and instruction exposure also had significant influence or achievement (Reynolds and Walberg, 1992: 306-328). Previous attitude had the most powerful influence on subsequent, although the direct effects of instructional quality and the indirect effect of motivation and home environment were also notable. Appropriate teachers' use of instructional time thorough textbook coverage, and daily introduction of new materials, although educationally

alterable, are themselves influenced by previous pupils' achievement. Similarly, instructional practices are significant alterable influences on mathematics attitudes, but such practices are themselves influenced by pupils' initial attitudes.

"How to test the pupils ability in mathematics" especially focus on problem solving was indicated in the article of Macatangya (1970:104). He said that child must solve a problem by applying different situation ranging from the use of illustration to the different equations or mathematical sentences. The child must learn the problem. A pupil who consistently writes the equation but gets incorrect answer is poor in number operations, while the pupil, who cannot write the correct equation of a given problem need help in reading comprehension and interpreting problems.

The perennial task of education is to bring about change, to form and transform the total person, his intellect, his emotion, his will, to realize the faculties, the capabilities and talents that God gave him and developed him into full personhood (Quisumbing, 1987:152). This may take us a lifetime to fulfill, because a change in human heart does not take place in four days, nor in four years, but in a whole lifetime. That is difficulty with education because we plant and continue planting and the time to reap seems so remote. The outcome and the output have to undergo a long process.

External and internal factors that influence the development of the individual characteristics important for academic was discussed by Hirch (1985:68). External factors are defined as conditions which influence a child's

academic achievement by direct means, either through affect upon the school or the home or upon the development of some of the individual child factors. Internal factors are defined as characteristics of the individual pupil which have some direct bearings upon his school achievement. Hirch further cited some factors affecting academic achievement which are also known as the environmental and biological development of the individual.

There are some factors associated with academic achievement as pointed out by Sharma (2010: 2). The analysis of the educational system was done by determining the relationship between the input and the output factors and some of the following are the results:

Regional variations in academic achievement are related with socio-economic factors which in turns are associated with geographical and characteristics. It is widely known that there are large regional gaps in the levels of socio-economics development across regions of the country. The data from SOUTELE seemed to lend credence to the hypothesis that variations in socio-economic conditions are systematically translated into variations in academic achievement test scores.

Family income and parents' educations combined to form critical determinants for academic achievement levels of barrio, central and private school pupils.

The teacher's expectation is an important factor in determining the academic achievement of pupils. The teachers' response to the questions, "How

would you evaluate the general motivation of his pupils?" were analyzed and the result showed that the evaluation of the teacher were quite accurate and correspond closely to the pupils in the achievement test as the teachers' evaluations become more positive the pupil's academic performance also increased above the levels of their own self esteem.

The education provisions mandated in the 1987 Constitution have articulated in the Education Act of 1982, Batas Blg. 232, (as cited by Sutaria et al., 1989), which provides that:

The state shall promote the right of every individual to relevant quality education regardless of sex, age, creed or religion, socio-economic status, physical and mental condition, racial, as well as ethnic origin, political or other affiliation. The state shall promote equality and access to education as well as the enjoyment of all benefits of all citizens.

Some environmental factors possible to have influenced scholastic performance, namely; (1) City children were found to be better than country children because of availability of educational facilities; (2) parent's occupation has an influence on scholastics achievement; (3) children in isolated and backward sections do not acquire the kind of experience in their home, school and community more than children living in urban or progressive section do; and (4) children of well-to-do parents have greater accessibility to libraries, places of culture and other facilities than those of poor parents. It further reveals the environment climate forms dynamic linkage to scholastic achievement. The

college or university therefore, must be supportive in creating and providing an environment climate for a better achievement (Kapunan, 1978; 48).

On the other hand, academic achievement is influence by a combination of economic, academic, and psycho-social factors as the most related.

In the teaching and learning process, mathematics should be made meaningful by allowing by the learners to explore mathematical concept and relations of possibilities in the environment. It should be taught in the interesting way through various stages whereby the learners could gain mastery of such concepts as well as computational and problem solving skills needed in everyday life (Salandanan, 1996: 53).

Pupils knowledge in Mathematics have been limited to mere recall or memorizing and direct application, as per report of nation testing center, students/pupils can only answer one-third of the mathematical questions as pointed out by Laya (1978:4). He traced the inadequate mathematical instruction to the quality of teaches especially in elementary grades. Mastery is not achieve in the lower levels tends to have domino effect.

The mastery of the basic processes in mathematics is most essential in the space age (Lesley, 1952: 2). Thus, one has two develop speed and accuracy in doing or performing mathematical computations and reasoning because these skills are basic in arriving at the correct solutions to a problem.

It is the duty of all teachers in general, and of mathematics teachers, in particular, to expose their students to problems much more than to facts (Halmos,

1996: 519). A good problem solver needs to experience a variety of problem solving situations rather than just to obtain the correct answer. The idea of halmos was strengthened by Smort (1993: 2) when he started that problem solving is a process, not an answer to be found, it is a journey, not a destination.

The teacher of mathematics has two problems. The first is to provide his pupils mathematical experiences suitable to the state of development of their existing and to fit this method of presentations to the pupil's concrete or formal level of thinking. The second is to develop the pupil's ability to analyze new materials himself so that he can synthesize his own concepts in ways most meaningful for him independent of the teacher (Salandanan, 1996: 44-45). To solve this problem in ways that will meet the needs of the learners, the teacher needs to know and to use different teaching strategies. To execute lessons in mathematics successfully the teacher needs to: 1) manage his classroom efficiently and with minimum disruptions; 2) elicit active participation form his pupils; 3) recognize and solve pupil's learning difficulties; 4) communicate mathematics concepts precisely in the proper inductive sequence at a level consistent with the pupils ability; 5) provide an atmosphere where mistake are accepted as a part of learning and where pupils feel free to ask questions where when they do not understand a concept; 6) motivate pupils to learn mathematics; and 7) selected and use methods appropriate for given behavior concepts.

Learning in general begins with sensory images. For this reasons, they might fail to learn properly. In in the studying the assignment that teacher gives;

the eyes are usually of most importance of all senses, particularly in the fields of reading. It will also be might easier to study if the pupils have a suitable physical environment. This normally requires a quiet room with suitable furniture, heat and light, and without some of the destructions that are often present.

Any kind of noise tends to be destructive and fatiguing, but meaningful sounds in the room of conversation or radio programs that includes taking are much worse than simple noises. The only safe rule, however, for any person who has difficulty in studying is to turn off the radio-television and void conversation.

Secondly, the time planning is also generally necessary for efficiency and this applies particularly to the observance of a suitable time schedule. The day and week should be divided in such a way as to provide an adequate amount of time for eating, sleeping, recreation, studying and for the other normal activities. Then the time set aside for studying and schedule approximately at least for different kind of works that are to be done.

Third, the use of reference as a general background for efficiency in studying the student needs is to learn how to use the library. He should be able to look up references and find them. This will include the use of various guides to periodical literature, including the special indices in particular fields. If he/she is permitted to have access to the library stacks, he/she may find it very helpful to browse through the books in a particular section.

Fourth, the assignment is essential for actual studying in a clear understanding of the lesson presented. And much of the difficulties that pupils

have are due to failure to know what is expected and when it is expected. The reason for much failure is that assignments by given at the beginning of the class periods and check carefully either by asking other pupils or by asking the teacher what assignments has been made during an absence. Success in meeting this difficulty well depends largely on the ability to assume an aggressive attitude toward a problem and to develop adequate motivation.

As the researchers have already suggested, one of the most serious difficulties for many pupils is lack of motivation. They are much more interested immediately in other problems. And this difficulty is increase inevitably by compulsory school attendance, graduation requirements in that course contents are generally determined by teachers whose interest in a subject and whose capacity are usually much greater than that of the pupils who will be having the greatest difficulty in studying.

Some materials to be learned is largely of the rote memory variety and will need without the benefit of understanding, but in most situations successful learning will depend on understanding. A special effort should consequently be made to get us through an understanding as possible of what is learned.

Meaningful material is generally learned more efficiently by something similar to the whole method, but rote memory material is often learned more efficiently by part method. In the case of rote material, more drill and review will be needed and less can be learned. This will be especially true of those pupils who have difficulty to remember such details such names and dates. For greatest

efficiency, therefore, it will be necessary for the pupils to vary his method of attack to suit the materials that is learning.

Lastly, review is often advantageous for pupils to refresh the lesson they had. It is often suggested that pupils should study in pairs, or even in larger groups, so that one may ask question for the other, or others to answer and so appropriate topics may be discussed.

Learning may occur when an individual is relatively, passive, but it is generally most rapid when the learner takes an active and perhaps even an aggressive attitude. For this reason, students often learn most efficiently when teachers and pupils are in high degree of autonomy in teaching and learning.

Prior to the discussions of Salandanan about the teaching strategies in Mathematics, there are no fast rules in the choice of a strategy to be used in the same manner as there is no single best strategy of teaching (Rivera, 1992: 111-112). To a skilled teacher many of the methods have value, but there is a little reason to believe that the teacher should limit the teaching to only one. It is because each teaching learning situation is different from every other and what prove to be effective to one teacher may not be so to another. Besides, a teacher who uses only one method is danger of developing only one group of skills in his pupils and only one part of his own as a mentor. A learner who knows rich possibilities remain in his own mind, for this reason, the teacher should be familiar with several ways of handling a teaching learning situation instead of only one.

One's teaching effectiveness may greatly increase depending on his ability to make the most concerns in using the right method at the right situation and at the right time (Garcia, 1995: 29-30). In other words, he should be able to maximize his efficiency the application of appropriate methods of teaching.

In order to achieve the aim, history tells that there are some guidelines which prove to be useful that should be followed by the teachers. These are the following: 1) teaching methods are means to an end. They are not the ends of teaching. Emphasis is not be placed on the method itself but rather more importantly on how it is used effectively to achieve certain specific goals of teaching e.g. intellectual development of students, improving their study habits, etc. 2) there is no such thing as the "best teaching method" - one teaching method may have worked well in one class but it does not mean that it will work well in another class. Every group of pupils should be treated unique by itself since there are distinct factors both internal and external that influences the learning process. The applicability of a teaching method should therefore, consider a number of conditions such as responsiveness to the psychology of pupils, its suitability to the nature of the lesson itself, and the readiness of the teacher.

Related Studies

The researcher reviewed both foreign and local studies to provide materials for this study.

Reyes (2009) study entitled, "Competency Level of Grade III Pupils in Mathematics" finds out of the competency levels of the Grade III pupils in Mathematics in Torrijos District. There were 817 pupils who actually took the test out of the 849 Grade III pupils enrolled School Year 2008-2009.

Data of this study were sourced from the result of the self-made test patterned from the National Achievement Test, School Year 2007 -2008. The test was administered by the researcher to the 17 complete elementary and 10 primary school of the district. The descriptive method of research was used in this study.

Finding of this study revealed that the competency level of the Grade III pupils in Mathematics (67.106) is below the national standard competency level of 75.00 percent.

In eight learning topics included in this study, pupils were found to be competent in two topics only, Whole Number and Addition. In the six remaining topics (Subtraction, Multiplication, Division, Fraction, Area and Graphs), pupils were found to be still incompetent for they achieved competency levels which are far below the national standard competency level. Studying division, fraction and graph seemed to be the most difficult topics for the pupils for they have scored lowest competencies on the topics.

Likewise, grouping of pupils, by categories revealed significant differences in their level of competencies. However, the overall competency levels achieved in each category reveled as weak performances of the Grade III pupils in Mathematics.

Result of the tested competencies implied that teaching of Mathematics to the Grade III pupils of Torrijos District needs to be enhanced through upgrading the teaching process.

The present study is similar to the study of Reyes since both studies involved grade III pupils and both studies were both mathematics. The two studies are different since the study of Reyes was determining the competency level in Mathematics of Grade III pupils in Torrijos District while the present study will try to determine the factors which are predictors of the mathematics performance of grade III pupils in Catbalogan II Central School. Also, the study of Reyes used a researcher made test in mathematics patterned from the National Achievement Test in mathematics for grade III to determine the competency level in mathematics of the grade III pupils while the present study will use the Division Achievement Test in Mathematics III to determine the performance of the grade III pupils in Mathematics at Catbalogan II Central School.

Lagundino (2005) study entitled, "Mathematics Proficiency of Grade V Pupils in Bangued West District, Division of Abra" aimed to determine the level of mathematics proficiency of the Grade V pupils in Bangued West District in terms of National Achievement Test Result and average grade. It was also concerned with the determination of the relationship between the level mathematics proficiency of the Grade V pupils and the independent variables namely: pupil-related factors like occupation of parents, educational attainment related factors like educational qualification, length of service, in – service training,

area of concentration/specialization and eligibility; and the school - related factors on the adequacy of instructional materials in teaching Mathematics V.

This study was confined to the total enumeration of three hundred two (302) Grade V pupils of Bangued West District during the school year, 2003-2004. Statistical tools used to analyze the data gathered were frequency, percentage, mean, Analysis of Variance, Scheefe's Test and simple correlation analysis.

Results of the study showed that majority of the parents of the Grade V pupils are non-professionals. They engage in occupations like farming, animal raising, fishing and other labor or semi-skilled jobs. Majority of the fathers finished high school and most of the mothers had some years in college. Majority of the pupil-respondents have very good home adjustment, health adjustment and study habits. Majority of the pupils were handed by mathematics teachers with master's units, area of concentration other than mathematics, and with Professional Board Examination for Teachers eligibility. Majority of the teachers had more than five years teaching experiences and attended more than four in-service trainings. The pupils had satisfactory adequate books, references, functional models, and other instructional materials and equipment used in their mathematics subject.

The Grade V pupils of Banqued West District obtained "good" level of mathematics proficiency in terms of average grade, mastered only one learning competency with an overall mean percentage of 84.17 percent. This is the skill of "adding mixed decimals through hundredths with regrouping". Seven skills nearing mastery and the rest of the skills are not mastered by the pupils with the

lowest overall mean percentage of 7.33 percent, and obtained an "average" rating in the NAT results. Father's education is significantly correlated to the mathematics proficiency.

The study of Lagundino bears similarity with the present study since bit studies were centered on mathematics in the elementary level, the present study in Mathematics III while the study of Lagundino was Mathematics V. Also, both studies were concerned with the pupils, teachers, and school - related factors influencing mathematics performance of pupils. The difference in the two studies is in the research locale, on the influence of the factors on the mathematics performance of the pupils but the present study will treat further if it can predict pupils' mathematics performance.

Bautista (2000) study entitled, "Performance in Mathematics of Grade III Pupils in Selected Public Schools, Olangapo City School Year 2000-2001" have the following conclusions: 1) the male and the female pupils showed better performance in the areas of whole numbers, and geometry and showed poor performance in the area of rational numbers and tables and graphs. 2) There is no significant difference between the performance of the male and female grade III pupils in the different areas since the computed t, which is 0.64 is lesser than the tabular t at the .05 level of significance. 3) Knowing the performance of the male and female grade III pupils, it will enable the teachers to produce the relevant materials and do the necessary measures to improve the teaching instruction in mathematics.

The following were the recommendations offered: 1) Teachers should provide more drills and exercises on the areas of measurements, tables and graphs and rational numbers. 2) Remedial classes may be organized to assist slow learners to learn more on measurement, tables and graphs and rational numbers where the grade III male and female showed poor performance. 3) The DECS should provide sufficient teacher's manuals where pupils encounter difficulty. 4) Similar study should be conducted in the other year level.

The study of Bautista bears similarity with the present study in the since that both studies were concerned with grade II mathematics, and the two studies were concerned with performance in Mathematics III of the pupils. The two studies differ in research locale since the study of Bautista was conducted in Olongapo City while the present study is conducted in Catbalogan, Samar and the present study will consider sex or gender as predictor of mathematics performance of grade III pupils while in the study of Bautista, sex or gender was a main variable, it tried comparing mathematics performance of male and female pupils in the different topics/areas in Mathematics III.

Reyes (2001) study entitled, "Predictors of Pupil's Achievement in Mathematics Arising from Social Learning Circumstances" have the following conclusions: 1) Majority of the pupils perceived the following social learning circumstances to prevail, to a great extent, in their class in mathematics: orderliness, complacency, intent inclinations, and decorum; likewise, the following social learning circumstances were perceived to exist, to an extent,

namely; state of equality, complexity, partiality, animosity, and innovations. 2) The pupils across year level differ in their valuations as regards the extent of the presence of the following components of social learning circumstances: animosity, complexity, unanimity, and complacency where the first year students were found to be more perceptive of the extent to which the following social learning prevails: innovation, decorum, interest inclination, state of equality, and orderliness; fourth year students were observed to be more sensitive of the extent of the existence of partiality as a social learning circumstances in their class in mathematics. 3) Pupil's academic performance was found to be significantly correlated to four components of social learning circumstances which are: orderliness, equality, complacency, and unanimity. 4) The components of social learning circumstances are predictors of pupils' academic performance.

The study of De Guzman bears similarity with the present study since both studies were on academic performance and both studies tried to determine predictors of pupil's mathematics performance. In the study of De Guzman the predictors were taken from the social learning circumstances while the present study the predictors are the pupils', teachers' and parents' inherent characteristics. The two studies also differ since the study of De Guzman will not only focus on one year level like in the present study, which is grade III it will be on all grade level.

The study of Bongalon (2002) "Intellectual and Non-intellectual Predictions of Mathematics of Senior High School Students" utilized descriptive correlational

method of research wherein the basic instrument used was the questionnaire. Based on the findings of the study conducted; 1) Achievement in Math IV is moderately affected by factors such as mental ability, grades in Math III, grades in English III, and attitude towards math, 2) Achievement in Math IV is moderately affected by intellectual and non-intellectual factors combined as indicated by their value. The conclusions proposed where the following: 1) College student should be encourage to review and organize mathematics clubs that allows students to discuss mathematics problems and come up with correct solution, and 2) Mathematics abilities of the students should be diagnosed at the start of the school year. Using the result of diagnostic test, the teacher will be guided accordingly on where to start the class, what points need to be emphasized or what learning areas to be taught in details.

The study of Bongalon has relation to the present study since both studies wanted to find predictors of the achievement in learners in Mathematics. They are related in the sense that Bongalon study measures the student's learnings in HS Mathematics IV, likewise with the present study in grade III mathematics. However, they differ in the level of education of the respondents, the present study involved elementary pupils while that of Bongalon involved fourth year high school students.

Delabajan (2002) study entitled, "The Mathematical Performance of Grade Six Pupils in Solving Word Problem in the District of Sta. Margarita", primary aim is to determine, the mathematical performance of grade six pupils of Sta. Margarita

Elementary School in solving word problems and fractions. The findings of the study were that performance of the grade VI pupils in the diagnostic test is described as "below average". She recommends that there is needs to design a remedial mathematical instruction program in order to overcome if not minimize the errors made in solving recorded problem.

Since, the study of Delabajan is about pupils' performance the two studies are related because the present study is about pupils' performance in Mathematics III. The present study differs with the study of Delabajan in the sense that the study aims to find predictors of mathematics III performance (all topics in mathematics III) of pupils unlike in the study of Delabajan that it is focused on solving word problems and fractions only not all topics in grade VI mathematics.

Dequito (2006) study entitled, "Attitude towards Mathematics among the Fourth Year High School Students: Its influence on their Achievement in Mathematics IV" is a correlational study aimed at determining the attitude towards mathematics among fourth year high school students, its influence on their achievement in Mathematics IV in Fourth Congressional District of Iloilo for the school year 2005-2006. The statistical tools used were the frequency count, percentage, means, t-test, Pearson-r, analysis of variance (ANOVA) and chi-square. All inferential statistics were tested at level of significance set at .05.

The findings revealed that the fourth year high school students have favorable attitude towards mathematics. Fourth year high school students have satisfactory achievement in Mathematics IV. Significant differences were noted in

the achievement in mathematics IV of the fourth year high school students when classified according to the variable, parents' employment.

The study of Dequito bears similarity with the present study in terms of subject studied, Mathematics. The two studies are also similar as to the research design used, which is correlational research design. The two studies differ since attitude towards mathematics in the present study is one of the student/pupil-related factors which will predict mathematics achievement or performance while in the study of Dequito it is one of the major variables of the study.

Cavagdan (2001) study entitled, "Affective Attributes as Factors of Achievement in Mathematics" has the following conclusions: 1) The students have low level of achievement in mathematics, average level of mathematics self-concept, average to high level of achievement motivation, and average level of mathematics anxiety. 2) There is a significant positive correlation between achievement in mathematics and mathematics self-concept and achievement motivation. Achievement in mathematics and mathematics anxiety has negative significant relationship. 3) The student does not vary in mathematics self-concept and mathematics anxiety as to sex. There is no variance in the studies' mathematics self-concept, achievement motivation, and mathematics anxiety as to year level. 4) There is a significant correlation between mathematics self-concept and achievement motivation. It has a negative significant relationship with mathematics anxiety. Achievement motivation has a significant negative correlation with mathematics anxiety. There is a significant multiple correlations

between achievement grade in mathematics and the variables, mathematics self-concept, achievement motivation, and mathematics anxiety.

The study of Cavagdan bears similarity with the present study since both studies tried to determine relationship of some factory/attributes with mathematics achievement. The two studies differ since the study of Cavagdan is focus on affective attributes, namely: self-concept, achievement motivation and mathematics anxiety in relation to mathematics achievement while the present study is focus on characteristics of the respondents as possible predictor of their mathematics performance. Also, the study of Cavagdan was focus on high school students of Salinas High School, Bambang, Nueva Vizcaya while the present study is focused on the grade III pupils of Catbalogan II Central Elementary School.

Lukman (2005) study entitled, "Ability Grouping: Its Effects on the Mathematics Achievement among Grade V Pupils of Sangali Elementary School, Zamboanga City", determine the effectiveness of ability grouping scheme in teaching Elementary Mathematics V.

The result of the study revealed the following findings: The pupils of Sangali Elementary School had a fair achievement level in Mathematics. Both the ability grouping and the none-ability grouping schemes were found to be effective in teaching mathematics, however, the ability grouping schemes were found to be more effective. Male and female pupils had the same achievement level in mathematics. Parents' educational attainment and family income had significant effects on the performance of pupils in mathematics.

The study of Lukman bears similarity with the present study since both studies were on achievement in elementary mathematics. The two studies differ since the study of Lukman used experimental design while the present study used the descriptive correlation research design. Also, the present study is focus on grade III mathematics while that of Lukman in grade V mathematics. The two studies differ in the research locale, in research focus since the study of Lukman is on ability grouping while the present study is on finding predictors of mathematics performance and although the study of Lukman consider sex, parents' educational attainment and income in relation to mathematics achievement, the present research have these variables attributes and others.

Tacardon (2002) study entitled, "Evaluation of Usmicet as Predictor of College Students' Academic Performance at the University of Southern Mindanao", this study evaluated the predictive value of the USM College Entrance Test (USMICET) on college academic performance of the student respondents as against the fourth year High School Grade Point Average (HSGPA) and the Type of High School where the student graduated (THS). Specifically, the study sought to determine whether: (1) there were significant differences on USMICET performance of the student respondents who graduated from different high schools (THS); (2) there was significant relationship between the HSGPA and USMICET performance; (3) the institutional variables significantly predicted CGPA and the GPA2; (4) each USMICET area score significantly predicted CGPA or GPA2; (5) USMICET GSA significantly predict the CGPA or CGPA2; (6) the

demographic factors (viz: age, gender, sibling number, household size and mothers'/fathers' educational attainment) were associated with the CGPA and GPA2; and, to (7) compare which among the independent variables was the better predictor of CGPA and GPA2. Stratified sampling by 70.00 percent proportionate allocation guided the sampling process. It availed of the University Registrar's list of (baccalaureate) graduating students of 2001 and the college list classified entering fifth year students of the Colleges of Engineering and Veterinary Medicine as of end of school year 2000. With population frame of 958 prospective respondents, 667 students (69.62 percent) were drawn to constitute the sample of the frame. A Personal Information Questionnaire elicited demographic data from them. The correlation survey method and stepwise multiple regression analysis were used to empirically determine the correlated and the better predictors of college performance in terms of CGPA and by GPA2 as the same were modified by the demographic factors.

Findings 1) THS showed significant difference on USMICET GSA performance. 2) All fourth year subjects in high school were significantly correlated with USMICET GSA, while 3 significantly predicted USMICET GSA. 3) No THS showed any significant difference on CGPA and GPA2. 4) All fourth year high school subjects were correlated with GPA2 and CGA, except PEHM that was found unrelated to CGPA. English, Filipino with Mathematics as an alternate of Filipino, emerged as significant predictors of GPA2 while USMICET GSA, English and Science scores predicted CGPA. 6) Three demographic attributes of the

student respondents were found to have significant association with the CGPA and the GPA2 of the student respondents, the fourth year HSGPA emerged as the better predictor because its contribution to college performance is 26.60 percent while USMICETS's contribution to college performance is only 3.40 percent.

Conclusion: While USMICET and the 4th year High School Grades were both found to be significant predictors of college academic performance, the latter emerged as a much better predictor. Thus, 4th year high school grades can solely be relied on to screen students applicants for admission to the University of Southern Mindanao.

The study of Tacardon bears similarity with the present study since both studies were on determining predictors of academic performance, college performance and mathematics performance. The study of Tacardon used the USMICET to predict academic performance in college and 4th year high school grades of the students, the present study used pupils, teachers, home-variables as predictors of mathematics III performance of pupils and the two studies differ as to research locale.

Cleofas (2000) study entitled, "Academic Performance in Mathematics of Grade One Pupils in Midsayap District, Cotabato" aimed to assess the academic performance in mathematics of grade one pupils in selected public elementary school in the four districts in Midsayap, Cotabato Division in school year 1999-2000. The findings revealed: 1) Pupils sex is not significantly related to their performance in content areas as shown by the t-values with their corresponding

probability values. 2) School location is significantly related with pupils' performance in whole numbers, geometry, measurement and total scores in favor to the town schools, but significantly related to pupils' performance on rational numbers as shown by the t-values with their corresponding probability values. 3) Employment status of parents is significantly related to pupils' performance in whole numbers, geometry, measurement, total scores in favor of pupils with employed parent; but significantly related to pupil's performance in rational numbers as shown by the t-values and corresponding probability values. 4) There are statistically significant differences in the pupil performance in each content area and in total score in favor of the pupils with employed parents as shown by their t-values and corresponding probability values. Likewise, there is significant difference in the total scores of the two groups in favor of pupils with employed parents as revealed by the t-values and the probability value.

The study of Cleofas bears similarity with the presents study since both studies were concerned with elementary mathematics performance of pupils. The two studies differ in the level of mathematics studied; the present study is mathematics III while that of Cleofas is Mathematics I. Also, the study of Cleofas tried to assess the performance in mathematics of the grade one pupils the present study will determine predictors of mathematics performance of grade III pupils. Some of the variables considered to be related to pupils' mathematics performance which were considered in Cleofas study were variables of the present study also, but the present study has considered a lot more variable compared to Cleofas.

Mati (2007) study entitle. "An Evaluation of Mathematical Achievement of Students of Tarlac State University Laboratory School: Implication to Mathematics Teaching and Evaluation of Outcomes" determine the achievement in Mathematics of 104 fourth year high school students of which 40 were from the Math-Science (MS) curriculum and 64 belonged to the Basic Education Curriculum (BEC) of Tarlac State University Laboratory School during the school year 2006-2007. A teacher-made diagnostic test in mathematics consisting of 30 items for each test area: Mathematics I, Algebra, Geometry and Trigonometry constructed and administered by Mariano (2005) in her study were used to gather the data.

The following were the conclusions: 1) Majority of the students from the MS group belonged to the average level while most students from the BEC group belonged to the low average level in all four areas. The highest performance of the MS group was in Mathematics I while the lowest subject performed was in Trigonometry. The highest performance of the BEC group was in Geometry while the lowest subject performed was in Trigonometry. For the MS group, performance was almost similar in Algebra and Geometry. For the BEC, performance was similar in Mathematics I and Algebra. 2) The MS students showed better performance in topics such as numeration and number system, properties of whole numbers, factor, multiples, GCF and LCM, integers, algebraic expressions, special products and factoring, exponents and radicals, quadratic equations, and congruent triangles. The BEC students showed better performance in topics involving the numeration and number system, factor, multiples, GCF and

LCM, quadratics equations, and congruent triangles. Both groups of students experienced the greatest difficulty on the following topics: perimeter, areas & volumes, ratio & proportion, rational expressions, linear equations, system of linear equations and inequalities, angles and perpendicular lines, quadrilaterals, areas and volumes, special angles, trigonometric functions, solution of right triangles, laws of sine and cosine, and proving identities. 3) The results of the study showed that the achievements of both MS and BEC students in their mathematics subjects were behind the passing rate, this, it could be concluded that the students' retention skills on these mathematics areas were quite low.

The study of Mati bears similarity with the present study since both studies were on the subject mathematics. The two studies differ in the education level of respondents involved, in the research locale in the research focus, and in Mathematics topics concerned in the study.

Clark (2010) study entitled, "The Prediction of Educational Outcomes in the Adult Learner, Using the Theory of Planned Behavior and Self-esteem", used adult students (n = 211) from a private training establishment located in a low socio-economic area of Counties Manakau, New Zealand, were assessed for intent to achieve and actual outcome. Each year in New Zealand approximately 25.00 percent of students leaving school do so with no qualifications. It is estimated that in the Counties Manakau Region there are 77,000 adults with no educational qualifications, impacting on earning ability and on self-esteem. Failure rate at tertiary education is high, with 38.00 percent of under-18 years old not achieving

and this figure worsens with age. The cost to New Zealand of having people not in employment, not in education and not in training is estimated to be close to $1.0 billion per year and in Countries Manukau the cost of youth unemployment is between $55 and $73 million per annum. This study applied The Theory of Planned Behavior to assess intent to achieve, and was expanded to include a self-esteem (Rosenberg Self-Esteem Scale, 1965). The Theory of Planned Behavior sufficiently predicted intent, and was significantly improved with the self-esteem component. The Rosenberg Self-Esteem Scale successfully predicted outcome, however findings need to be interpreted with the caution. The initial self-esteem levels (M=20.59), whilst just above the accepted criteria (M=20.00) validate other studies indicating that New Zealand has an over-all low level of self-esteem compared with other similar countries. These findings indicate opportunity for future research into the prediction of outcome and ability of learning establishments to mitigate risk of non-achievement for the adult learner. They also support the further investigation of the low level of self-esteem as evidence in this study.

The study of Clarks bears similarity with the present study since both studies are concerned with predicting educational outcomes/academic performance. The two studies differ in the instruments used to gather the needed data.

In the study of Picorro (2003) entitle. "Anxiety Levels, Learning Styles, and Scholastic Performance in Mathematics of Fourth Year High School Students in

District of Sto. Niño, Samar" recommended that: 1) the school head teachers, principals or administrators should initiate seminars for mathematics teachers and reduce anxiety levels in Mathematics of students, 2) there should be more mathematical quizzes and contests intended to make the students appreciative of the subject and lessen their anxiety level, 3) math teachers should provide a testing atmosphere that minimize anxiety levels of the students, 4) teachers should guide and motivate properly the students particularly the low achievers, 5) a study on the causes of anxiety should be undertake to be able to remedy the situation.

The study conducted by Picorro is similar to the present study in the sense that the student's achievement is the main concern of the study. Picorro's concern was the fourth year high school students' performance in mathematics while the present study is of the grade III elementary pupils' performance in mathematics. However they differ in the variables being studied since the present study is concerned on the predictors of mathematics performance, while that of Picorro is concerned with learning styles, anxiety levels in mathematics. The present study will be conducted in Catbalogan, Samar while that of Picorro was conducted in Sto. Niño District.

The studies reviewed provided the researcher insights in the conduct of the study.

Chapter 3

METHODOLOGY

This chapter contains the discussion of the research design, instrumentation, validation of the instrument, sampling procedures, data gathering procedure and statistical treatment of data.

Research Design

The study used the descriptive correlational method of research aimed at explaining and describing the predictors of mathematics performance of the grade III pupils of Catbalogan II Central Elementary School for SY 2009-2010. The study focused on the pupil-related factors, teacher-related factors, and home/parent-related factors, which are possible predictors of the pupils' achievement in Mathematics based on final grade in mathematics III, and District Achievement Posttest scores in Mathematics III.

The statistical tools used included the frequency count, percentage, weighted mean, mean, standard deviations, Pearson r, Fisher's t-test, and linear regression analysis.

The main instruments used to gather information from the respondents, namely: grade III pupils of SY 2009-2010, mathematics III teachers, and parents of the grade III pupils are the three sets of researcher-made questionnaires, District Achievement Posttest scores for the three groups of respondents for English III,

Math III and Health & Science III of SY 2009-2010, which consisted of three parts for the pupil-respondents and two parts of the teacher and parents-respondents and schools documents which included Form 137 A (report card for Grade III). Microsoft Excel data analysis was utilized in processing the data.

The pupil-related factors were the data obtained from the questionnaire for the pupil-respondents of the study which was administered to the grade III pupils of Catbalogan II Central Elementary School. It consisted of three parts. Part I solicit pupil's age, sex, number of siblings, birth, order, distance of home from school (in kilometers), general weighted average in Grade III, final grade in English III, Health & Science III, and Mathematics III, District Achievement Posttest score in English III, Health & Science III, and Mathematics III. Part II gives the study habits of the pupil. It consisted of 10 statements reflecting study habits. This part is responded using as 5-point score in which 5-average practiced, 4 - after practice, 3 - moderately practiced, 2 - sometimes practiced, and 1 - not practiced. Part III determined the attitude towards mathematics of the pupil respondents. It consisted of 10 statements which determine pupil's attitude towards mathematics. This is also related using a 5 points scale similar to part II, where 5 - strongly agree, 4 - agree, 3 - neutral, 2 disagree and 1- strongly disagree. To make sure that the final grades in the subjects namely: English III, Health & Science III and Mathematics III, the general weigh average grade in grade III, the District Achievement Posttest scores in the subject English III, Health & Science III and

Mathematics III, the researcher crosscheck the entry in the Form 137 A of these pupils and the District Achievement Result in the EMIS Office of the school.

Instrumentation

The instruments used in the collection of data were the three sets of questionnaires, Result of the District Achievement Posttests in Mathematics for grade III, and school documents.

Questionnaires. There were three sets of questionnaires. These three sets questionnaires were researcher-made. One questionnaire was for the grade III pupil-respondents who are now grade IV, one for the teacher-respondents, and one for the parent-respondents (parents of the pupil-respondents).

The **Questionnaire for the Pupil-respondents**, this contains items which was the source for data to answer specific problem 1 of the study on pupils' profile. This consisted of three parts. Part I is Personal Profile of Pupil-respondents. This part is intended to survey the personal profile of the pupil-respondents. It contained items pertaining to name, age, sex, number of siblings (boys and girls), birth order, final grades in English III, and Health & Science III, general weighted average grade in grade III, District Achievement Posttest Rating (Scores) in English III, and Health & Science III, and distance of home (residence) from school. Part II is study habits, and Part III is attitude towards Mathematics. Pupils' final grades in English III, Health & Science III, and general weighted average grade in grade III entry was crosscheck against the record of the teacher-adviser of the grade III,

and District Achievement Posttest Rating (Scores) in English III, and Health & Science III was crosscheck against the record in the EMIS of Catbalogan II. Part I is a supply type wherein the respondents supply the information asked by writing in the blank spaces provided. Part II Pupils' Study Habits in Mathematics, this contained 10 their study habits statements in which pupils rate each statement-indicator of their study habits in Mathematics, this contains 10 positive statements of pupils' attitude towards Mathematics. The pupils were provided a 5-point scale for rating their attitude towards mathematics, where: 5 - strongly agree/very highly favorable attitude, 4 - agree/highly favorable attitude, 3 - neutral/moderately favorable attitude, 2 - disagree/less favorable attitude, and 1 - strongly disagree not favorable attitude.

The **Questionnaire for the Teacher-respondents** contains items which were the source for data to answer specific problem 2 of the study on teachers' profile. The questionnaire contains two parts. Part I ask for the mathematics teachers' name, age, sex, civil status, religion, average family monthly income, highest educational attainment, teaching experiences, relevant seminars and trainings attended, instructional materials used, teaching strategies used, and latest performance rating or RPAST rating. Part I is supply type, respondents were made to supply information. Part II - Attitude towards Mathematics Teaching, this contains 10 positive statements of teachers' attitude towards Mathematics teaching. The teacher-respondents were provided a 5 -point scale for rating their attitude towards mathematics teaching, where: 5- strongly agree/very highly

favorable attitude, 4-agree/highly favorable attitude, 3 -neutral/moderately favorable attitude, 2 - disagree/less favorable attitude, and 1 - strongly disagree/not favorable attitude towards mathematics teaching.

The **Questionnaire for the Parents-respondents** would generate answers to specific question number 3 on home/parent profile of the pupil-respondents. This questionnaire was responded by either the father or the mother of the pupil-respondents. This was brought home by the pupils during lunch break and those whose parents were not in their homes during the time of the administration arrangement were made to retrieve at a later date and time. This contains two parts. Part I which is a supply type ask for the names of the father and the mother, their ages, educational attainment, occupations and religion. It also asked for the household size and average family monthly income. Part I is a supply type wherein the parent-father or mother fill in the data needed. Part II - Parents' Attitude towards Mathematics, this contains 10 statement of parents' attitude towards Mathematics. The parent-respondents were provided a 5-point scale for rating their attitude towards mathematics, where: 5- strongly agree/very highly favorable attitude, 4 - agree/highly favorable attitude, 3 - neutral/moderately favorable attitude, 2 - disagree/ less favorable attitude, and strongly disagree/not favorable attitude. This is translated in the "waray-waray" or vernacular dialect. The translation is written after the English version.

This questionnaire for the pupils, teacher, and parents were adapted from Sintos (2009) with a little modification to include and exclude some items.

School Documents or School Records. This instruments was used in obtaining student-respondents grade III Math III final grade, English III final (GWA) in grade III, DepEd Form 137-A or the Student Permanent Record was used. This was utilized for verifying respondents' through the questionnaire. To secure these forms (DepEd Form 137-A) the researcher asked permission from the principal's office and from the advisers of the grade IV pupils of Catbalogan II Central Elementary School.

The other school reports needed like the "Principal's Report of Enrolment" was used in determining the population of the teacher-respondents and the pupil-respondents of the study. Also, the RPAST rating of teacher was used to cross check entries made by the teacher-respondents. Other school documents include the Division Achievement Posttest result in English III, Health and Science III and Math III for Grade for SY 2009-2010.

Division Achievement Posttest for Grade III Mathematics. This test is composed of 20 items taken from the topics in grade III Mathematics particularly on reading and writing numbers, four fundamental operations (Addition, Subtraction, Multiplication, and Division), fractions, geometry, time measure, linear area, mass measure, and maps and graphs. The researcher used the District Achievement Posttest result of the grade III pupil's during the school year 2009-2010. The researcher requested the result from the EMIS office of Catbalogan II District. Also, the Division Posttest result for English III and Health and Science III were taken as other data needed by the researcher.

Validation of Instrument

The researcher employed separate procedures in the validation of the three sets of questionnaire which were all made by the researcher as follows:

The questionnaire for parents presented during the pre-oral defense was first translated into the waray-waray or vernacular dialect in order that it will be understood by the parents. The number of statements for pupils' study habits and attitude towards mathematics were reduced to 10 items following the suggestion during the pre-oral defense. The questionnaires for the pupil and teacher respondents were not given translation in "waray-waray" or the vernacular dialect.

The researcher asked her adviser, some elementary grade IVI teachers of Catbalogan II Central Elementary School to comment on the questionnaire. The questionnaire was finalized for the purpose of validating it at Catbalogan I Central Elementary School.

The first final draft of the instrument which consisted of three parts, Parts I, II, and Part III for the pupil respondents and Part I and Part II for the teacher and parent respondents were presented to the adviser and grade III mathematics teachers of Catbalogan I Central School for comments and suggestions, and was tried out 25 randomly selected grade III pupils of Catbalogan I Central School 4th week of February 2011 to further ascertain its reliability and five mathematics teachers and 25 parents. After one week, a second try-out was done to the same group. The results was tallied, computed and interpreted.

The result of the test-retest validation was: r = 74 for the teacher questionnaire, r = 0.73 for the pupils' questionnaire and r = 0.72 for the parents' questionnaire, which is interpreted as rather low, adequate for group measurement. Since the r – value is in the range from 0.70 – 0.79 which is interpreted as rather low, adequate for group measurement hence, the questionnaire were reliable and valid.

The District Achievement Posttest was pre-validated tests hence, no additional validation was conducted.

Sampling Procedure

The researcher went to see the principal of Catbalogan II Central Elementary School to find out number of grade III pupils for school year 2009-2010 and number of grade II mathematics teachers teaching in different grade III sections.

Based on "Principal Report of Enrolment", she found out the total grade III population of SY 2009-2010 was 177 because there were 4 sections with 35 pupils each and one section with 36 pupils. This consisted the pupil-respondents population. The researcher computed the desired sample size for the study using Sloven's formula it resulted 123. The researcher notice by comparing the list of grade III pupils for SY 2009-2010 and the grade IV of school or were retained as grade III and there were grade III pupils who transferred out, for the pupil-respondents, the researcher counted the grade III pupils who are now grade IV and this become the basis for the computation of the sampling size using Sloven's

formula. Based on the grade IV population now which is 166 the desired sample size is 177. She employed stratified sampling techniques using the section as the strata to determine the total number of samples for each section. This was done so that for sections that there were more pupils more samples would be taken from them. Using the Sloven's formula adequate sample size, which was composed out of the 166 grade III pupil-population of school year 2009-2010 is for the teacher-respondents total enumeration sampling, was used. There are five Grade II sections in Catbalogan II Central Elementary School and the teacher adviser is the same time the mathematics teacher. There were five all in all teacher-respondents of the study.

The parent-respondents of the study were the father or the mother of the pupil-respondents. They automatically become the parent-respondents of the study so there were a total of 117 parent-respondents. In cases wherein the student-respondents is an orphan or the parents were not in their homes or they are far because of their work/occupation the guardian was the one who answers the questionnaire for the parent-respondent. For the pupil-respondents of the study the researcher asked for the total number of promoted grade III pupils for SY 2009-2010, who are now grade IV this school year 2010-2011 and it is 166. Using Sloven's formula the adequate sample size for the pupil-respondents is 117, state tried sampling technique was used to distribute the number sample per section to determine the number of respondents per section this was done to have more samples from sections with more number of pupils.

Date Gathering Procedure

The steps that were undertaken by the researcher in the data gathering were as follows: A letter was prepared address to the Schools Division Superintendent of Samar Division to allow her to conduct the study among grade III pupils and their mathematics teachers of Catbalogan II Central Elementary School. After the letter was approved, she made another letter addressed to the principal to allow her to conduct the study and to get the needed documents such as Form 137-A. The principal was provided photocopy of the approved request of the study by the School Division Superintendent.

The researcher visited next the record section EMIS office of Catbalogan District for the number of pupils enrolled during school year 2009-2010 in the five grade III sections. The researcher personally administered and distributed the questionnaire-checklist to the pupils, and teachers in their respected classrooms during class hour, while the parent questionnaire was brought home by the pupils to their mother and father to be answered. In order to ensure high percentage of retrieval the researcher waited for the accomplished questionnaire. The questionnaire for parents which were not retrieved during the time of the administration, arrangement was made to retrieve the questionnaire at another time.

The researcher started collecting data first week of March 2011. After the data collection, tallying and recording of response of the respondents in a master tally sheet followed.

Statistical Treatment of Data

Data gather were tabulated, organized, analyzed and interpreted with the use of the following descriptive and inferential statistical tools:

Frequency and Percentage. This was used to describe the profile of the respondents-pupils, teachers, and parent in terms of the following: age, sex, civil status, educational attainment, average family monthly income, teaching experience, number of siblings, household size, numbers of seminars and training attended, and others. These tools were used to answer specific questions 1 to 3 of the study.

Mean. This measure was employed to calculate the average where the measure is applicable. This statistical tool was employed to determine the pupil-respondents scholastic ratings in grade III for English, Math, and Health and Science based on their final grade and the District Achievement Posttest in English, Math, and Health and Science and the general weighted average grade in grade III. Mean was used to describe the collective perceptions of pupil-respondents as to their study habits, attitude towards mathematics of the pupils and their parents, and attitude towards mathematics teaching by the teacher-respondents. It was also used to describe the following: for the pupil-respondents- their age, number of siblings, distance of home from school; for the teacher-respondents – their age, average monthly family income, number of years in teaching mathematics, and number of relevant trainings and seminars attended; for the parents-respondents-their age, and average family monthly income, and household size.

Standard deviation. This was used to describe variations of quantitative data from the mean, such data include, age, average monthly family income, number of seminars and trainings attended, scholastic ratings in English, Math and Health & Science based on the final grade obtained, GWA grade for grade III and District Achievement Posttest scores in English, Math and Health & Science and others.

Weighted mean. This was used to express the collective perceptions of the respondent such as, for the pupil-respondents, their study habits and attitude towards Mathematics, for the teacher-respondents their attitude towards mathematics teaching and for the parents-respondents their attitude towards mathematics.

In interpreting the weighted means, the following were used:

Weighted Mean	Interpretations	Study Habits	Attitude towards Math
4.51 - 5.00	Strongly Agree (SA)	Always Practiced (AP)	Very Highly Favorable Attitude (VHF)
3.51 - 4.50	Agree (A)	Often Practiced (OP)	Highly Favorable (HF)
2.51 - 3.50	Neutral (N)	Sometimes Practiced (SP)	Moderately Favorable Attitude (MF)
1.51 - 2.50	Disagree (D)	Rarely Practiced (RP)	Less Favorable Attitude (LF)
1.00 - 1.50	Strongly Disagree (SD)	New Practiced (NP)	Not Favorable Attitude (NF)

Pearson Product Moment Correlation Coefficient (Pearson r). This statistical tool was used to determine the relationship between two independent variables, namely: 1) mathematics achievement and the 2) factors/predictors affecting the level of mathematics achievement, namely: student-related factors, teacher-related factors, and parents-related factors. The Pearson Product Moment Correlation Coefficient (Pearson r) was used (Walpole, 1982:381).

The following rules provide a guide for interpreting the obtained correlation in this study (Bartz, 1981:202):

Coefficient	Relationship
±. 20 or less	Very low r
±. 20 to ± .40	Low r
±. 40 to ± .60	Moderate r
±. 60 to ± .80	Strong r
±. 80 or above	Very high r

The table below was used to interpret the reliability of the instrument through test – retest (Ebel, 1965:240).

Table 1

Interpretation of Reliability Instrument

Reliability Coefficient	Degree of Reliability
0.95 – 1.00	Very high, rarely found among teacher's made tests.
0.90 – 0.94	Highly equaled by few tests
0.80 – 0.89	Fairly high, adequate for individual measurement.
0.70 – 0.79	Rather low, adequate for group measurement but not very satisfactory for individual measurement
Below 0.70	Low, entirely inadequate for Individual Measurement although useful for group average and school survey.

Fisher's t-test. To test for the significance of the coefficient of correlation between a set of paired variables, the Fisher's t-test was used.

Multiple regression analysis was used to determine which variable best predict mathematics achievement of the grade III pupils.

An alpha level of 0.05 was used to determine the statistical of the relationship of the perceptions of the respondents on the variables in this study using appropriate statistical tools to answer the specific questions asked.

All the data was processed through the computer using the statistical software.

Chapter 4

PRESENTATION, ANALYSIS AND INTEPRETATION OF DATA

This chapter consists of the presentation of the data gathered thought the questionnaires, the District Achievement Posttest, and school documents. The data include the profile of the pupil - respondents, teacher - respondents, and home/parent respondents, the level of mathematics achievement of the grade III pupils based on final grade in Math III and in the District Achievement Posttest in Math III. It also includes of the test of hypothesis.

Profile of the Pupil-Respondents

The profile of the pupil-respondents is presented in terms of age, sex, number of siblings (brothers and sisters), birth order, and final grades in English III, and Health & Science III, general weighted average (GWA) grade in grade III, District Achievement Posttest Scores in English III, and Health & Science III, distance of home from school, study habits, and attitude towards Mathematics.

Age. Table 2 presents the age of the pupil-respondents. As seen in the table, the youngest pupil-respondents are 9 years old and the oldest is 16 years old. The table shows that most (55 respondents or 47.01 percent) of the pupil-respondents are 10 years old, this must be because the pupil-respondents are grade IV now the usual ages of Grade IV pupils, are 9,10, and 11 years old. Some respondents are older for their grade level such as having ages of 12, 13, 14 and even 16 years old

and some respondents are young for their year level since they are only 9 years old.

Table 2

Pupil-Respondents Distribution as to Age

Age (in years)	Frequency	Percentage
9	24	20.51
10	55	47.01
11	29	24.79
12	5	4.27
13	2	1.71
14	1	0.85
16	1	0.85
Total	**117**	**100.00**
Mean	**10.26 yrs.**	**-**
SD	**1.08 yrs.**	**-**

The mean is 10.26 years old and the SD is 1.08 years old which shows that there is a slight variation of the ages of the respondents from the mean age.

Sex. Table 3 presents the distribution of the pupil-respondents as to sex or gender. As see bub the table majority of them, 59 respondents or 50.43 percent are males while five respondents or 49.57 percent of them are females. The data shows that there are almost an equal number of male pupil-respondents and female pupil-respondents. This implies that the grade III class in Catbalogan II Central Elementary School is almost equally distributed to the two sexes.

Table 3

Pupil-Respondents Distribution as to Sex

Sex	Frequency	Percentage
Female	58	49.57
Male	59	50.43
Total	**117**	**100.00**

Number of Siblings. Table 4 presents the distribution of the pupil-respondents as to the number of siblings. As seen in the table the frequency for number of siblings cluster from two to seven siblings implying a big family size. Moreover, the distribution of the number of siblings shows that 24 or 20.51 percent have four siblings, 22 or 18.80 percent have five siblings, 11, 12, and four respondents each have three, two, and one sibling respectively which implies an average to small family size, while 24, 22, 10, 16, 7, 5, two, and three have four, five, six, seven, eight, nine, 10, and 11 siblings respectively implying a big size for a family, the mean number of siblings is five siblings implying big family size and the SD is two siblings, which shows that there is a slight variation of the respondents' number of siblings from the mean number of siblings.

For the number of brothers, the pupil-respondents have a mean of three brothers and an SD of two brothers. As to the distribution of the number of brothers, most of the respondents (30 or 25.64 percent) have two brothers. This is followed by 29 or 24.75 percent respondents with three brothers, and 23 or 19.66 percent of the respondents have one brother, ten each had four brothers and zero

Table 4

Pupil-Respondents Number of Siblings (Brothers and Sisters)

No. of Siblings	BOYS (brothers)		GIRLS (sisters)		No. of Siblings	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
0	10	8.55	7	5.98	0	0.00
1	23	19.66	27	23.08	4	3.42
2	30	25.64	28	23.93	13	11.11
3	29	24.79	24	20.51	11	9.40
4	10	8.55	21	17.95	24	20.51
5	9	7.69	6	5.13	22	18.80
6	3	2.56	2	1.71	10	8.55
7	3	2.56	1	0.85	16	13.68
8	0	0	1	0.85	7	5.98
9	0	0	0	0	5	4.27
10	0	0	0	0	2	1.71
11	0	0	0	0	3	2.56
Total	**117**	**100.00**	**117**	**100.00**	**117**	**100.00**
Mean	**2.51 (3 brothers)**	-	**2.53 (3 sisters)**	-	**5.09 (5 siblings)**	-
SD	**1.62 (2 brothers)**	-	**1.54 (2 sisters)**	-	**2.32 (2 siblings)**	-

brother which could mean that at present they are the only child or they may have a sister but no brother. Based on the table, the highest/greatest number of brothers that a respondents has is seven and the smallest number of brothers that they have is one, this is for respondents with brothers or they are not only child.

As to the number of sisters, the mean is three sisters and the SD value is two sisters. As to the distribution of the number of sisters, most of the respondents (28 or 23.93 percent) have two sisters. This is followed by 27 or 23.08 percent respondents with one sister. 24 or 20.51 percent of the respondents have three sisters, 21 or 17.95 percent have four sisters. Based on the table, the

highest/greatest number of sisters that a respondents has is eight and the smallest number of sisters that they have is one, this is for respondents with sister or they are not only child.

Birth Order. Table 5 shows the birth order of the pupil-respondents. As seen in the table, most of the respondents were second born child (30 or 25.64 percent) this is followed by 27 (23. 08 percent) pupil-respondents who were 1st born child of their family, 12 (10. 26 percent) were 3rd born, 15 respondents each or 12.82 percent were 4th and 5th born.

Table 5

Pupil-Respondents Distribution as to Birth Order

Birth Order	Frequency	Percentage
1	27	23.08
2	30	25.64
3	12	10.26
4	15	12.82
5	15	12.82
6	6	5.13
7	5	4.27
8	3	2.56
9	3	2.56
10	1	0.85
Total	**117**	**100.00**

A small percentage of the respondents were the 6th, 7th, 8th, 9th, and 10th child of their families. It can be seen from the table that the concentration of the frequencies as to birth order is first born to fifth born child, while the rest of the

respondents were the 6th to the 10th born child of their families. This data implies that sincere majority of them were as to birth order in their families is the first up to the fifth born child then this implies that their families will still grow in size since as seen in the table there are pupil-respondents who are the 8th, 9th, 10th, and 11th born child in their families.

Final Grade in English III and Health & Science III. Table 6 shows the final grade of the grade of the pupil-respondents in English III and Health & Science III.

For English III, as seen in the table, the lowest grade obtained by the pupil-respondents is 72 and two respondents or 1.71 percent of them have this as grade in English III and the highest grade is 89 with one respondent has this as final grade in English III.

Moreover, five respondents obtained a final grade in English III considered as "not passing" performance which is a very low performance. These are final grades of 72, 73, and 74. Based on the frequency for grades obtained by the respondents, the respondent's performance in English III is satisfactory or average performance as indicated by the mean which is 80.96 and an SD value of 3.19 which shows that the grade obtained by the pupil-respondents is slightly disperse from the mean grade obtained in English. Moreover, the distribution of their final grades in English III were as follows: 74 have satisfactory or average performance, 30 have fair or low performance, eight have very satisfactory or high performance

and five have obtained a not passing performance or low performance in English III.

Table 6

Pupil-Respondents' Final Grade in English III and Health & Science III

Final Grade	English III		Health & Science III	
	Frequency	Percentage	Frequency	Percentage
72	2	1.71	-	-
73	1	0.85	-	-
74	2	1.71	-	-
75	4	3.42	3	2.56
76	1	0.85	9	7.69
77	6	5.13	6	5.13
78	9	7.69	10	8.55
79	10	8.55	12	10.26
80	6	5.13	6	5.13
81	16	13.68	19	16.24
82	20	17.09	22	18.80
83	18	15.38	17	14.53
84	14	11.97	5	4.27
85	3	2.56	4	3.42
86	2	1.71	2	1.71
87	1	0.85	1	0.85
88	1	0.85	1	0.85
89	**1**	**0.85**	**-**	**-**
Total	**117**	**100.00**	**117**	**100.00**
Mean	**80.96**	**Ave.**	**80.68**	**Ave.**
SD	**3.19**	**-**	**2.78**	**-**

Legend: 95 - Excellent Performance (EP) / Very Very High Performance (VVHP)
90-94 - Superior (Sp) / Very High Performance (VHP)
85-89 - Very Satisfactory VS) / High Performance (HP)
80-84 - Satisfactory (S)/ Average Performance (AP)
75 - 79 - Fair (F) / Low Performance (LP)
74 below - Not Passing (NP) / Poor / Very Low Performance (VLP)

For Health and Sciences III, the lowest final grade of the respondents is a grade of 75 and three respondents or 2.6 percent of them obtained this as final

grade in Health and Sciences III, and the highest is 88 and one respondent has this as final grade in Health and Sciences III. Based on the frequencies the distributions of their grades in Health and Sciences III are as follows: 69 pupil-respondents have a grade from 75-79 interpreted as satisfactory or average performance in Health and Sciences III. 40 obtain a grade from 80 - 84 interpreted as fair performance, and 8 have grades in the range 85 - 89. No respondents obtained a not passing performance grade 4 and below superior and 90 - 94 excellent performance in Health and Sciences III considered as "very high" and 95 very high performance in the subject. The mean grade is 80.68 interpreted as average performance with an SD value of 2.78 which indicated a slight variation in their final grade in Health and Sciences III in grade III from the mean grade in Health and Sciences III.

General Weighted Average Grade (GWA) in Grade III. Table 7 shows the pupil-respondents general weighted average (GWA) grade in grade III. As seen in the respondents have GWA grades are as follows: 75 of the pupil-respondent have GWA grade in the range from 80-84 interpreted as "satisfactory performance" or "average performance", 28 of the pupil respondents obtained grades from 75-79 or "fair or low" performance, 14 have grade from 85-89 or very satisfactory or high performance. None of the respondents obtained a GWA grade in grade III describe as excellent performance a grade of (95), and poor and not passing performance a grade of (74 below). The table shows that majority of the respondents GWA grade in grade III is described as satisfactory performance.

Table 7

Pupil-Respondents' General Weighted Average (GWA) Grade in Grade III

Grade III General Weighted Average (GWA)	Frequency	Percentage
75	4	3.42
76	3	2.56
77	5	4.27
78	9	7.69
79	7	5.98
80	8	6.84
81	16	13.68
82	11	9.40
83	28	23.93
84	12	10.26
85	9	7.69
86	1	0.85
87	2	1.71
88	2	1.71
Total	**117**	**100.00**
Mean	**81.48**	-
SD	**2.86**	-

Legend: 95 – Excellent Performance (EP)
90-94 – Superior (Sp) / Very High Performance (VHP)
85-89 – Very Satisfactory VS) / High Performance (HP)
80-84 – Satisfactory (S)/ Average Performance (AP)
75 – 79 – Fair (F) / Low Performance (LP)
74 below – Not Passing (NP) / Poor / Very Low Performance (VLP)

The mean grade is 81.48 with an SD value of 2.86 which indicated a slight variation in their GWA grade in grade III from the mean for their GWA grade.

District Achievement Posttest Scores in English and Health & Sciences in Grade III. Table 8 shows the scores of the pupil-respondents in English III and Health & Sciences III in the District Achievement Posttest of 20 items for each of the subjects English III and Science and Health III.

Table 8

Pupil-Respondents' District Achievement Posttest Scores in English III and Health & Sciences III

Posttest District Achievement Scores	English III		Health & Sciences III	
	Frequency	Percentage	Frequency	Percentage
5	2	1.71	1	0.85
6	5	4.27	0	0.00
7	9	7.69	1	0.85
8	24	20.51	3	2.56
9	15	12.82	7	5.98
10	17	14.53	10	8.55
11	7	5.98	21	17.95
12	11	9.40	15	12.82
13	1	0.85	21	17.95
14	1	0.85	13	11.11
15	2	1.71	9	7.69
16	6	5.13	2	1.71
17	7	5.98	6	5.13
18	4	3.42	7	5.98
19	2	1.71	0	0.00
20	4	3.42	0	0.00
Total	**117**	**100.00**	**117**	**100.00**
Mean	**10.94**	**-**	**9.66**	**-**
SD	**3.98**	**-**	**2.73**	**-**

Legend: 17-20 – Superior (Sp) / Very High Performance (VHP)
13-16 – Very Satisfactory VS) / High Performance (HP)
9-12 – Satisfactory (S)/ Average Performance (AP)
5-8 – Fair (F) / Low Performance (LP)
0-4 – Not Passing (NP) / Poor / Very Low Performance (VLP)

For English III, as seen in the table, the lowest score obtained by the pupil-respondents in the District Achievement Posttest of 20 items is five and two respondents or 1.71 percent of them have this as grade in English III in the District Achievement Posttest and the highest score is 20 and four respondents obtained perfect score of 29 considered as very high as excellent performance in English III in the District Achievement Posttest in English III.

Moreover, 50 respondents obtained a score ranging from 9-12 in English III in the District Achievement Posttest in English III considered as "average performance or satisfactory performance". This is followed by 40 pupil-respondents whose score ranges from 5-8 which is interpreted as low performance, 17 respondents whose scores ranges from (17-20), which is interpreted as very high performance, and 10 respondents with scores in the range from 13-16 describes as the high performance. The respondent's performance in English III satisfactory or average performance as indicated by the mean score which is 10.94 and SD value 6f 3.98 which shows that the scores obtained by the pupil-respondents in English III is slightly disperse from the mean obtained in English III based on the scores in the District Achievement Posttest in English III.

For Health & Science III, the lowest score of the grade III pupil-respondents is a grade of five and one respondent or 0.85 percent of them obtained this score in Health and Science III in the District Achievement Posttest, and the highest score is 18 and seven pupil-respondent has this as their score in Health and Science III in the District Achievement Posttest. Based on the frequencies the distributions of their scores in Health & Sciences II in the District Achievement Posttest are as follows: 53 pupil-respondents have satisfactory or average performance in Health & Science, 45 have very satisfactory or high performance, and 13 have very high performance, and 5 have fair performance. No respondents obtained a not passing performance and perfect score or excellent performance in Health & Science III considered as "very high" performance in the subject in the District Achievement

Posttest. The mean score is 9.66 with an SD value of 2.73 which indicated a slight variation in their scores obtained in Health & Science III in the District Achievement Posttest.

Distance of Home from School. Table 9 shows the distance of home from school of the pupil-respondents. As seen in the table, the nearest distance given by the pupil-respondents 0.25 kilometers and two respondents or 1.71 percent of them have this as their home distance from school, the next is 0.5 kilometers and 43 pupil-respondents have this as their home distance.

Table 9

Pupil-Respondents Distribution as to Of Home from School

Home to School Distance (in km.)	Frequency	Percentage
.5	2	1.71
21.5	43	36.75
40	40	34.19
22.5	15	12.82
18	9	7.69
9	3	2.56
8	2	1.71
10	2	1.71
10	1	0.85
Total	**117**	**100.00**
Mean	**1.19 km.**	**-**
SD	**1.19 km.**	**-**

The farthest distance is 10 kilometers and one respondent is living 10 kilometers from home. This implies that the respondent is boarding. The most of the pupil-respondents have home distance 0.5 kilometer and one kilometer from school implying that they ride a tricycle in coming to school. The mean distance is 1.19 kilometers and the SD value is 1.19 kilometer which shows that the respondents were living a distance which can be considered as walking distance from school.

Study habits. The pupil-respondents study habits are presented in Table 9. As seen in the table, the ratings given to the 10-study habits statement are as follows: 6 out of 10 study habits statements were rated as "often practiced" and four statements were sometimes practiced only. The ranking of the study habits statements are presented in the table based on weighted mean rating.

The highest rating of 3.97 interpreted as "often practiced" indicating a good study habits was given to the study habit statement indicator, "Before I sleep I study my lessons and have the follow up early in the morning when I wake up". The lowest mean rating interpreted as sometimes practiced is obtained by the statement, "If I cannot solve my assignment at home I come to school early so that I can ask my classmates and teachers about it" which is rated 3.13.

The first three study habits based on weighted means which are often practiced are: 1) Before I sleep I study my lessons and have the follow up early in the morning when I wake up - 3.97, 2) I always review or check my

Table 10

Pupil-Respondents Study Habits

Study Habits Statements	Weighted Mean	Interpretation	Rank
1. Before I sleep I study my lessons and have the follow up early in the morning when I wake up.	3.97	OP	1
2. If I cannot solve my assignment at home I come to school early so that I can ask my classmates and teachers about it.	3.13	SP	10
3. I always make use of my vacant time to study in the library.	3.56	OP	5
4. I certainly cooperate with my classmates for a group seatwork.	3.40	SP	8
5. I take a note during classroom discussion and recite when called for by my teacher.	3.52	OP	6
6. I find time to look for references and other supplemental learning materials for my study.	3.62	OP	3
7. When I am in the classroom I read my notes if my teacher is not starting our class discussion.	3.59	OP	4
8. I always review or check my solutions/answer before I submit my papers to my teacher.	3.84	OP	2
9. I prefer to study alone than group study unless told by my teacher for a group assignment.	3.31	SP	9
10. I feel comfortable and confident for a sharing of ideas and knowledge with classmates and teachers.	3.42	SP	7
Grand Total	**35.40**	**-**	**-**
Grand Mean	**3.54**	**OP**	**-**

Legend: 4.51 – 5.00 Always Practiced (AP) / Very Good Study Habits (VG)
3.51 – 4.50 Often Practiced (OP) / Good Study Habits (G)
2.51 – 3.50 Sometimes Practiced (SP) / Moderately Good (MG)
1.51 – 2.50 Rarely Practiced / Not Very Good (NVG)
1.00 – 1.50 Not Practiced (NP) / Not Good (NG)

solutions/answer before I submit my papers to my teacher -3.84, and 3) I find time to look for references and other supplemental learning materials for my study - 3.62.

The grand mean for their study habits is 3.54 interpreted as "often practiced" indicating "good study" habits.

Attitude towards Mathematics. The pupil-respondents attitude towards Mathematics is presented in Table 11. As seen in the table, the ratings given to the 10-attitude statements were as follows: eight statements were rated as "agree", indicating a highly favorable attitude, while two statements were rated "neutral" by the pupil-respondents indicating a moderately favorable attitude.

The highest rating of 3.91 interpreted as "agree" indicating a positive or highly favorable attitude was given to the attitude statement indicator, "I enjoy attending my mathematics class", and the lowest rating of 3.35 was given to the attitude statement, "I encourage my classmates to work as a team when assigned a group leader for our mathematics seatwork".

The first three attitude statements based on ranks are: 1) I enjoy attending my mathematics class -3.91, 2) I feel confident to recite and challenge if I missed to answer math exercises -3.83, and 3) I find mathematics important everyday – 3.80.

The attitude statement which obtained the lowest mean rating are: 1) I encourage my classmates to work as a team when assigned as group leader for our mathematics seatwork -3.35, 2) I study in advance to be acquainted and be

Table 11

Pupil-Respondents' Attitude towards Mathematics

Attitude Statements	Weighted Mean	Interpretation	Rank
1. I enjoy attending my mathematics class.	3.91	A/HF	1
2. I feel confident to recite and challenge if I missed to answer math exercises.	3.83	A/HF	2
3. I like to do my assignments, problem sets and mathematics projects on my own.	3.66	A/HF	4
4. I find mathematics important every day.	3.80	A/HF	3
5. In case I'm not sure about my answer, I always refer to my lecture notes and mathematics books to follow.	3.52	A/HF	8
6. I talk to my mathematics teacher about our lessons to help me understand better.	3.53	A/HF	7
7. I study in advance to be acquainted and be prepared for classroom participation.	3.46	N/MF	9
8. I encourage my classmates to work as a team when assigned as group leader for our mathematics seatwork.	3.35	N/MF	10
9. I am alert and enthusiastic when called by my mathematics teacher to solve on the board.	3.61	A/HF	5
10. I spend more time in mathematics than any other subjects.	3.56	A/HF	6
Grand Total	**36.23**	**-**	**-**
Grand Mean	**3.62**	**A/HF**	**-**

Legend: 4.51 – 5.00 Strongly Agree (SA) / Very High Favorable Attitude (VHF)
3.51 – 4.50 Agree (A) / High Favorable Attitude (HF)
2.51 – 3.50 Neutral (N) / Moderately Favorable Attitude (MF)
1.51 – 2.50 Disagree (D) / Less Favorable Attitude (LF)
1.00 – 1.50 Strongly Disagree (SD) / Not Favorable Attitude (NF)

prepared for classroom participation -3.46, and 3) incase I'm not sure about my answer, I always refer to my lecture notes and mathematics books to follow -3.52.

On the whole, the pupil-respondents exhibited a highly favorable attitude towards Mathematics since the grand mean obtained is 3.62 interpreted as "highly favorable attitude" towards Mathematics.

Profile of the Teacher-Respondents

The profile of the grade III Mathematics teacher-respondents are presented in the next two tables – Table 12 and Table 13. Table 12 presents the profile of the teacher-respondents teaching grade III mathematics in Catbalogan II Central Elementary School in terms of their age, sex, civil status, average monthly family income, educational attainment, teaching experience and number of relevant seminars/training attended.

Age. As to age, as seen in the table, the oldest teacher-respondents is 63 years old while the youngest is 38 years old. The majority of the teacher-respondents teaching Mathematics III are in their 60s.

Moreover, the distributions of their ages are as follows: one of the teachers is in the line of 30s, one in the line of 40s, and three in their 60s. The mean age is pegged at 53.80 years old which shows that the majority of the mathematics III teachers are nearing retirements. The SD obtained is 11.88 showing that the ages of the teachers are slightly dispersed from the mean age.

Table 12

Teacher-Respondents Profile

Tea Resp.	Age (in yrs.)	Sex	Civil Status	Average Monthly Family Income (in php)	Educational Attainment	Teaching Experience (in yrs.)	No of Relevant Seminar/ Trainings Attended
A	62	F	Married	28,000.00	BEED	23	3
B	63	F	Married	34,000.00	BSED w/ MA CAR	35	2
C	38	F	Married	30,000.00	BEED w/ MA units	17	3
D	44	F	Married	40,000.00	BSED w/ MA units	21	2
E	62	F	Married	25,000.00	BSED	35	2
Max	**63**	**-**	**-**	**40,000.00**	**MA CAR**	**35**	**3**
Min	**38**	**-**	**-**	**25,000.00**	**BEED/BSED**	**17**	**2**
Total	**30s=1 40s=1 60s=3**	**F=5 M=0**	**M=5 S=0**	**25,000=1 28,000=1 30,000=1 34,000=1 40,000=1**	**BEED/BSED = 2 BEED/BSED w. MS units =2 BSED w/ MA CAR=1**	**17=1 21=1 23=1 35=2**	**2-3 3-2**
Mean	**53.8**	**-**	**-**	**P31,400.00**	**-**	**26.2 yrs.**	**2.4 or 2**
SD	**11.88**	**-**	**-**	**P5,813.78**	**-**	**8.32 yrs.**	**0.55 or 1**

Sex. The same table presents the sex of the teacher-respondents. As seen in the table, all of the five Mathematics teacher-respondents were females. This shows that the Mathematics teachers in Catbalogan II Central Elementary Schools are dominated by females.

Average monthly family income. As to the average monthly income of the teacher-respondents, the same table reveals that the lowest income of the teacher-respondents is Php 25,000.00 and the highest income is Php 40,000.00. The mean

income is pegged at P3, 400.00 which shows that majority of the teacher-respondents are living above the poverty threshold set by NEDA in 2007 which was P13, 515.00 for a family a six members in Region VIII. The data implies that the mathematics teachers in Catbalogan II Central School are living above poverty which indicates high family monthly income.

Table 13

Teacher-Respondents Profile

Teach Resp.	RPAST Rating	Religion	Instructional Materials Used in Teaching Mathematics	Strategies Used in Teaching Mathematics
A	VS	RC	Chart, pictures, flash cards, books counters	Discovery, project method, demonstration
B	O	RC	Books, real objects, play money, etc.	Deductive, problem solving, Cooperative learning, Direct Instruction, Demonstration
C	O	RC	Charts, computer, flash cards, pictures, books	Simplifying, Concept development, Drawing pictures
E	VS	RC	Pictures, flash cards charts books	Deductive, inductive
Max	**O**	**RC**	-	-
Min	**VS**	**RC**	-	-
Total	O=2 VS=3	RC =5	**Books =5** **Charts =3** **Computers =1** **Counters =1** **Flash cards =4** **Fractional kit =1** **Pictures =4** **Play money =1** **Real objects =1**	**Concept development =1** **Cooperative learning =2** **Deductive =3** **Demonstration =2** **Direct Instruction =1** **Discovery =1** **Discussion = 1** **Drawing pictures =1** **Expository =1** **Inductive =2** **Problem solving =1** **Project method =1** **Role playing =1** **Simplifying =1**

Educational attainment. The table also shows the educational attainment of the teacher-respondents. As seen in the table, the majority of the teacher-respondents are college graduates (BEED/BSED), two of them had earned units in MA, and one is a MA CAR. The table implies that the Mathematics III teachers in Catbalogan II Central School were not motivated to take advanced studies, since they are not new to teaching, but not one of them finished a master's degree.

Teaching experience. Relative to teaching experience of the teacher-respondents, the table reveals that the youngest in teaching experience has taught for 17 years, one has taught for 21 years, one has taught for 24 years and two have 35 years in teaching experience. This implies that these teachers are experienced teachers in teaching grade III Mathematics having had a mean teaching experience of 26.2 years and the SD is 8.32 which shows that the experience of the teacher-respondents were slightly disperse from the mean teaching experience.

Number of relevant seminars/trainings attended. The table presents the number relevant seminars and trainings attended by the respondents. As reflected in the table, the smallest number of seminars/trainings relevant to Mathematics teaching attended by the respondents is two and the highest number is three. Three out of the five teacher respondents have two seminars/trainings each and two of them have three seminars each. The mean for the number of seminars/trainings attended is 2.4 or two seminars and the SD is 0.55 or one seminar which showed slight variation of the number of seminars. The data implies that the Mathematics teachers in Catbalogan II Central School need to

attend seminars and trainings in Mathematics teaching to augment the number of seminars or trainings they have. Table 13 presents the teacher-respondents' RPAST rating, religion, instructional materials used, and strategies used in teaching Mathematics III.

RPAST Rating. As to the latest performance rating (RPAST rating) of the teacher-respondents, Table 13 shows that of the five teacher-respondents, two were rated outstanding and three have "very satisfactory" performance rating. The data implies that the teacher-respondents were performing their functions, as Math teachers as rated by their supervisors.

Religion. The same table presents the religion of the teacher-respondents. As seen min the table, all of the five teacher-respondents were Roman Catholic. This must be because the dominant religion in Catbalogan is Roman Catholic.

Instructional materials used in teaching mathematics. As to instructional materials used in teaching Mathematics III the following were used by the mathematics teacher-respondents: All of them used books, pictures were used by all of the four teacher-respondents so with flashcards. Charts were materials used by three of them. Counters, real objects, play money, fractional kit, and computer were used by one of them as Mathematics materials were used by some of them. The data implies that the grade III Mathematics teachers used varied instructional materials.

Teaching strategies in teaching mathematics. Relative to teaching strategies used by the grade III Mathematics teachers, three of the teacher-

respondents used deductive methods. Two each used inductive methods, demonstrations, and cooperative learning. The respondents also used the concept development, direct instruction, discovery, discussion, drawing pictures, expository, problem solving, role play, simplifying and project method. The table shows that the majority of the teacher-respondents used three or more strategies in teaching mathematics. The data implies that the majority of the teacher-respondents used the traditional strategies in teaching Mathematics.

Table 14 presents the teacher-respondents attitude towards teaching Mathematics.

Attitude towards teaching mathematics. As to the teacher-respondents attitude towards teaching mathematics as seen in the table, the teacher-respondents rated seven out of the 10 statement-indicators for attitude towards teaching mathematics with "strongly agree" and three of them with "agree", which indicated a "very highly favorable" attitude and "highly favorable" attitude towards teaching mathematics.

Of the seven attitude statements rated as "strongly agree" their ratings are as follows: six statements were rated 5.00, and one of them was rated 4.88. The seven attitude statements which were rated as strongly agree are: 1) I appreciate pupils who try their best to solve problems in mathematics on their own or in groups - 5.00, 2) I gives several examples before giving my pupils individual exercises, seatwork and board work-5.00, 3) I let my pupils realize that it is important to enjoy mathematics - 5.00, 4) When I see mathematically gifted pupils

I encourage them to pursue a career in math - 5.00, 5) I like teaching mathematics to my pupils because I believe that the subject is useful to the development of

Table 14

Teacher-Respondents' Attitude towards Teaching Mathematics

Attitude Statements	Weighted Mean	Interpretation	Rank
1. I appreciate pupils who try their best to solve problems in mathematics on their own or in groups.	5.00	SA/VHFA	3.5
2. I gives several examples before giving my pupils individual exercises, seatwork and board work.	5.00	SA/VHFA	3.5
3. I make it my concern to buy my own mathematics book and go to the library to look for references in mathematics or use the INTERNET.	4.20	A/HFA	9
4. I let my pupils realize that it is important to enjoy mathematics.	5.00	SA/VHFA	3.5
5. When I see mathematically gifted pupils I encourage them to pursue a career in math.	5.00	SA/VHFA	3.5
6. I allow my pupils to talk to me about what they think and feel towards mathematics and their problems towards learning math.	4.80	SA/VHFA	7
7. I like teaching mathematics to my pupils because I believe that the subject is useful to the development of every individual.	5.00	SA/VHFA	3.5
8. Mathematics teaching is interesting and rewarding to me.	5.00	SA/VHFA	3.5
9. I don't hesitate to ask help from my co-teachers about math topics/lessons that I would teach to my class, if I am not very knowledgeable and confident about it.	4.40	A/HFA	8
10. I like Math because it is mostly expressed in symbols and not in words.	4.00	A/HFA	10
Grand Total	**47.40**	-	-
Grand Mean	**4.74**	**SA/VHFA**	-

Legend: 4.51 – 5.00 Strongly Agree (SA) / Very High Favorable Attitude (VHF)
3.51 – 4.50 Agree (A) / High Favorable Attitude (HF)
2.51 – 3.50 Neutral (N) / Moderately Favorable Attitude (MF)
1.51 – 2.50 Disagree (D) / Less Favorable Attitude (LF)
1.00 – 1.50 Strongly Disagree (SD) / Not Favorable Attitude (NF)

every individual - 5.00, 6) mathematics teaching is interesting and rewarding to me - 5.00, and 7) I allow my pupils to talk to me about what they think and feel towards mathematics and their problems toward learning math - 4.80.

The distribution of the ratings of the three attitude statements rated "agree" are as follows: one statement was rated 4.40, one statement 4.20, and one statement was rated 4.00.

The attitude statements which were rated as "agree" showing a highly favorable attitude: 1) I don't hesitate to ask help from my co-teachers about math topics/lessons that I would teach to my class, if I am not very knowledgeable and confident about it - 4.40, 2) I make it my concern to buy my own mathematics book and go to the library, to look for references in mathematics or use the INTERNET - 4.20, and 3) I like Math because it is mostly expressed in symbols and not in words - 4.00.

The grand mean for the teachers' attitude towards teaching Mathematics obtained is 4.74 interpreted as "strongly agree" or "very highly favorable" attitude towards teaching Mathematics. This meant that the teacher-respondents of the study have "very highly favorable" attitude towards the subject they are teaching. This would imply that they are competent in teaching the subject.

Home/Parent Profile of the Pupil-Respondents

The home/parent profile of the pupil-respondents is presented with respect to parents' age, parents' educational attainment, parents' religion, average family

monthly income, household size, and attitude of parent towards Mathematics. This is presented in Table 15 to Table 21.

Parents' age. Table 15 presents the distribution of the ages of the parents of the respondents. As to the age of the fathers of the respondents, the youngest father is in the age bracket 26-30 years old with one father or 0.85 percent of them having this as age. The oldest father is age 58 years old and two fathers or 1.71 percent have this as their age.

Table 15

Age Distribution of the Parent-Respondents

Age (in years)	Father Age		Mother Age	
	Frequency	Percentage	Frequency	Percentage
(26-30)	(5)	4.27	(12)	10.26
(31-35)	(21)	17.95	(29)	24.79
(36-40)	(35)	29.91	(31)	26.50
(41-45)	(33)	28.21	(30)	25.64
(46-50)	(11)	9.40	(13)	11.11
(51-50)	(9)	7.69	(1)	0.85
(56-60)	(3)	2.56	(0)	0.00
Total	**117**	**100.00**	**117**	**100.00**
Mean	**40.68 yrs.**	-	**38.47 yrs.**	-
SD	**6.68 yrs.**	-	**5.74 yrs.**	-

Moreover, the distribution of their ages are as follows: 35 of them are having ages in the range from36-40 years old, 33 fathers have ages in the range from 41-45 years old, 21 of them are having ages from 31-35 years old. The remaining small percentage has ages ranging from 46-50, 51-55, 56-60 and 26-30 with frequencies

of 11, 9, 3, and 5. The mean age is 40.68 years old and the SD is 6.68 years old showing a slight variation of their ages from the mean age.

As to age of the respondents' mothers, the youngest mother is in the age bracket 26-30 years old with 12 mothers having this as their age. The oldest mothers have ages in the age bracket 51-55 years old with one mother or 0.85 percent of them having this as her age. Moreover, the distribution of their ages are as follows:31 of them are having ages in the range from 36-40 years old, 30 mothers have ages in the range from 41-45 years old, 29 mothers are having ages from 31-35 years old. The mean age of their mothers is 38.47 years old and the SD is 5.74 years old showing a slight variation of their ages from the mean age.

Parents' educational attainment. Table 16 presents the educational attainment of the parents of the student-respondents.

Table 16

Parent-Respondents' Educational Attainment

Educational Attainment	Father		Mother	
	Frequency	Percentage	Frequency	Percentage
College Grad.	7	5.98	4	3.42
College Level	28	23.93	24	20.51
HS Graduate	27	23.08	25	21.37
HS Level	13	11.11	22	18.80
Elem. Grad.	31	26.50	25	21.37
Elem. Level	**11**	**9.40**	**17**	**14.53**
Total	**117**	**100.00**	**117**	**100.00**

As seen in the table, for the education of the fathers of the respondents the highest education reached by the father of the respondents is college graduate with 7 respondents' fathers and the lowest is elementary level with 11 fathers. Most of the fathers graduated elementary education, 31 or 26.50 percent, this is followed by 28 respondents or 23.93 percent whose fathers reached college level and 27 respondents' fathers who were high school graduates, 13 or 11.11 percent who were high school level, 11 or 9.40 percent reached elementary level.

The table reveals that the proportion of the parents (both father and mother) education of the pupil-respondents were almost equally distributed as elementary graduate, high school level, high school graduate and college level in their educational attainment.

Parents' Occupation. Relative to the occupation of parents, Table 17 reveals that the occupations of the pupil-respondents' fathers were distributed as follows: 10 or 8.55 percent are farmers/fishermen, 32 or 27.35 percent are construction worker/laborer/carpenters, 30 or 25.64 are car/bus/tricycle/motor vehicle drivers, 14 were self-employed, 12 were fish/fruits vendors, nine each were private and government employees, one is an OFW. On the whole, the occupations of the respondents' father were occupations of most of the fathers in Catbalogan who are not employed in the government.

Of the 117 mothers the majority of them were housewife (111 or 94.87 percent).This is followed by three mothers or 2.56 percent who are cook and

laundry woman, two or 1.71 percent are private employees working as clerk, and secretary, and one is a vendor.

Table 17

Parents-Respondents' Occupations

Occupations	Father		Mother	
	Frequency	Percentage	Frequency	Percentage
Housekeeper	-	-	111	94.87
Farmer/Fisherman	10	8.55	-	-
Laborer/Construction Worker/Carpenter /Cook/Laundry Woman	32	27.35	3	2.56
Fruit/Fish Vendor	12	10.26	1	0.85
Car/Bus/Motor/Tricycle Driver	30	25.64	-	-
Private Employee	9	7.69	2	1.71
Self-employed	14	11.97	-	-
Gov't Employee	9	7.69	-	-
OFW	1	0.85	-	-
Total	**117**	**100.00**	**117**	**100.00**

The respondents' mothers were involved in occupations which will not contribute much to the income of the family.

On the whole, the majority of the parents (both mother and father) were engaged in occupations which are not among the listed occupations which are highly paid in 2008 (a monthly salary/wage of Php 30,000 and higher) (Source: The Internet).

Parents' religion. Table 18 presents the religion of the parents of the pupil-respondents. Ass seen in the table, for the father of the respondents majority of them were Roman Catholic (115 or 98.29 percent), two fathers are Bible Baptist.

Table 18

Parents'-Respondents to Religions

Religions	Father		Mother	
	Frequency	Percentage	Frequency	Percentage
Roman Catholic	115	98.29	115	98.29
Bible Baptist	2	1.71	2	1.71
Total	**117**	**100.000**	**117**	**100.00**

For the religion of the mothers of the respondents, majority of them were Roman Catholic (115 or 98.29 percent), two of the mothers of the respondents are Bible Baptist.

The table reveals that as to parents' religion the majority of the parents of the pupil-respondents are Roman Catholic. This must be because the dominant religion in Catbalogan, Samar is Roman Catholic.

House hold size. Table 19 presents the household size of the respondents. As depicted in the table, majority of the respondents are having a big household size, such as, 5, 6, and 7, with frequency of 23 each. The smallest household has two members and the biggest has 14 members. The table shows that there were a total of 57 respondents a little less than 50 percent (23+13+11+7+2+1=57) with household size of 7 to 14 members. The remaining respondents (60) have

household size of 2 to 6. The mean for household size is 7 members and the SD is 2 members. The data implies that the majority of the households of the pupil-respondents are big households.

Table 19

Pupil-Respondents' as to Household Size

Household Size	Frequency	Percentage
2	1	0.85
3	2	1.71
4	11	9.40
5	23	19.66
6	23	19.66
7	23	19.66
8	13	11.11
9	11	9.40
10	7	5.98
11	2	1.71
14	1	0.85
Total	**117**	**100.00**
Mean	**7 members**	**-**
SD	**2 members**	**-**

Legend:2-5 - Small
6 – regular/average
7-14 - big

Average family monthly income. As to the average family monthly income, Table 20 reveals that the lowest income is Php 1,000.00 and one parent-respondent has this as their family income and the highest income is Php 20,000 and two parent-respondents have this as family income. The table reveals that 64 families of the pupil-respondents have very low income (Php 1000 to Php 5000),

Table 20

Average Family Monthly Income of the Pupil-Respondents

Average Monthly Family Income	Frequency	Percentage
1000	1	0.85
1500	2	1.71
2000	4	3.42
2400	1	0.85
2500	4	3.42
2800	1	0.85
3000	11	9.40
3200	1	0.85
3300	2	1.71
3500	10	8.55
3800	3	2.56
4000	9	7.69
4500	4	3.42
5000	11	9.40
5500	5	4.27
5800	1	0.85
6000	11	9.40
6100	1	0.85
6500	4	3.42
6800	2	1.71
7000	4	3.42
7500	2	1.71
8000	3	2.56
8500	1	0.85
9000	1	0.85
10000	6	5.13
11000	3	2.56
12000	3	2.56
15000	1	0.85
16000	5	1.71
17000	2	0.85
20000	2	1.71
Total	**117**	**100.00**
Mean	**7800.00**	**-**
SD	**3893.42**	**-**

Legend: Php 1,000 - Php 5000 - Very Low Income
Php 5,000 - Php 10,000 - Low Income
Php 10, 001 - Php 15,000 - Average Income
Php 15, 001 - Php 20,000 - High Income

41 respondents are low income (Php 5001 to Php 10,000), 7 have average income (Php 10001 to Php 1500) and five have high income (Php 15001 to Php 20,000). The mean income is pegged at Php 7800.00 which showed that majority of the families of the pupil-respondents were living below poverty set by NEDA 8 in Eastern Visayas for 2003 in the amount of Php 10,804.00 (2003:www.neda8.ph). The data implies that the majority of the families of the respondents are low income. The SD obtained for income is Php 3893.42 which indicated that there were variations in the income of the family of the pupil-respondents from the mean income.

Attitude towards Mathematics. Table 21 shows the parents' attitude towards mathematics. As seen in the table, of the 10 statements showing the parents' attitude towards Mathematics, nine of the statements were rated "agree" and one of them was rated "neutral".

The parents' of the student-respondents were "neutral" on the following attitude indicators which indicated that they have moderately favorable attitude towards mathematics, "I would hire a private tutor for my child in mathematics to improve my child school performance - 3.35".

The first three attitude statements in which the parents rated them "agree" are: 1) I don't want that my child will make absences in his/her mathematics classes - 4.45, 2) I like that my child will recite and participate in his/her math class - 4.43, and 3) I like that math teachers give several examples before giving my child assignment and homework - 4.35.

Table 21

Parents' Attitude towards Mathematics

Attitude Statements	Weighted Mean	Interpretation	Rank
1. I will help my child with his/her mathematics assignment at home.	4.32	Agree/HF	4
2. I like that math teachers give several examples before giving my child assignments and homework.	4.35	Agree/HF	3
3. I like that my child will recite and participate in his/her math class.	4.43	Agree/HF	2
4. I don't want that my child will make absences in his/her mathematic classes.	4.45	Agree/HF	1
5. I like that my child will have references in math other than the textbook.	4.12	Agree/HF	7
6. I would hire a private tutor for my child in mathematics to improve my child school performance.	3.35	Neutral/MF	10
7. I would like to ask my child math teacher in school to explain to me topics in math that I am not clarified about in order to help my child in math.	4.15	Agree/HF	6
8. I will study my child math lessons in advanced to help him/her in his assignment, homework and project	3.89	Agree/HF	8
9. I would like that my child will do her homework and assignment in math with my help.	4.21	Agree/HF	5
10. If my child will excel in mathematics I will give her reward for good school performance.	3.87	Agree/HF	9
Grand Total	**41.15**	-	-
Grand Mean	**4.11**	**Agree**	-

Legend:

4.51 – 5.00	- Strongly Agree (SA) /Very Highly Favorable Attitude (VHF)
3.51 – 4.50	-Agree (A)/ Highly Favorable Attitude (HF)
2.51 – 3.50	-Neutral (N) /Moderately Favorable Attitude (MF)
1.51 – 2.50	-Disagree (D) / Less Favorable Attitude (LF)
1.00 – 1.50	-Strongly Disagree (SD) / Not Favorable Attitude (NF)

The mean for the parents' attitude towards mathematics is 4.11 interpreted as agree showing a "highly favorable attitude" towards mathematics.

Mathematics Performance of the Grade III Pupil – Respondents. The level of Mathematics performance of the grade III pupil-respondents is presented in terms of final grade in Mathematics III and District Achievement Posttest Score in Mathematics III.

Final Grade in Mathematics III. Table 22 shows the final grade of the pupil-respondents in Mathematics III is 71 and one pupil-respondents in Mathematics III and the highest grade is 888 with one pupil-respondent has this as final grade in Mathematics III.

Moreover, six respondents obtained a final grade in Mathematics III considered as "not passing" performance or poor performance which is very low performance. These are final grades of 71, 72, 73, and 74. Based on the frequency for grades obtained by the respondents, the respondents performance in Mathematics III is satisfactory or average performance as indicated by the mean which is 80.84 and an SD value of 3.25 which shows that the grades obtained by the pupil respondents is slightly disperse from the mean grade obtained in Mathematics III. Moreover, the distribution of their final grades in Mathematics III were as follows: 73 have satisfactory or average performance, 27 have fair or low performance, 11have very satisfactory or high performance and six have obtained a poor (not passing) performance or very low performance in Mathematics III.

Table 22

Pupil-Respondents' Final Grade in Mathematics III

Final Grade in Mathematics III	Frequency	Percentage
71	1	0.85
72	1	0.85
73	2	1.71
74	2	1.71
75	3	2.56
76	3	2.56
77	7	5.98
78	5	4.27
79	9	7.69
80	11	9.40
81	14	11.97
82	23	19.66
83	16	13.68
84	9	7.69
85	7	5.98
86	0	0.00
87	3	2.56
88	1	0.85
Total	**117**	**100.00**
Mean	**80.84**	**Satisfactory/Ave. Performance**
SD	**3.25**	**-**

Legend:
95 – Excellent Performance (EP)
90-94 – Superior (Sp) / Very High Performance (VHP)
85-89 – Very Satisfactory VS) / High Performance (HP)
80-84 – Satisfactory (S)/ Average Performance (AP)
75-79 – Fair (F) / Low Performance (LP)
74 below – Not Passing (NP) / Poor / Very Low Performance (VLP)

District Achievement Posttest Scores in Mathematics III. Table 23 shows the -scores of the pupil-respondents in Mathematics III in the District Achievement Posttest of 20 items. As seen in the table, the lowest score obtained by the pupil-respondents in the District Achievement Posttest of 20 items in Mathematics III is

Table 23

Pupil-Respondents' District Achievement Posttest Scores in Mathematics III

District Achievement Posttest Scores	Frequency	Percentage
5	2	1.71
6	3	2.56
7	8	6.84
8	16	13.68
9	20	17.09
10	20	17.09
11	12	10.26
12	8	6.84
13	6	5.13
14	7	5.98
15	8	6.84
16	3	2.56
17	2	1.71
18	2	1.71
Total	**117**	**100.00**
Mean	**10.55**	**Satisfactory/Average Performance**
SD	**2.88**	**-**

Legend: 95 – Excellent Performance (EP)
90-94 – Superior (Sp) / Very High Performance (VHP)
85-89 – Very Satisfactory VS) / High Performance (HP)
80-84 – Satisfactory (S)/ Average Performance (AP)
75 – 79 – Fair (F) / Low Performance (LP)
74 below – Not Passing (NP) / Poor / Very Low Performance (VLP)

five and two respondents or 1.71 percent of them have this as score in Mathematics III in the District Achievement Posttest and the highest score 18 and two respondents obtained this score considered as very high performance in Mathematics III in the District Achievement Posttest.

Moreover, 60 respondents obtained a score ranging from 9-12 in Mathematics III in the District Achievement Posttest considered as "average performance or satisfactory performance". This is followed by 29 pupil-respondents whose score ranges from 5-8 which is interpreted as low performance, 24 respondents obtained score from 13-16 interpreted as very satisfactory or high performance. The respondents performance in Mathematics III is satisfactory or average performance as indicated by the mean which is 10.55 and n SD value of 2.88 which shows that the scores obtained by the pupil-respondents is slightly disperse from the mean scores obtained in Mathematics III in the District Achievement Posttest.

Relationship Between Pupil-Respondents' Level of Mathematics Achievement and Factors

The relationship between the pupil-respondents' level of mathematics achievement based on final grade in Math III and District Achievement Posttest in Math III and the teacher-related factors is presented in Table 24.

Age. As to give of the teacher-respondent, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' **age** reveal a computed r of 0.30, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two failed). This led to the rejection of the hypothesis, which states, "There is no

Table 24

Result of the Correlation of Analysis between Pupil-Respondents' and Teacher-Related Factors

Teacher-Related Factors	Final Grade in Math III			District Achievement Posttest in Math III		
	r-value	t-value	Evaluation/ Decision	r-value	t-value	Evaluation/ Decision
Age	0.30	3.35		0.17	1.83	NS/Accept Ho.
Sex	No Correl			No Correl		
Civil Status	No Correl			No Correl		
Ave. Fam. Mo. Income	-0.74	-11.78	S/Reject Ho.	-0.38	-4.44	S/Reject Ho.
Educational Attainment	-0.07	-0.77	NS/Accept Ho.	0.03	0.32	NS/Accept Ho.
Teaching Experience	0.31	3.52	S/Reject Ho.	0.28	3.16	S/Reject Ho.
Seminars and Training Attended	0.14	1.49	NS/Accept Ho	0.15	-1.61	NS/Accept Ho
RPAST Rating	-0.04	-0.47	NS/Accept Ho	0.11	1.17	NS/Accept Ho
Religion	No Correl			No Correl		
Inst. Materials Used	-0.30	-3.41	S/Reject Ho.	-0.40	-4.70	S/Reject Ho
Strategies Used	-0.30	-3.35	S/Reject Ho.	-0.34	-3.93	S/Reject Ho.
Attitude towards Math	0.39	4.50	S/Reject //Ho.	0.23	2.59	S/Reject Ho.

rcrit =	0.151	.05	two tailed
tcrit =	1.96	.05	two tailed

S – Significant
NS- Not Significant

significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and age of the Mathematics III teacher". This indicates that the age of the teacher-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that teachers is related to pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III, that the older the math teacher the better is the mathematics achievement of her pupils and vice versa. This can be explained by the fact that older math teachers would mean longer teaching experience in teaching mathematics so, her/his pupils will benefit in terms of mathematics experience due to age.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and age of the Mathematics III teacher reveal a computed r of 0.17. The computed t-value was 1.83, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 200 two tailed. This lied to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III teacher". This indicates that the age of the Mathematics III teacher of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that younger or older Mathematics III teachers have pupils who have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This must be because the District Achievement Posttest in Math III is a test to measure the teaching competence of the teachers in Mathematics III. The teachers in Catbalogan II Central Elementary School are guided by a course outline to follow, or a set of skills to be developed in the grade III pupils, thus those under older teacher may obtained the same scores in the posttest administered the same as the pupils under the much younger mathematics teachers because they were able to develop the same skills in their pupils or the listed competency in mathematics be possess by the grade III pupils.

Sex. As to sex of the teacher-respondent, no correlation was computed between the pupil-respondents' level of achievement in Mathematics III based on

the final grade in Math III and teachers' sex since one of the variable is a constant (i.e. sex of the teacher-respondents). All of the five teacher-respondents are female.

As to the correlation between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and sex of the Mathematics III teacher, no correlation was found since sex of the Mathematics III teacher (one of the variable) is a constant. All Mathematics III teacher-respondents are female.

Civil Status. As to civil status of the teacher-respondent, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' civil status no correlation was obtained since one of the variable is a constant. Civil status is constant. All teacher-respondents are married.

As to the correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and civil status of the Mathematics III teacher, no correlation was obtained since one of the variable, civil status of the mathematics III teacher is a constant. All of them were married.

Average Family Monthly Income. As to average family monthly income of the teacher-respondent, the following are the results: The correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' average family monthly income reveals a computed r of -0.74, a negative r-value indicates an inverse relationship between

the variables. This meant that pupil-respondents mathematics achievement is high under a teacher whose average monthly income is low and vice versa. The computed t-value was -11.978, which absolute values is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-' respondents' level of achievement in Mathematics III based on the final grade in Math III and average family monthly income of the Mathematics III teacher". This indicates that the average family monthly income of the teacher-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result mean that the teachers' average monthly income relates to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. This meant that because a teacher with low income will not be able to buy instructional materials in Math III for her/hos own use and for her/his pupils, she uses his/her initiative by making them or improvising the instructional materials, borrowing from her co-teachers, or acquiring them through donations by the parents. The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and average family monthly income of the Mathematics III teacher reveal a computed r of – 0.38. A negative r-value indicates an inverse relationship between the variables. This meant that pupil-respondents Mathematics III achievement based on the District Achievement Posttest is high under teacher whose average monthly family

income is low and vice versa. The computed t-value was -4.44, 9 which absolute value is greater than the critical t-value was 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and average family monthly income of the Mathematics III teacher", This is indicates that the average family monthly income of the Mathematics III teacher is significantly related to the level of achievement of the pupil-respondent in Math III based on the District Achievement Posttest in Math III. (The result meant that the level of Mathematics III achievement of pupil under an income differs from the level of Mathematics III of their pupils from low income based on the District Achievement Posttest in Math III. This must be because the teachers with high income can purchase the instructional materials that are needed to teach their grade III pupils in order for them to learn Mathematics III.

The result meant that the level of Mathematics III achievement of pupils based on the District Achievement Posttest in Mathematics III who is under a Mathematics III teacher with high income differ from those who are under a Mathematics III teacher with low income.

Highest Educational Attainment. As to the highest educational attainment of the teacher-respondents, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' highest educational attainment reveal a computer r of -0.07. A negative

r-value indicates an inverse relationship between the variables. This meant that the teacher-respondents whose highest educational attainment is just BEED have pupils with high level of Mathematics achievement compared to teacher-respondents who have completed the academic requirements towards a master's degree or has obtained a CAR holder to a Master's Degree. The computed t-value was -0.77, which absolute value is lesser than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and educational attainment of the Mathematics III teacher". This indicates that the educational attainment of the teacher-respondents is not significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result mean that the teachers' educational attainment is not related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. This must be because the teachers in Math III are able to develop the Mathematics competencies in grade III regardless of their educational qualifications.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and educational attainment of the Mathematics III teacher reveal a computed r of 0.03, the computed t-value was 0.32, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 200 (two tailed). This led to the acceptance of

the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based District Achievement Posttest in Math III and educational attainment of the Mathematics III teacher". This indicates that the educational attainment of the Mathematics III teacher of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant Mathematics III teachers who are CAR holder, with units in MA, or their undergraduate degrees only have pupils who have very high level of achievement in Mathematics III based on the District Achievement Posttest in Math III or very low level of Mathematics III achievement. This must be because the teachers teaching classes in Math III in Catbalogan II Central Elementary School are, guided by a course outline to follow, they have to develop the mathematics skills listed in the competency that should be possess by the grade III pupil, so their educational qualification will not affect much.

Teaching Experience in Teaching Mathematics. As to teaching experience of the teacher-respondent, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' teaching experience reveal a computed r of 0.31, the computed t-value was 3.52, which value is greater than the critical t-value of 1.96 at 0.005 level of significance and df = 120 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teaching

experience of the Mathematics III teacher". This indicates that the teaching experience of the teacher-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that teachers' teaching experience is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on District Achievement Posttest in Math III and teaching experience of the Mathematics III teacher reveal a computed r of 0.28, the computed t-value was 3.16, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and teaching experience of the Mathematics III teacher". This indicates that the teaching experience of the Mathematics III teacher of the pupil-respondents is significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that experienced (several years) Mathematics III teacher has pupils who have very high level of achievement in Mathematics III based on the District Achievement Posttest in Math III than the teacher with few years of teaching experience. This must be because the teacher teaching classes in Math III in Catbalogan II Central Elementary School even if they are guided by a course outline to follow they have

to develop the mathematics skills listed in the competency that should be possess by the grade III pupils, experience teacher possessed the strategies or the idea to teach the topics/skills better than a less experienced one.

Relevant Number of Trainings/Seminars Attended. As to number of seminars or training attended of the teacher-respondents, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' number of seminars or training attended reveal a computed r of 0.14, the computed t-value was 1.49, which values is less than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and number of seminars or training attended by the Mathematics III teacher". This indicates that the number of seminars or training attended of the teacher-respondents is not significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that teachers' numbers of trainings/seminars attended is not related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. This must be because the number of trainings/seminars attended by the teacher-respondents were two and three only, the difference between the two numbers of trainings/seminars are not much.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and number of seminars or training attended of the Mathematics III teacher reveal a computed r of -0.15, the computed t-value was -1.61, which absolute value is less than critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and number of seminars or training attended of the Mathematics III teacher". This indicates that the number of seminars or training attended of the Mathematics III teacher of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that the number of seminars or training attended Mathematics III teachers has pupils who have very high level of achievement in Mathematics III based on the District Achievement Posttest in Math III or very low level of Mathematics III achievement. This must be because the teachers teaching classes in Math III in Catbalogan II Central Elementary School are guided by a course outline to follow, they have to develop the mathematics skills listed in the competency that should be possess by the grade III pupil.

RPAST Rating. As to RPAST rating of the teacher-respondents, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' RPAST rating reveals a

computed r of -0.04, the computed t-value was -0.47, which value is less than the critical t-value of 1.96 at 0.05 level of significance df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and RPAST rating of the Mathematics III teacher". This indicates that the RPAST rating of the teacher-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result mean that teachers' RPAST rating is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and RPAST rating of the Mathematics III teacher reveal a computed r of 0.11, the computed t-value was 1.17, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math II and RPAST rating of the Mathematics III teacher". This indicates that the RPAST rating of the Mathematics III teacher of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that the Mathematics III teachers has pupils who have very high level of achievement in Mathematics III

based on the District Achievement Posttest in Math III or very low level of Mathematics III achievement regardless of their RPAST rating. This must be because the teachers teaching classes in Math III in Catbalogan II Central Elementary School are guided by a course outline to follow, they have to develop the mathematics skills listed in the competency that should be possess by the grade III pupils.

Religion. As to religion of the teacher-respondent, no correlation was computed between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' religion since one of the variable is a constant i.e. religion of the teacher-respondents. All teacher-respondents are Roman Catholic.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and religion of the Mathematics III teacher, no correlation was found since, religion of the Mathematics III teacher, one of the variable is a constant. All Mathematics III teacher-respondents are Roman Catholic.

Instructional Materials Used in Teaching Mathematics. As to instructional materials used by the teacher-respondent, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' instructional materials used reveal a computed r of -0.30, the computed t-value was -3.5, which absolute value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This

led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and instructional materials used by the Mathematics teacher". This indicates that the instructional materials used by the teacher-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that teachers' instructional materials used is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and instructional materials used by the Mathematics III teacher reveal a computed r of -0.40, the computed t-value was -4.70, which absolute value is greater than the critical t-value of 1.96 at 0.5 level of significance and df = 120 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and instructional materials used by the Mathematics III teachers". This indicates that the instructional materials used of the Mathematics III teacher of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that instructional materials used of the Mathematics III teachers has pupils who have very high level of achievement in Mathematics

III based on the District Achievement Posttest in Math III or very low level of Mathematics III achievement. This must be because the teachers teaching classes in Math III in Catbalogan II Central Elementary School are guided by a course outline to follow, they have to develop the mathematics skills listed in the competency that should be possess by the grade III pupil.

Teaching Strategies Used in Teaching Mathematics. As to teaching strategies used by the teacher-respondent in teaching Mathematics III between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' teaching strategies used to teach Math III reveal a computed r of -0.30, the computed t-value was -3.35, which value is greater than the critical t-value of 1.96 at0.05 level of significance and df = 120 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and teaching strategies used by the teacher-respondent". This indicates that the teaching strategies used by in teaching mathematics are significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant the teachers' teaching strategies used is related to pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. This implies that mathematics teachers should use varied teaching strategies to teach mathematics.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and teaching strategies used by the teacher-respondent in Mathematics III reveals a computed r of -0.34, the computed t-value was -3.93, which absolute value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and teaching strategies used by the teacher-respondents in teaching Mathematics III in teaching". This indicates that the strategies used by the teacher-respondents in teaching Mathematics III is significantly related to their pupils' level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that regardless of the teaching strategies used by the teacher-respondent in teaching Mathematics III this results to pupils who have very high level of achievement in Mathematics III based on the District Achievement Posttest in Math III or very low level of Mathematics III achievement. This must be because the teachers teaching classes in Math III in Catbalogan II Central Elementary School are guided by a course outline to follow, they have to develop the mathematics skills listed in the competency should be possess by the grade III pupil.

Attitude towards Teaching Mathematics. As to attitude towards teaching mathematics of the teacher-respondents, the correlation between the pupil-

respondents' level of achievement in Mathematics III based on the final grade in Math III and teachers' attitude towards teaching mathematics reveal a computed r of 0.36, the computed t-value was 4.50, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and attitude towards teaching mathematics of the Mathematics III teacher". This indicates that the attitude towards teaching mathematics of the teacher-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that teachers' attitude towards teaching mathematics is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and attitude towards teaching mathematics of the Mathematics III teacher reveals a computed r of 0.23, the computed t-value was 2.58, which values is less than the critical t-value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and attitude towards teaching mathematics of the Mathematics III teachers". This indicates that the attitude

towards Mathematics of the Mathematics III teacher is not significantly related to the pupil-respondents level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that whatever is the attitude towards teaching Mathematics III of the teacher it will have pupils who have very high level of achievement in Mathematics III based on the District Achievement Posttest in Math III or very low level of Mathematics III achievement. This must be because the teachers teaching classes in Math III in Catbalogan II Central Elementary School are guided by a course outline to follow, they have to develop the mathematics skills listed in the competency that should be possess by the grade III pupils whatever may be is their attitude towards teaching mathematics.

Relationship between Pupil-Respondents Level of Mathematics Achievement and Pupil-Related Factors

Table 25 presents the result of the correlation analysis for the relationship between the pupil-respondents' level of mathematics achievement: based on final grade in Math III, and District Achievement Posttest in Math III; and the pupil-related variants, namely: age, sex, number of siblings (brothers and sister), birth order, final grades in English III, and Health & Sciences III, general weighted average (GWA) grade in grade III, District Achievement Posttest Score in English III, and Health & Sciences III, distance of home from school, study habits, and attitude towards Mathematics.

Table 25

Correlation Analysis between Levels of Mathematics Achievement and Pupil-Related Factors

Pupil-Related Factors	Final Grade in Math III			District Achievement Posttest Score in Math III		
	r-value	t-value	Interpret	r-value	t-value	Interpret, Evaluation/ Decision
Age	0.05	0.53	NS/Accept Ho.	0.07	0.75	NS/Accept Ho.
Sex	0.00	0.03	NS/Accept Ho.	-0.01	-0.08	NS/Accept Ho.
No. of Brothers	-0.10	-1.08	NS/Accept Ho.	0.00	-0.04	NS/Accept Ho.
No. of Sisters	-0.02	-1.20	NS/Accept Ho.	-0.10	-1.10	NS/Accept Ho.
Birth Order	0.03	0.27	NS/Accept Ho.	-0.01	-0.12	NS/Accept Ho.
Final Grade in English III	0.95	31.58	S/Reject Ho.	0.16	1.75	NS/Accept Ho.
Final Grade in Health & Science III	0.93	26.71	S/Reject Ho.	0.20	2.15	S./Reject Ho.
General Weighted Average (GWA) in Grade III	0.98	47.99	S/Reject Ho.	0.20	2.17	S/Reject Ho.
District Achievement Posttest Score in English III	0.45	5.42	S/Reject Ho.	0.23	2.55	S/Reject Ho.
District Achievement Posttest Score in Health & Science III	0.31	3.55	S/Reject Ho.	0.08	0.85	NS/Accept Ho.
Distance of Home from School	0.07	0.77	NS/Accept Ho.	0.10	1.11	NS/Accept Ho.
Study Habits	0.15	1.62	NS/Accept Ho.	0.08	0.90	NS/Accept Ho.
Attitude towards Mathematics	0.26	2.86	S/Reject Ho.	0.04	0.44	NS/Accept Ho.
rcrit	0.151	=0.05	two tail			
tcrit	1.96 =0.05		two tail			

Eval. S or NS
Decision Reject Ho or Accept Ho.

Age. As to age, the correlation between the pupil-respondents level of achievement in mathematics based on final grade in Math III and age of the pupil-

respondent reveals a computed r of 0.05, the computed t-value was 0.53, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on final grade in Math III and age". This indicates that the age of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the final grade in Math III. The result meant that younger and older grade III pupils have the same level of achievement in Mathematics III based on the final grade obtained in Math III. This must be because the classes in Math III in Catbalogan II Central Elementary School are combined as to ages.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and age of the pupil-respondents reveal a computed r of 0.07, the computed t-value was 0.75, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and age of the pupil-respondents". This indicates that the age of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that younger and older grade III pupils have the same level of achievement in

Mathematics III based on the District Achievement Posttest in Math III. This must be because the classes in Math III in Catbalogan II Central Elementary School are combined as to ages.

Sex. As to sex, the correlation between the pupil-respondents level of achievement in Mathematics III based on the final grade in Math III and sex reveals a computed r of 0.000, the computed t-value was 0.03 which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the final grade in Math III and sex of the pupil-respondents". This indicates that the sex of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on final grade obtained for Math III. The result meant that male and female grade III pupils have the same level of achievement in Mathematics III based on the final grade obtained for Mathematics III. This must be because the classes in Mathematics III in Catbalogan II Central Elementary School are mixed as to sex.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and sex of the pupil-respondents reveal a computed r of -0.01, the negative r-value denotes an inverse relationship between the variables. This meant according to coding used for sex that the female have lower level of mathematics achievement than the male. The computed t-value was -0.08, which absolute value is less than the critical t-

value of 1.96 at 0.05 level of significance and df = 120 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and sex of the pupil-respondents". This indicates that the sex of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that the male (boys) and female (girls) grade III pupils have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This must be because the classes in Math III in Catbalogan II Central Elementary School are combined as to sex.

Number of Siblings (Brothers and Sisters). As to number of brothers, the computed r between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and number of brothers reveal a computed r of -0.10. The negative r –value denotes an inverse relationship between the variables. This meant that the pupil-respondents with number brothers have lower level of mathematics achievement based on the final grade in Math III than those with few brothers. The computed t-value was -1.08, which absolute value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and total number of brothers". This indicates that the total number of brothers of the pupil-respondents is not

significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result indicates that pupils' number of brothers is not related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result implies that the brothers of the pupil-respondents are not helping them in their math assignment, homework, and projects. It also implies that the parents with more children-boys and those with few (boys) spend the same quality time with their grade III children with regards to helping them with their homework, assignment and exercises in mathematics.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and number of brothers reveal a computed r of 0.00, the computed t-value was -0.04, which absolute value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on, the District Achievement Posttest in Math III and the pupil-respondents' number of brothers". This indicates that the number of brothers of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that the grade III pupil-respondents with more number of brothers and those with less or few number of brothers have the same level of achievement in Mathematics III based on the District Achievement Posttest in

Math III. This must be because the classes in Math III in Catbalogan II Central Elementary School are combined disregarding the number of the pupil-respondents. As to number of sisters, the computed r between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and number of sisters reveal a computed r of -0.02. The negative r-value denotes an inverse relationship between the variables. This meant that the pupil-respondents with more number of sisters have lower achievement in Mathematics III based on the final grade in Math III of the pupil-respondents and vice versa. The computed t-value was -0.20, which absolute value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and their number of sisters". This indicates that the number of sisters of the pupil-respondents is not significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result indicates that pupil-respondents number of sisters is not related to pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and number of sisters reveal a computed r of -0.01. The negative r-value denotes an inverse relationship between the variables. This meant that the more number of sisters of

the pupil-respondents the lower is the level of achievement in Mathematics III of the pupil-respondents based on the District Achievement Posttest in Math III and vice versa. The computed t-value was -1.10, which absolute value is less than the critical t-values of 1.96 at 0.05 level of significance and df = 115. This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and number of sisters". This indicates that the number of sisters of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that pupil-respondents with more sisters and those with few sisters have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This must be because the pupil-respondents are classmates in Math III in Catbalogan Elementary School so they are combined in one class disregarding their number of sisters.

Birth Order. As to birth order, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and birth order reveal a computed r of 0.03, the computed t-value was 0.27, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed), this led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and birth order". This indicates that the birth order of the pupil-respondents is not

significantly related to their academic performance in mathematics. The result meant that pupils' who are first born or the 8th born child have the same level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and birth order reveal a computed r of -0.0. The negative r-value denotes an inverse relationship between the variables. This meant that as to birth order in the family of the respondents those that are the 8th, 9th, and 10th born child have lower level of mathematics achievement than the 1st, 2nd, and 3rd born children. The computed t-value was -0.12, which absolute value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and birth of the pupil-respondents". This indicates that the birth order of the pupil0=-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result mean that first born and 10th born grade III pupils have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This must be because the classes in Math III in Catbalogan II Central Elementary School disregarding order of the pupil-respondent.

Final Grade in English III. As to final grade in English III, the correlation between the pupil-respondents' level of achievement in Mathematics III based on

the final grade in Math III and final grade in English reveal a computed r of 0.95, the computed t-value was 31.58, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and their final grade in English III". This indicates that the final grade in English III of the pupil-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant the pupils' final grade in English III is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. This must be because instruction in Mathematics in grade III is in English a pupil-respondents who is good in English will understand mathematics better, hence will have a higher level of achievement in Mathematics III, the computed t-value was 1.75, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and final grade in English III". This indicates that the final grade in English III of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that grade III pupil-respondents who have obtained a final grade in English described as very high performance and those with low

performance have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III very high performance in English would be favorable to understanding better mathematics in this case the mathematics achievement of the pupil-respondents based on the District Achievement Posttest in Math III is not very related to their final grade in English III. This must be because the English language used in the District Achievement Posttest in Math III is sufficiently understandable by those pupils not very good in English or that the mathematics test is written in simple English language that requires no double meaning which can be understood by pupils with average or low English achievement. This must be because the classes in Math III in Catbalogan II Central Elementary School are combined irrespective of English ability or aptitude.

Final Grade in Health & Science III. As to final grade in Health and Science III of the pupil-respondents, the correlation between the pupil-respondents' level achievement in Mathematics III based on the final grade in Math III and final grade in Health and Science III reveal a computed r of 0.93, the computed t-value was 26.71, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and final grade in Health and Science III". This indicates that the final grade in Health and Science III of the pupil-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in

Math III. The result mean that the final grade in Health and Science III of the pupil-respondents is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and final grade in Health and Science III reveals a computed r of 0.20, the computed t-value was 2.15, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and their final grade in Health and Science III". This indicates that the final grade in Health & Science III of the pupil-respondents is significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that with average performance in grade III pupil Health and Science III is significantly differs in level of achievement in Mathematics III from those pupils with high performance in Health and Science III based on the District Achievement Posttest in Math III. This must be because Mathematics is a Science and good performance in Science implies good performance in mathematics, also, the classes in Math III in Catbalogan II Central Elementary School have the same teacher in Health and Science III since there is only one teacher teaching in Math III and Health and Sciences III.

General Weighted Average Grade in Grade III. As to general weighted average grade in grade III and the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and the computed r is 0.98, the computed t-value was 47.99, which value is greater than the critical t-value of 1.906 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and general weighted average (GWA) grade in grade III'. This indicates that the academic achievement in Mathematics based on the final grade in Mathematics III of the pupil-respondents is significantly related to their general weighted average (GWA) grade in grade III. The result meant that pupils' in Mathematics achievement based on the final grade in Mathematics III is related to their general weighted average grade in grade III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and general weighted average grade in grade III reveal a computed r of 0.20, the computed t-value was 2.17, which value is greater than the critical value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and general weighted average (GWA) grade in grade III". This indicates that the general weighted average in grade III of the pupil-respondents

is significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result mean that pupil-respondents with very high general weighted average grade in grade III and those with average general weighted average grade in grade III differ in the level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This must be because a very high general weighted average (GWA) grade in grade III implies that a pupil has very high or good performance in all the subjects including mathematics III so their level of mathematics achievement will differ based on their general weighted average grade in grade III.

District Achievement Posttest in English III. As to academic performance in English III based on the District Achievement Posttest, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and academic performance in English based on the District Achievement Posttest reveal a computed r of 0.45, the computed t-value was 5.42, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents achievement in mathematics based on the final grade in Mathematics III and academic performance in English based on District Achievement Posttest in English III". This indicates that the academic performance in English based on the District Achievement Posttest in English pupil-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final

grade in Math III. The result meant that pupils' academic performance in English based on the District Achievement Posttest is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and District Achievement Posttest in English reveal a computed r of 0.23, the computed t-value was 2.55, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and District Achievement Posttest in English III". This indicates that the District Achievement Posttest in English of the pupil-respondents is significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that pupil-respondents with high level of achievement in the District Achievement Posttest in English and those with low level of achievement in the District Achievement Posttest in English differ in their level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This meant that pupils' knowledge in English helped the pupil-respondents interpret and solved their mathematics problems and computation is made easier with respect to understanding the concept in Mathematics by their better or good knowledge in English.

District Achievement Posttest in Health and Science III. As to the District Achievement Posttest scores in Health and Science III, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and their scores/rating in the District Achievement Posttest in Health and Science III a computed r of 0.31 resulted, the computed t-value was 3.55, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and scores/rating in the District Achievement Posttest in Health and Science III". This indicates that the scores obtained by the pupil-respondents in the District Achievement Posttest in Health and Science III is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that pupils-respondents' scores in the District Achievement Posttest in Health and Science III is related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and District Achievement Posttest in Health and Science III reveal a computed r of 0.08, the computed t-value was 0.85, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-

respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and their scores in the District Achievement Posttest in Health and Science III". This indicates that the scores in the District Achievement Posttest in Health and Science III of the pupil-respondents is not significantly related to their level of achievement in Math III based on District Achievement Posttest in Math III. The result meant that pupil-respondents who have high and low scores in District Achievement Posttest in Health and Science III have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This must be because test items in Health and Science III in the District Achievement Posttest in Health and Science III do not have a relation at all or no carry one effect to the test items in the District Achievement Posttest in Math III.

Distance of Home from School. As to distance of home from school, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and distance of home from school reveal a computed r-value of 0.07, the computed t-value was 0.77, which is less than the critical t-value of 1.96 at 0.06 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and distance of home from school". This indicates that the distance of home from school of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the

final grade in Math III. The result meant that pupils' distance of residence from school does not affect the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. This implies that those pupils living for a boarding so that the far distance of home from school in which they can asked for help in their math lessons from parents and siblings is replaced by.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and distance of home from school reveal a computed r of 0.10, the computed t-value was 1.11, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and distance of home from school". This indicates that the distance of home from school of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that pupil-respondents who are living near and those that are living far or a distant from school have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This implies that those who are living far from school are boarding or living with relatives near the school and that their mathematics lessons are helped by their relatives or a tutor.

Study Habits. As to the study habits, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and study habits reveal a computed r of 0.15, the computed t-value was 1.62 which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and study habits of the pupil-respondents". This indicates that the study habits of the pupil-respondents is not significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that pupils' study habits is not related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. This must be because pupil-respondents knowledge in Math III gained from their participation in class is sufficient to answer the test items given in the District Achievement Posttest in Math III.

Attitude towards Mathematics. As to attitude towards mathematics, the correlation between the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III and attitude towards mathematics reveal a computed r of 0.26, the computed t-value was 2.86, which absolute value is greater than the critical t-value of 1.96 at 0.05 level of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the pupil-respondents' level of

achievement in Mathematics III based on the final grade in Math III and attitude towards mathematics". This indicates that the attitude towards mathematics of the pupil-respondents is significantly related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. The result meant that pupils' attitude towards mathematics related to the pupil-respondents' level of achievement in Mathematics III based on the final grade in Math III. Those students with favorable attitude towards mathematics have better mathematics achievement and vice versa. This must be because with good attitude towards mathematics the pupil-respondents will strived to learn more despite obstacles the long way.

The correlation between the pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Math III and attitude towards mathematics reveal a computed r of 0.04, the computed t-value was 0.44, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and attitude towards mathematics". This indicates that the attitude towards mathematics of the pupil-respondents is not significantly related to their level of achievement in Math III based on the District Achievement Posttest in Math III. The result meant that the grade III pupils, which have very favorable attitude towards mathematics and those with unfavorable attitude towards

mathematics, have the same level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This implies the pupil-respondents attitude towards mathematics do not contribute to their mathematics achievement based on the District Achievement Posttest in Math III.

Relationship Between Pupil-Respondents' Level of Mathematics Achievement and Home/Parent-Related Factors

The relationship between the pupil-respondents 'level of mathematics achievement: 1) based on final grade in Math III and 2) based on the District Achievement Posttest in Math III; and home/parent-related factors, namely: parents' age, parents' educational attainment, parents' occupation, parents' religion, average family monthly income, household size, parents' attitude towards mathematics is presented in their section,

Parents' Age. For the correlation of parents' age and level of Mathematics achievement based on final grade in Mathematics III, and District Achievement Posttest in Math III, the following is the result of the correlation analysis.

For the age of the mother of the pupil-respondents level of Mathematics achievement based on final grade in Mathematics III, the computed r is 0.03, the computed t-value is 0.33, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df =232 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between age of the mother of the

Table 26

Improved Table Result of the Correlational Analysis between the Pupil-Respondents' Mathematics Achievement and Parent-Related Factors

Parent-Related Factors	Final Grade in Math III			DAP Scores in Math III		
	r-value	t-value	Evaluation/ Decision	r-value	t-value	Evaluation/ Decision
Mother Age	0.03	0.33	NS/Accept Ho.	0.02	0.17	NS/Accept Ho.
Father Age	0.20	2.16	S/Reject Ho.	0.08	0.86	NS/Accept Ho.
Mother Education	0.38	4.35	S/Reject Ho.	0.23	2.48	S/Rject Ho.
Father Education	0.29	3.28	S/Reject Ho.	0.21	2.25	S/Reject Ho.
Mother Occupation	0.18	1.96	NS/Accept Ho.	-0.05	-0.51	NS/Accept Ho.
Father Occupation	0.12	1.24	NS/Accept Ho.	0.09	0.96	NS/Accept Ho.
Mother Religion	0.07	0.73	NS/Accept Ho.	0.18	1.97	S/Reject Ho.
Father Religion	0.07	0.73	NS/Accept Ho.	0.18	1.97	S/Reject Ho.
Average Family Monthly Income						
Income	0.06	0.60	NS/Accept Ho.	-0.03	-0.32	NS/Accept Ho.
Household Size	0.27	3.01	S/Reject Ho.	0.18	1.99	S/Reject Ho.
Attitude Towards Math	0.08	0.91	NS/Accept Ho.	0.04	0.45	NS/Accept Ho.
rcrit	0.13	df = 232	a=.05	S- significant		
tcrit	1.96	df = 232	a=.05	NS-Not Significant		

pupil-respondents and level of achievement in Mathematics of the pupil-respondents based on the final grade in Mathematics III". This means that the age of the pupil-respondents' mothers is not significantly related to their level of achievement in Mathematics III based on the final grade in Math III. An older mother of a pupil and a younger one have the same math achievement based on the final grade in Math III. This must be because it is the pupil-respondent taking math III not their mothers. So, their ages will not matter in this case.

For the correlation of the age of the mothers of the student-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r is 0.02", the computed t-value is 0.17,which

value is less than the critical t-value of 1.96 at level of significance and df = 45 (two tailed). This led to the acceptance of the hypothesis "There is no significant relationship between the age of the mothers of the pupil-respondents and their level of Mathematics III Achievement based on the District Achievement Posttest". This means that age of the mothers of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the District Achievement Posttest in Math III. This must be because an older mother and younger mother in age may have a child with the same math ability and so, will not differ in Mathematics Achievement based on the District Achievement Posttest in Mathematics III.

For the correlation of fathers' age and level of Mathematics achievement based on final grade in Mathematics III, the computed r is 0.2; the computed t-value is 2.16, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between age of the father of the pupil-respondents and their level of achievement in Mathematics based on the final grade in Mathematics III". This means that age of the fathers of the pupil-respondents is significantly related to their level of achievement in Mathematics III based on the final grade in Math III.

For the correlation of the age of the fathers of the pupil-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r-value is 0.08, the computed t-value is 0.86, which

value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between age of the fathers of the pupil-respondents and their level of Mathematics III Achievement based on the District Achievement Posttest". This mean that age of the fathers of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the District Achievement Posttest in Mathematics III. This implies that an older and younger father in age will have a son or daughter who has the same level of achievement in Math III based on the District Achievement Posttest in Mathematics III.

Parents' Educational Attainment. For the correlation of parents' educational attainment and level of Mathematics achievement based on the 1) final grade in Mathematics III, and 2) District Achievement Posttest in Mathematics III, the result of the correlation analysis were as follows:

For the educational attainment of the mother of the pupil-respondents and level of Mathematics achievement based on final grade in Mathematics III, the computed r-value is 0.38, the computed t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between educational attainment of the mother of the pupil-respondents and level of achievement in Mathematics based on the final grade in Mathematics III of the pupil-respondents". This means that educational attainment of the pupil-respondents' mothers is significantly related to their level

of achievement in Mathematics III based on the final grade in Math II. This must be because the mothers are the one helping their children in their math exercises, home works, assignments, and projects at home so, a mother who is better off in educational attainment will be very much of help to the pupils in their homework, exercises and math assignment.

For the correlation of the educational attainment of the mothers of the student-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r is 0.23, the computed t-value is 2.48, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between the educational attainment of the mothers of the pupil-respondents and their level of Mathematics III Achievement based on the District Achievement Posttest". This means that educational attainment of the mothers of the pupil-respondents is significantly related to their level of achievement in Mathematics III based on the District Achievement Posttest in Mathematics III. The level of mathematics achievement based on the District Achievement Posttest in Mathematics III of the pupil-respondents with mothers who are educationally qualified to teach them their mathematics differ from pupil-respondents with mothers who are not educationally capable to teach them their math.

For the correlation of the fathers' educational attainment and level of Mathematics achievement based on the final grade in Mathematics III, the

computed r is 0.29, the computed t-value is 3.28, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between educational attainment of the father of the pupil-respondents and their level of achievement in Mathematics based on the final grade in Mathematics III". This means that educational qualification of the fathers of the pupil-respondents is significantly related to their level of achievement in Mathematics III based on the final grade in Math III. This must be because the fathers of pupil-respondents who are college level or college graduate are better in mathematics than those who are elementary level only and the child look for help in their assignment/exercises/homework on their father with father who has attained better education their children will be helped in their mathematics.

For the correlation of the educational attainment of the fathers of the pupil-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r is 0.21 interpreted as "low" correlation. The computed t-value is 2.25, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between educational attainment of the fathers of the pupil-respondents and their level of Achievement in Mathematics III based on the District Achievement Posttest". This means that educational attainment of the fathers of the pupil-respondents is significantly related to their level of achievement in Mathematics III based on the

District Achievement Posttest in Mathematics III. The pupil-respondents with educationally qualified fathers differ as to their level of mathematics achievement based on the District Achievement Posttest in Mathematics III. This must be because pupil-respondents with college level or college graduate fathers will be able to help their children in lessons hence; this will affect their level of mathematics achievement in the District Achievement Posttest.

Parents' Occupation. For the correlational analysis of parents' occupations and level of Mathematics achievement based on final grade in Mathematics III the result are presented in this section, the occupations of the mother of the pupil-respondents and level of Mathematics achievement based on final grade in Mathematics III, the computed r is 0.18, the computed t-value is 1.96, which value is equal to the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between occupation of the mother of the pupil-respondents and level of achievement in Mathematics base on the final grade in Mathematics III of the pupil-respondents". This means that occupations of the pupil-respondents' mothers is significantly related to their level of achievement in Mathematics III based on the final grade in Math III. This must be because of the pupils are the one helping them in their school work so their mothers' occupation is related to their Mathematics achievement based on the final grade in Mathematics III. A mother who stays at home because she is a housekeeper will be able to attend to her child math deeds compare to an OFW mother who is far from home.

For the correlation of the occupation of the mothers of the student-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r is -0.055, the computed t-value is -0.51, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between occupation of the mothers of the pupil-respondents and their level of Mathematics III Achievement based on the District Achievement Posttest". This means that occupation of the mothers of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the District Achievement Posttest in Mathematics III. The pupil-respondents with housekeeper for a mother and a vendor or a secretary for a mother do not differ as to their level of mathematics achievement based on the District Achievement Posttest in Math III. This must be because the pupil-respondents are the ones attending their classes so their mothers' occupation will not influence and affect their level of mathematics achievement in the District Achievement Posttest.

For the correlation of fathers' occupation and level of Mathematics achievement based on final grade in Mathematics III, the computed r is 0.12, the computed t-value is 1.24, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between the pupil-respondents fathers' occupation and level of achievement in Mathematics based on the final

grade in Mathematics III of the pupil-respondents". This means that fathers' occupation of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the final grade in Math III. This must be because the pupils are the one attending their mathematics classes so their fathers' occupation will not affect their Mathematics achievement based on the final grade in Mathematics III.

For the correlation of the fathers' occupation of the student-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r is 0.09, the computed t-value is 0.96, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between the pupil-respondents fathers' occupation and their level of achievement in Mathematics III based on the District Achievement Posttest". This means that fathers' occupation of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the District Achievement Posttest in Math III. The pupil-respondents with fathers who are government employee and pupil-respondent with a tricycle driver father do not differ as to their level of mathematics achievement based on the District Achievement Posttest in Math III. This must be because the pupil-respondents are the ones attending their classes so their fathers' occupation will not influence or affect their level of mathematics achievement in the District Achievement Posttest.

Parents' Religion. The result of the correlation analysis of parents' religion and level of Mathematics achievement based on 1) final grade in Mathematics III, and 2) District Achievement Posttest in Mathematics III is presented in this section.

For the religion of the mother of the pupil-respondents and level of Mathematics achievement based on final grade in Mathematics III, the computed r is 0.07; the computed t-value is 0.73, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between religions of the mother of the pupil-respondents level of achievement in Mathematics of the pupil-respondents on the final grade in Mathematics III". This means that religion of the mother of the pupil-respondents is not significantly related to their level of achievement in Mathematics III based on the final grade in Math III. This must be because the pupils are the one attending their mathematics classes so their mothers' religion will not influence their Mathematics achievement based on final grade in Mathematics III.

For the correlation of the religion of the mothers of the student-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r is 0.18, the computed t-value is 1.97, which values is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between religion of the mothers of the pupil-respondents

and their level of Mathematics III Achievement based on the District Achievement Posttest". This means that religion of the mothers of the pupil-respondents is significantly related to their level of achievement in Mathematics III based on the District Achievement Posttest in Math III. The pupil-respondents with Roman Catholic mothers and those with Born Again mother differs as to their level of mathematics achievement based on the District Achievement Posttest in Mathematics III.

For the religion of the father of the pupil-respondents and level of Mathematics achievement based on the final grade in Mathematics III, the computed r is 0.07, the computed t-value is 0.73, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between religion of the father of the pupil-respondents and level of achievement in Mathematics based on the final grade in Mathematics III of the pupil-respondents". This means that religion of the pupil-respondents' fathers is not significantly related to their level of achievement in Mathematics III based on the final grade in Math III. This must be because the pupils are the one attending their mathematics classes so their fathers' religion will not affect their Mathematics achievement based on final grade in Mathematics III.

For the correlation of the age of the father of the pupil-respondents and their level of Mathematics achievement based on the District Achievement Posttest in Mathematics III, the computed r is 0.18, the computed t-value is 1.97, which value

is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, "There is no significant relationship between religion of the fathers of the pupil-respondents and their level of Mathematics III Achievement based on the District Achievement Posttest". This means that religion of the fathers of the pupil-respondents is significantly related to their level of achievement in Mathematics III based on the District Achievement Posttest in Mathematics III. The pupil-respondents with Roman Catholic father and with Born Again fathers differ as to their level of mathematics achievement based on the District Achievement Posttest in Mathematics III.

Average Family Monthly Income. For the correlation of average family monthly income of the pupil-respondents and their level of mathematics achievement based on the final grade in Mathematics III, the computed r is 0.06; the computed t-value is 0.60, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the average family monthly income of the pupil-respondents and their level of achievement in Mathematics based on the final grade in Math III". This means that pupil-respondents whose family is very low income and those whose family is high income do not differ in level of mathematics performance.

For the correlation of the average family monthly income of the pupil-respondents and level of achievement in Mathematics based on the District

Achievement Posttest in Mathematics III the computed r is -0.03. The negative r-value denotes an inverse relationship between the variable involved. This means that as average family monthly income increases the level of mathematics achievement decreases. The computed t-value is -0.3, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between the level of achievement in Mathematics based on the District Achievement Posttest in Mathematics III and average family monthly income of the pupil-respondents". This means that level of achievement in Mathematics based on the District Achievement Posttest in Mathematics III of the pupil-respondents do not differ with regards to average family monthly income.

Household size. For the correlation of household size of the pupil-respondents and their level of achievement in mathematics based on the final grade in Mathematics III, the computed r is 0.27, the computed t-value is 3.01, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between the household size of the family of the pupil-respondents and their level of achievement in mathematics based on the final grade in Mathematics III". This means that pupil-respondents having big household size and those with small household size differ in level of achievement in mathematics based on final grade in Mathematics III. This implies that level of performance in mathematics III based on the final grade in Mathematics III is

related to the household size of the family of the pupil-respondents. Big household means many elder siblings which can help the child in his/her math.

For the correlation of household size of the pupil-respondents and their level of achievement in mathematics based on the District Achievement Posttest in Mathematics III, the computed r is 0.18; the computed t-value is 1.99, which value is greater than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the rejection of the hypothesis, which states, "There is no significant relationship between household size of the family of the pupil-respondents and their level of achievement in mathematics based on the District Achievement Posttest in Mathematics III". This means that pupil-respondents having big household size and those with small household size differ in level of achievement in mathematics based on District Achievement Posttest in Mathematics III. This implies that level of achievement in mathematics based on the District Achievement Posttest in Mathematics III is related to the household size of the family of the pupil-respondents.

Parents' Attitude towards Mathematics. For the correlation of attitude of the parents towards Mathematics and level of Mathematics achievement of the pupil-respondents based on the final grade in Mathematics III, the computed r is 0.08, the computed t-value is 0.91, which value is less than the critical t-value of 1.96 at 0.05 level of significance and df = 115 (two tailed). This led to the acceptance of the hypothesis, which states, "There is no significant relationship between attitude of

the parents towards Mathematics and level of achievement in mathematics based on the final grade of the pupil-respondents in Math III". This means that attitude of the parents towards Mathematics is not significantly related to the level of achievement in Mathematics of the pupil-respondents. A pupil with parents who have favorable attitude towards mathematics and those with not favorable attitude towards mathematics have the same level of achievement in Mathematics based on the final grade in mathematics.

As to the correlation of parents' attitude towards Mathematics and pupil-respondents level of achievement in mathematics based on the District Achievement Posttest in Mathematics III, the computed r is 0.04 and a computed t-value of 0.45 which is less than the critical t-value of 1.96 at 0.05 level of significance df = 115 (two tailed). This led to the acceptance of the hypothesis, "There is no significant relationship between parents' attitude towards mathematics and level of mathematics achievement in mathematics based on the District Achievement Posttest in Mathematics III". This meant that the mathematics achievement of pupil-respondents based on the District Achievement Posttest in Mathematics III is not related to the parents of the respondent's attitude towards mathematics. A parent with highly favorable attitude towards mathematics and a parent with unfavorable attitude towards mathematics have sons/daughters whose level of math achievement in mathematics based on the District Achievement Posttest in Mathematics III are the same.

Regression Analysis to Determine the Best Predictor of Mathematics Achievement of Grade III Pupils

The result of the regression analysis to determine the best predictor of mathematics achievement in Math III based on the final grade obtained in Math III and District Achievement Posttest in Mathematics III from among the teacher-related, pupil-related and home/parent-related factors is presented in this section.

Teacher-Related Factors. As to teacher-related factors, the multiple regression analysis of the independent variable-teacher-related factors to determine the best predictor of the dependent variable – mathematics achievement based on final grade in Math III of the grade III pupils is presented in Table 27.

The teacher-related factors, namely: 1) age, 2) sex, 3) civil status, 4) average monthly family income, 5) highest educational attainment, 6) teaching experiences in math, 7) relevant seminars and trainings attended, 8) RPAST rating, 9) religion, 10) instructional materials, 11) teaching strategies used, and 12) attitude towards teaching Mathematics are the independent variable.

For mathematics achievement based on the final grade in Math III, as reflected in the table, it is observed that the regression model which includes teacher-related factors explains 59.8 percent of the variance in the mathematics achievement of pupils based on final grade in Math III. The F-ratio of 41.688 which is significant indicates that age, sex, civil status, religion, average family monthly

Table 27

Result of the Regression Analysis to Determine the Best Predictor of the Levels of Mathematics Achievement Based on Final Grade in Math III among the Teacher-Related Factors to Determine the Best Predictor of Mathematics Achievement of Grade III Pupil-Respondents Based on the Final Grade in Mathematics III

Independent Variables Teacher-Related Factors	Beta Coefficients	t-value	p-value	Regression Statistics	
				Dependent Variables	Mathematics Achievement Based on Math III Final Grade
1) Age	-0.077	-2.179ns	0.031 sig		
2) Sex				R-Square	0.598
3) Civil Status					
4) Ave. Mo. Fam. Income	-0.001	-11.524	0.000 sig		
5) Highest Educational Attainment				Adjusted R-Square	0.512
6) Teaching Experience in Math	0.169	3.560	0.001 sig		
7) Trainings/Seminars Attended					
8) RPAST Rating				F-ratio	41.688s
9) Religion					
10) Inst. Mat. Used in Teach. Math					
11) Teach. Strat. Used					
12) Attitude towards teaching Mathematics	0.147	1.796	**0.075**	P-value	0.000

income, highest educational attainment, teaching experiences, RPAST rating, relevant seminars and trainings attended, instructional materials used, teaching strategies used, and attitude towards teaching Mathematics significantly predicts the mathematics achievement of grade III pupils based on final grade in Math III in Catbalogan II Central Elementary School as indicated by the significant value

of F which is greater than the F-value at .05 level of significance with p-value = 0.000 which is less than 05 level of significance.

In comparing the contribution of each independent variable, the beta values were used, with age (t-value of -2.17 and p-value of 0.031), average family monthly income (t-value of -11.524 and p-value of 0.000), and teaching experience (t-value of 3.56 and p-value of 0.0001) were significant predictors of mathematics achievement of grade III pupils Math final grade when the variance in all the other variables are controlled. These probability values are less than the probability value of .05 which means that these variables are significant. The data implied that a teachers' age, average monthly family income and teaching experience in mathematics can predict grade III pupil's final grade in Math III.

Teaching strategies used with a t-value of 1.796 and p-value of 0.075 was not significant. Sex, civil status, highest educational attainment, RPAST rating, relevant seminars and trainings attended, religion, instructional materials used, teaching strategies used, and attitude towards teaching Mathematics are factors which can be removed without effect or influence on the regression equation.

For mathematics achievement based on the District Achievement Posttest in Math III, as reflected in Table 28, it is observed that the regression model which includes teacher-related factors explains 10.2 percent of the variance in the mathematics achievement of pupils based on the District Achievement Posttest. The F-ratio of 3.196 which is significant indicates that age, sex, civil status, religion,

Table 28

Regression Analysis to Determine the Best Predictor of the Levels of Mathematics Achievement Based on Final Grade in Math III among the Teacher-Related Factors

Independent Variables Teacher-Related Factors	Beta Coefficients	t-value	p-value	Regression Statistics	
				Dependent Variables	Mathematics Achievement Based on Math III Final Grade
1. Age	-0.090	-1.912	0.58		
2. Sex					
3. Civil Status				R-Square	0.102
4. Ave. Mo. Fam. Income	.0000878	-1.480	0.142		
5. Highest Educational Attainment				Adjusted R-Square	-0.001
6. Teaching Experience in Math	0.130	2.074	0.040 sig		
7. Trainings/Seminars Attended				F-ratio	3.196s
8. RPAST Rating					
9. Religion					
10. Inst. Mat. Used in Teach. Math				P-value	0.000
11. Teach. Strat. Used	-0.162	-1.491	**0.139**		
12. Attitude towards teaching Mathematics					

average family monthly income, highest educational attainment, teaching experiences, RPAST rating, relevant seminars and trainings attended, instructional materials used, teaching strategies used, and attitude towards teaching Mathematics significantly predicts the mathematics achievement of grade III pupils based on District Achievement Posttest in Math III in Catbalogan II Central School as indicated by the significant value of F which is greater than the F-value at 0.05 level of significance with p-value = 0.000 less than .05.

In comparing the contribution of each independent variable, the beta values were used, with teaching experience with t-value of 2.074 and p-value of 0.040 is a significant predictors of mathematics achievement of grade III pupils based on the District Achievement Posttest scores when the variance in all the other variable are controlled.

The probability value is less than the probability value of .05 which means that the variable is significant. The data implied that a teachers' teaching experience can predict grade III pupils' District Achievement Posttest score in Math III.

Age with the t-value of -1.912 and p-value of 0.058, average family monthly income with t-value of -1.48 and p-value of 0.142, and teaching strategies with t-value of -1.491 and p-value of 0.139 were not significant predictors.

Sex, civil status, highest educational attainment, RPAST rating, relevant seminars and trainings attended, religion, instructional materials used, teaching strategies used, and attitude towards teaching Mathematics are factors which can be removed without effect or influence on the regression equation.

Pupil-Related Factors. As to pupil-related factors, the multiple regression analysis on the independent variable-student-related factors and the dependent variable – mathematics achievement based on final grade in Math III of the grade III pupils, and mathematics achievement based on the District Achievement Posttest in Mathematics III is presented in this section.

Table 29

Regression Analysis to Determine the Best Predictor of the Levels of Mathematics Achievement Based on Final Grade in Math III among the Pupil-Related Factors

Dependent variable	Independent Variable	Beta Coef.	t-value	p-value	R-Square	Adjusted R-Square	F-Ratio	P-Value
Mathematics III Achievement (Final Grade in Mathematics III)	Age	0.030	0.469ns	0.640	0.959	0.954	172.297s	0.000
	Sex	-0.119	-0.867ns	0.388				
	No. of Siblings (B & G)	0.118	1.079ns	0.283				
	No. of Siblings-Brothers	-0.127	-1.252ns	02.214				
	No. of Siblings-Sisters	-0.135	-1.229ns	0.222				
	Birth Order	0.024	0.501ns	0.618				
	Final Grade in English	-0.005	-0.058ns	0.953				
	Final Grade in Health & Science	-0.244	2.470s	0.013				
	GWA in Grade III	1.371	9.785s	0.000				
	District Achievement Posttest in English	-0.018	-0.900ns	0.367				
	District Achievement Posttest in Health & Science	-0.040	-1.433ns	**0.152**				
	Distance of Home from School	-0.065	-1.124ns	0.261				
	Study Habits	0.050	0.392ns	0.695				
	Attitude towards Mathematics	-0.001	-0.011ns	**0.992**				

The pupil-related factors, namely: age, sex, number of siblings (brothers/sisters), birth order, final grades in English III, and Health & Science III, general weighted average grade in grade III, District Achievement Posttest Score in English III, and Health & Science III, distance of home (residence) from school, study habits, and attitude towards Mathematics are the independent variable.

For mathematics achievement based on the final grade in Math III, as reflected in the table, it is observed that the regression model which includes pupil-related factors explains 95.9 percent of the variance in the mathematics achievement of pupils based on final grade in Math III. The F-ration of 172.297 which is significant indicates that age, sex, number of siblings (brothers & sisters), number of brothers, number of sisters, birth order, final grades in English III, final grade in Health & Science III, general weighted average grade in grade III, District Achievement Posttest Scores in English III, District Achievement Posttest Score in Health & Science III, distance of home from school, study habits, and attitude towards Mathematics significantly predicts the mathematics achievement of grade III pupils based on final grade in Math III in Catbalogan II Central School as indicated by the significant value of F which is greater than the F-value at 0.05 level of significance with p-value = 0.000 which is less than the .05 level of significance.

In comparing the contribution of each independent variable, the beta values were used, with age, sex, number of siblings (brothers & sisters), birth order, final grades in English III, District Achievement Posttest Scores in English III, District Achievement Posttest Score in Health & Science III, distance of home (residence) from school, study habits, and attitude towards Mathematics were not significant.

Final grades in Health & Science III with t-value = -2.470 and a p-value of 0.013, and general weighted average grade in grade III with t-value of 9.785 and a p-value of 0.000 were significant predictors of mathematics achievement of pupil-

respondents based on the Math final grade when the variance in all the other variables are controlled. These probability values are less than the probability value of .05 which means that these are variables is significant. The data implied that a pupil's final grade in Health & Science III and general weighted average grade in grade III can predict her final grade in Math III.

For mathematics achievement based on the District Achievement Posttest in Math III, the multiple regression analysis of the dependent variable which is the mathematics achievement based on the District Achievement Posttest in Math III of the grade III pupils and the independent variables are the pupil-related factors, namely: age, sex, number of siblings (boys and girls), birth order, final grades in English III, and Health & Science III, general weighted average grade in grade III, District Achievement Posttest Rating (Scores) in English III, and Health & Science III, distance of home (residence) from school, study habits, and attitude towards Mathematics.

As reflected in the table, it is observed that the regression model which includes pupil-related factors explains 12.3 percent of the variance in the mathematics achievement of pupils based on the District Achievement Posttest in Math III. The F-ratio of 1.026 which is not significant indicates that age, sex, number of siblings (boys and girls), birth order, final grades in English III, and Health & Science III, general weighted average grade in grade III, District Achievement Posttest Rating (Scores) in English III, and Health & Science III,

Table 30

Result of the Regression Analysis to Determine the Best Predictors of Pupil-Respondents in Mathematics Achievement based on the District Achievement Posttest in Math III from among the Pupil-Related Factors

Dependent variable	Independent Variable	Beta Coef.	t-value	p-value	R-Square	Adjusted R-Square	F-Ratio	P-Value
Mathematics III Achievement (Final Grade in Mathematics III)	Age	0.216	0.827ns	0.410	0.123	0.003	1.026ns	0.566
	Sex	-0.153	-0.268ns	0.789				
	No. of Siblings (B & G)	0.272	0.603ns	0.548				
	No. of Siblings-Brothers	-0.171	-0.408ns	0.684				
	No. of Siblings-Sisters	-0.526	-1.158ns	0.250				
	Birth Order	0.044	0.221ns	0.826				
	Final Grade in English	-0.602	-1.677ns	0.097				
	Final Grade in Health & Science	-0.000	-0.001ns	0.999				
	GWA in Grade III	0.749	1.300ns	0.197				
	District Achievement Posttest in English	0.145	1.740ns	0.085				
	District Achievement Posttest in Health & Science	0.008	0.073ns	**0.942**				
	Distance of Home from School	0.192	0.815ns	0.417				
	Study Habits	0.257	0.487ns	0.627				
	Attitude towards Mathematics	-0.153	-0.310ns	**0.757**				

distance of home (residence) from school, study habits, and attitude towards Mathematics in Catbalogan II Central School as indicated by the not significant value of F which is less than the F-value of 0.05 level of significance with p-value = 0.566 which is greater than .05.

In comparing the contribution of each independent variable, the beta value were used with age (t = 0.827 and p = 0.410), sex (t = -0.268 and p =0.789), total number of siblings (t = 0.603 and p = 0.548), number of brothers (t = -0.408 and p =0.648) and number of sisters (t = -0.408 and p = 0.648), birth order (t = 0.221 and p = 0.826), final grades in English III (t = -1.677 and p = 0.097), final grades in Health & Science III (t = -0.001 and p = 0.999), District Achievement Posttest Scores in English III (t = 1.740 and p = 0.085), and District Achievement Posttest Scores in Health & Science III (t = 0.073 and p = 0.942), and distance of home from school (t = 0.815 and p = 0.417), study habits (t = 0.487 and p = 0.627), and attitude towards Mathematics (t = 0.310 and p = 0.757) were significant.

Parent-Related Factors. As to parent-related factors, the multiple regression analysis of independent variable-parent-related factors and the dependent variable - mathematics achievement based on final grade in Math III of the grade III pupils, and mathematics achievement based on the District Achievement Posttest in Mathematics III.

The parent-related factors, namely: parents' age, parents' education, parents' occupation, parents' religion, household size, average family monthly income, and attitude towards Mathematics are the independent variable.

For mathematics achievement based on the final grade in Math III, as reflected in the table, it is observed that the regression model which includes parent-related factors explains 22.30 percent of the variance in the mathematics achievement of pupils based on final grade in Math III. The F-ration of 3.049 which

is significant at the .05 level indicated by the significant value of F which is greater than 0.05 level of significance with p-value = 0.000.

Table 31

Regression Analysis to Determine the Best Predictor of the Levels of Mathematics Achievement Based on Final Grade in Math III among the Parent-Parent-Related Factors

Dependent variable	Independent Variable	Beta Coef.	t-value	p-value	R-Square	Adjusted R-Square	F-Ratio	P-Value
Mathematics III Achievement (Final Grade in Mathematics III)	Mother Age	-0.110	-1561	0.121	0.223	0.141	3.049s	0.000
	Father Age	0.144	2.326	0.022				
	Mother Education	0.969	2.299	0.023				
	Father Education	-0.336	-0.844	0.401				
	Mother Occupations	0.863	1.380	0.171				
	Father Occupations	-0.080	-0.530	0.579				
	Mother Religion	0.000						
	Father Religion	1.533	0.704	0.483				
	Household Size	0.004	0.025	0.980				
	Ave. Fam. Mon. Income	0.000	1.111	0.269				
	Attitude towards Mathematics	-0.007	-0.013	**0.990**				

S - significant
NS - not significant

In comparing the contribution of each independent variable, the beta values were used, with mother's age (t-value = -0.110, p-value = 0.121), father education (t-value = -0.844, p-value = 0.401), mother occupation (t-value = 1.830, p-value = 0.171), father occupation (t-value = -0.530, p-value = 0.579), father religion (t-value = 0.704, p-value = 0.483), household size (t-value = 0.025, p-value = 0.980), average

family monthly income (t-value = 1.111, p-value = 0.269), and attitude towards Mathematics (t-value = -0.013, p-value = 0.990) were not significant. Mother's religion can be removed from the factors without affecting the regression equations.

Table 32

Mathematics Achievement of the Pupil-Respondents Based on the District Achievement Posttest in Mathematics III Results of the Regression Analysis to Determine the Best Predictors from among the Parent-Related Factors of the Mathematics Achievement Posttest of the Pupil-Respondents in Math III

Dependent variable	Independent Variable	Beta Coef.	t-value	p-value	R-Square	Adjusted R-Square	F-Ratio	P-Value
Mathematics III Achievement (Final Grade in Mathematics III)	Mother Age	-0.013	-0.191	0.849	0.074	-0.022	0.851s	0.053
	Father Age	0.021	0.346	0.730				
	Mother Education	0.000	0.000	1.000				
	Father Education	0.176	0.457	0.649				
	Mother Occupations	-0.291	-0.481	0.631				
	Father Occupations	-0.115	-0.792	0.430				
	Mother Religion	0.000						
	Father Religion	4.284	2.034	0.044				
	Household Size	-0.132	-0.912	0.364				
	Ave. Fam. Mon. Income	0.000	1.417	0.160				
	Attitude towards Mathematics	-0.118	-0.235	**0.815**				

Father's age with t-value = 2.326 and p-value of 0.022 and mother education with t-value of 2.299 and a p-value of 0.023 were significant predictors of mathematics achievement of grade III pupils Math final grade when the variance in all the other variables are controlled. These probability values are less than the

probability value of .05 which means that these variables are significant. The data implied that a mothers' education and father's age can predict their son/daughter final grade in Math III.

For mathematics achievement based on the District Achievement in Mathematics III, the multiple regression analysis of the dependent variable which is the mathematics achievement based on the District Achievement Posttest in Mathematics III of the grade III pupils and the independent variables are the parent-related factors.

As reflected in the table, it is observed that the regression model which includes parent-related factors explains 7.4 percent of the variance in the mathematics achievement of pupils the F-ratio of 0.851 which is significant value of F which is greater than 0.05 level of significance with p-value = 0.053 which is greater than the p-value of .05 indicating a not significant predictor.

In comparing the contribution of each independent variable, the beta values were used, with mother's age (t-value = -0.191, p-value = 0.849), father's age (t-value = 0.346, p-value = 0.730), mother's education (t-value = 0.000, p-value = 1.000), father's education (t-value = 0.457, p-value = 0.649), mother occupations (t-value = -0.481, p-value = 0.631), father occupations (t-value = -0.792, p-value = 0.430), household size (t-value = -0.912, p-value = 0.364), average family monthly income (t-value = 1.417, p-value = 0.160), and attitude towards Mathematics (t-value = -0.235, p-value = 0.815) were not significant. Mother's religion can be removed from the factors without affecting the regression equations.

Father's religion with t-value = 2.034 and a p-value of 0.044 was significant predictor of mathematics achievement of grade III pupil District Achievement Posttest score when the variance in the other entire variable are controlled. This probability value is less than the probability value of .05 which means that this variable is significant. The data implied that father's religion can predict their son/daughter score in the District Achievement Posttest in Math III.

Implications

The following are the implications from the findings of the study:

A. Of the teacher-related factors which were found significantly related to the level of mathematics achievement of the pupil-respondent based on final grade in Math III which are teacher's age, average family monthly income, teaching experience , instructional materials needed, teaching strategies used in teaching mathematics and attitude towards teaching mathematics the best predictors of mathematics achievement based on final grade in Math III are: teacher's age, father's average monthly family income and teaching experience this implies that:

A1. Since age of the Mathematics III teacher is one of the best predictor of pupil-respondents achievement in Mathematics III based on the final grade in the same subject. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and age of the Math III teacher this implies that younger

mathematics teachers should be encourage to pursue graduate studies in mathematics or graduate studies in Math teaching taking higher mathematics or attend seminars and training in mathematics content and teaching mathematics so that they will be competent to teach mathematics.\

A2. A significant correlation between level of achievement in Mathematics of the pupil-respondents based in final grade in Math III and age of the Math III teacher implies that younger mathematics teachers should ask help from older mathematics teachers and were experience one in topics which they don't know how to teach better.

A3. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and age of the Math III teacher implies that teachers' age should be used by the administrators in their plans to improved math instruction in the elementary, the older and veteran math teachers should be assigned to math classes which needs developing basic skills in the pupils so that skills specially the pre-requisite one needed will be properly developed in the pupils.

A4. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and average family monthly income of the Math III teacher should be considered by the school administrators in sending mathematics teachers to attend seminars and trainings in mathematics especially if its value is in other places

wherein the school cannot provide other fees involved to improve their competent to teach mathematics teachers who can well afford to attend such training/seminars should be sent but will be made to re-echo what he/she earned upon best predictors should be emphasized return. Best predictors in teaches pupils.

A5. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and average family income of the Math III teacher implies that school administrators should encourage mathematics teachers to developed instructional materials in mathematics such as textbook for local used, workbooks, exercise sheets, etc. but should help them in this undertaking considering that their income can barely support their family needs thus, help them in this financially from funds of the school or present the problems to school officials, town officials or well-off of pupils for found assistance in terms of sponsorship and donations of the pupil-respondents based on final grade in Math III and average family monthly income of the Math III teacher implies that mathematics teachers should established linkages with Mathematics teachers in other schools or other mathematics enthusiast mathematics societies or mathematics associations in other government agencies to proposed a seminars/trainings in content and teaching of Mathematics so that they will become very competent in teaching Mathematics which will be based locally, so that if the school cannot financed

them by giving them registration they can well afford it since it is a local seminars and they will not be spending for fare and accommodations and other expenses.

A7. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and teaching experience of the Math III teacher implies that grade IV mathematics teachers should use the grade III math grade of the pupils as bases for grouping pupils as to mathematics ability for possible enrichment/enhancement/tutoring and others. Also, a battery test in Mathematics in grade III should be given by the grade III teachers in match to determine learned and unlearned topics in mathematics for possible re-teaching in grade IV math before the start of topics for grade IV math.

A8. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and teaching experience of the Math III teacher implies that grade III teachers should talk with their grade IV mathematics teacher about topics that were not given emphasis in Mathematics III or which were not taken up in their Mathematics III because of too many school activities for re-teaching in grade IV.

A9. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and teaching experience in mathematics of the Math III teacher implies that

teachers should encouraged parents' involvement in the education of their children by assigning pupils in mathematics assignment/projects/activities which will involve their parents, in this ways there will be closer bonding between the parents and the child and between the parents and the school. Also, the pupils should be encouraged to form mathematics clubs and be a member of it and mathematics activities in the classroom should be augmented by activities of the math club or vice versa.

A10. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and instructional materials used in teaching mathematics by the Math III teacher implies that mathematics III teachers should be discard those instructional materials that they have been using for quite sometimes replace them with more appealing ones or make a physical makeover of their instructional materials used.

A11. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and instructional materials used in teaching mathematics by the Math III teacher implies that grade III math teachers should conduct a meeting of all mathematics teachers or peers to discuss and develop mathematics instructional materials or possible sharing of instructional materials for good teaching practice in case of limited resources.

A12. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and instructional materials used in teaching mathematics by the Math III teacher implies that school administrators should encouraged their mathematics teachers to pursue advance studies in mathematics by giving them scholarships or encouraging to finance their own study and sending them to attend seminars and trainings in mathematics so that they will be motivated to developed or produced their own instructional materials, modules, workbooks in mathematics which they can use to augment the meager supply of books in Mathematics and instructional materials distributed to them by the DepEd.

A13. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on final grade in Math III and teaching strategies used by the Math III teacher in teaching mathematics implies that mathematics teachers should enhanced their mathematics instruction in the elementary level by having additional activities, contest, math clubs, math challenge, etc.

A14. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on final grade in Math III and teaching strategies used by the Math III teacher implies that pupils should ask the help of their mathematics teachers for peer tutoring or remedial

mathematics instructions in topics that they experienced difficulties in mathematics so that their performance will be enhanced.

A15. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and teaching strategies used by the Math III teacher implies that pupils with poor performance in grade III mathematics should submit for tutoring by a peer, parents, teachers or a paid tutor in Mathematics to improve their performance since it seems that there is a carryover effect as a result of the deficiencies/difficulties experienced by pupils in mathematics in the lower grade.

A16. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and attitude towards teaching mathematics by the Math III teacher implies that Mathematics teachers' attitude towards mathematics teaching should be diagnosed by their administrators because if the attitude exhibited towards teaching mathematics is unfavorable because they are not content knowledgeable in mathematics, then solutions to these problems should be take or addressed by the school official concerned.

A17. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and attitude towards teaching mathematics by the Math III teacher implies that mathematics teachers should examine their attitude towards mathematics

teaching if it affects their pupils and should try to develop positive attitude instead of negative attitude.

A18. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on final grade in Math III and attitude towards teaching mathematics by the Math III teacher implies that administrators should make a periodic or unscheduled visitation of their teachers in teaching in class to determine their attitude towards teaching mathematics of the attitude of their teachers towards mathematics so that one-to-one talk or conference to get to the bottom of the problem will be established and possible solutions will be instituted.

A19. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest Score and average family monthly income by the Math III teacher, implies that Math III teachers should conduct review lessons in Mathematics to grade III pupils months before the scheduled administrative District Achievement Posttest Examination during Saturdays or Sundays and after 5:00 pm informing pupils of this activity and have a meeting with parent which will become the teachers' honoraria will be asked from them if they will agree on this for the teacher's effort and initiative.

A20. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest and average family monthly income by the Math III teacher implies

that teachers who can well afford should buy their own teaching instructional materials in mathematics such material is not available in school and it will be to a great advantage to their teaching if they have such materials.

A21. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest and average family monthly income of the Math III teacher implies that teachers should seek the help of the alumni officials in the community, other community residents and parents for school support especially if it is geared towards improving the teaching learning process.

B. -based on the District Achievement Posttest income teaching experience, instructional materials used in teaching math, strategies used in teaching mathematics, attitude towards teaching math.

-the best predictor is teaching experience.

B1. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest and teaching experience in teaching mathematics by the Math III teacher implies that teacher in mathematics should diagnosed the problems of the poor performance in mathematics of the pupils and have a talk with them and their parents how both efforts can be joined together or combined as one for better performance of the pupils in mathematics.

B2. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based District Achievement Posttest Score in Mathematics and teaching experience in teaching mathematics by the Math III implies that teachers in mathematics should conduct action researches using the result of the District Achievement Posttest in mathematics for topics/content/skills which were not developed in the pupils which is the content of the District Achievement Posttest in Mathematics.

B3. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest in Mathematics and teaching experience by the Math III teacher implies that teachers in mathematics should talk with the District Elementary Mathematics Supervisor on the problem of poor performance in mathematics of the pupils in the District Achievement Posttest how the teacher, the pupils, and the parents cooperatively will be able to improve performance of the pupils. Also, the mathematics III teachers should prepare their examinations in Math III patterned from the District Achievement Posttest in mathematics so that they will be familiar with the type of examination questions given in the District Achievement Posttest in Mathematics.

B4. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement

Posttest and instructional materials used by the Math III teacher implies that teachers teaching Math III should exert effort to develop instructional materials such as support instructional materials as workbooks, exercises workbook/text book, to develop the mathematical skills of the pupils especially in the computation or four fundamental operations.

B5. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest and instructional materials used by the Math III teacher implies that teachers in mathematics should be presents the problems of poor performance in mathematics of the pupil to their parents how both efforts can be joined together for better performance of the pupils such as providing them with handled calculators to check their performance or an abacus to disengaged them in the usual classroom routine especially in the mastery of the fundamental operations.

B6. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest and instructional materials used but the Math III teacher implies that teachers in mathematics should presents the problems of poor performance to their school head or administrator have a meeting with the school head to discuss the performance of the pupils and how to improve this or enhanced performance.

B7. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest and teaching strategies used by the Math III teacher implies that teachers in mathematics should encouraged peer tutoring to develop the mathematical skills of their pupils, this way the pupils with poor performance will not feel bad about not knowing mathematics but check if correct skills or knowledge is passed to them by their peers.

B8. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest and teaching strategies used by the Math III teacher implies that teachers should consider new strategies in teaching mathematics such as using pupils' facility in computers in their computer gaming.

B9. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest and teaching strategies used by the Math III teacher implies that the school heads should consider in one of their district meeting a demonstration teaching by one of the mathematics teachers applying a state of the art strategy in teaching mathematics for other teacher to consider using to improve mathematics instruction.

B10. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest and attitude towards teaching Mathematics by the Math III teacher

implies that teachers should not pass on or show their unfavorable attitude towards mathematics in class to their pupils especially if it is not favorable.

B11. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest and attitude towards teaching Mathematics by the Math III teacher implies that mathematics textbook writers should sequenced property the mathematics skills to be developed in the pupils and also consider the attitude of the mathematics teachers that is going to develop these skills in pupils if they are prepared to handle it being trained in the curriculum which they graduate.

B12. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on District Achievement Posttest and attitude towards teaching Mathematics by the Math III teacher implies that attitude of teachers towards Mathematics should show gender concerns in assigning school tasks for pupils. He/she should not show gender bias with respect to pupils' performance in mathematics and in evaluating students' performance in mathematics.

B13. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and final grade in English III by the pupil-respondents implies that pupils should study all their elementary school subjects but place more emphasis in English and Mathematics since learning Mathematics means that a pupil

should be competent in English since English is the language of Mathematics.

B14. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and final grade in English III by the pupil-respondents implies that teacher should diagnosed the difficulties in mathematics encountered by the pupils if such difficulties is due to their poor English understanding and inadequate vocabulary should teach mathematics terms in their English class so that there is transfer of learning from one to discipline to another.

B15. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and final grade in English III by the pupil-respondents implies that textbook writers should used math examples in their English textbooks so that pupils should developed their competence in English so that their mathematics will be improved since mathematics is taught in English.

C. Of the pupil-related factors found to be significantly related to mathematics achievement of pupil-respondent based on the final grade in Mathematics III which are pupils' final grade in English III, final grade in Health & Science III, general weighted average (GWA) grade in grade III, District Achievement Posttest in Health & Science and attitude towards mathematics the pupil-related factors which best predict their math achievement are: final grade of

the pupil in Health & Science III and general weighted are range grade in grade III, this implies that

- based on the District Achievement Posttest

which are final grade in Health & Science III, GWA grade in Grade III and District Achievement Posttest in English none of the factors is considered as best predictor.

C1. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and final grade in Health & Science III by the pupil-respondents implies that teachers give problems is Math III using topics/lessons in Health & Science III and vice versa.

C2. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and final grade in Health & Science III by the pupil-respondents implies that parent should supervised their children studies in Mathematics and in their other subjects such as Health & Science III at home, this can be done by asking their teachers how they can help their children improved their performance during PTCA meetings and they should learn how to interpret the school reports provided by the teachers and should act on it.

C3. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and final grade in Health & Science III by the pupil-respondents implies that

pupil-respondents should use their mathematics in the computations for example in their science project.

C4. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and General Weighted Average (GWA) grade in grade III by the pupil-respondents implies that grade IV teachers should look into the General Weighted Average (GWA) grade in grade III and the final grade of the pupils in Mathematics if such average grade is pulled down because of the low grade in mathematics III then should group these pupils for tutoring or additional mathematics lesson enhancement.

C5. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and General Weighted Average (GWA) grade in grade III by the pupil-respondents implies that pupils should give more time and emphasis in their mathematics subject starting in their elementary to develop their mathematics competence.

C6. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and General Weighted Average (GWA) grade in grade III by the pupil-respondents implies that parents should look into the math rating and the GWA grade in grade III if compared to other subjects their mathematics

obtained is the lowest should talk with the teacher for what they can help at home in terms of improving their mathematics performance.

C7. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and District Achievement Posttest in English by the pupil-respondents implies that teacher should exposed pupils to extra mural reading in English and Mathematics by developing their reading skills.

C8. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and District Achievement Posttest in English by the pupil-respondents implies that mathematics teacher should communicate to the parents of the pupils consistent of regarding pupils' ability in Mathematics and English.

C9. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and District Achievement Posttest Score in English III by the pupil-respondents implies that the mathematics teacher should analyzed the pupils perceptions of the classroom environment in Mathematics and English and work on their perceptions of what should be an ideal classroom in Mathematics and English.

C10. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and District Achievement Posttest Score in Health & Science III by the pupil-

respondents implies that the teacher in Mathematics III and Health & Science III to manage the classroom efficiently and give personal and professional assistance whenever needed by the pupils.

C11. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and District Achievement Posttest in Health & Science III by the pupil-respondents implies that the teacher should go into the peer environment of the pupil so that she will have an idea of the problems/difficulties of the pupils in the subjects mentioned so that solutions can be initiated as early as possible.

C12. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and District Achievement Posttest in Health & Science III by the pupil-respondents implies that pupil-respondents should balance their study of Math III with Health & Science III since, these two subjects together with English III is used by the District in assessing the teachers in grade III.

C13. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and attitude towards Mathematics by the pupil-respondents implies that the teachers should determine the pupils' attitudes towards mathematics and towards their studies so that efforts by the teachers and the parents would be combined towards reducing or eliminating totally negative attitude

towards mathematics and towards their studies to be replaced by the positive attitudes.

C14. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and attitude towards Mathematics by the pupil-respondents implies that pupils should develop favorable and positive attitude towards their studies with the help of fellow pupils, teachers, parents, and education stakeholders, this can be done if the teacher will be to diagnose the cause or causes of poor attitudes.

C15. A significant correlation between level of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and attitude towards Mathematics by the pupil-respondents implies that teachers should continuously motivate their pupils to study mathematics both extrinsic and intrinsic motivation should be used by starting with their classroom activities in mathematics.

C16. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and final grade in Health & Science III by the pupil-respondents implies that there is a need to study the result of the District Achievement Posttest in Mathematics III and Health & Science III for related topics that can be enhanced by each.

C17. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and final grade in Health & Science III by the pupil-respondents implies that the teacher should give a review or recap of the lessons in Mathematics III and Health & Science III.

C18. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and final grade in Health & Science III by the pupil-respondents implies that pupils should have review in pairs or in larger groups in preparation for the District Achievement Posttest, by doing this a sharing and a closer bond between classmates will be established and knowledge shared in will remembered.

C19. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and General Weighted Average (GWA) grade in grade III by the pupil-respondents implies that grade III teacher should use this data for improving his/her teaching strategy in teaching mathematics III to include classical as well state of the art strategy in teaching Math III.

C20. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and general weighted average (GWA) grade in grade III by the pupil-respondents implies that school administrators should schedule

regular or observations of classes to be able to get into the problems in mathematics learning of pupils and mathematics teaching of the teachers so that solutions can be found as early as possible.

C21. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and general weighted average (GWA) grade in grade III by the pupil-respondents implies that parents should communicate with the Math III and Math IV teachers of their children so that they will be able to improve the general weighted average (GWA) in grade IV of their children in terms of supervising their studies at home, by helping and guiding them with the assignment/homework/projects at home and understanding their needs.

C22. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and District Achievement Posttest Score in English III by the pupil-respondents implies that curriculum and textbooks writers should re-examine the topics coverage in grade III mathematics which needed emphasis, re-ordering or new arrangement of skills or new presentations which would be understood better by the pupils.

C23. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and District Achievement Posttest Score in English III by

the pupil-respondents implies that textbook writers and curriculum writers should see to it that the English terms used in explaining topics in Mathematics should be attuned or the level of understanding of the grade III pupils so that even without a teacher or a tutor the pupil will understand the textbook in mathematics that they are reading.

C24. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and District Achievement Posttest Score in English III by the pupil-respondents implies that pupils should be competent in English since almost all tests are given in English with Mathematics included.

D. Of the Parent-Related Factors based on Final Grade in Math III

-significant are fathers' age, mother education, father education and household size

- best predictor fathers' age and mother education.

D1. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and father's age of the parent of the pupil-respondents implies that teachers should consider the ages of the pupil-respondents fathers when they give mathematics assignment/homework/exercises to be sure that they can help their child since children look-up to their fathers for help in mathematics.

D2. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III

and father's age of the parent of the pupil-respondents implies that the parent should tutor their children at home if possible by asking them when their teachers had asked them to do, their class participation and contribution and what would be the home participation in this undertaking.

D3. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and father's age of the parent of the pupil-respondents implies that textbook writers should consider the ages of the parents and in their examples should contain them as problem or exercise in this way, the parent and the child will be able to relate to the problem presented in the exercises and mathematics activity.

D4. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and mother's education of the parent of the pupil-respondents implies that textbook writers for elementary grade mathematics should consider the textbook users in the rural barangay or elementary schools urban or town and city elementary schools should give examples where the elementary pupil and his/her parent can relate.

D5. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and mother's education of the parent of the pupil-respondents implies that parents should inquire from the mathematics teacher of the performance in

mathematics of their children so that as early as possible, they can help their children at home by studying with them, developing their study habits, tutoring them, improving their attitude towards their studies, Damath Contest, Pinoy Henyo, Little Einstein, etc.

D6. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and mother's education of the parent of the pupil-respondents implies that parents should be concerned with the mathematics performance of their children by helping them in their assignment, homework, projects, exercises and the like specially if they encounters problems and difficulties in the subject and by conferring with their teachers about their sons/daughters movement performance.

D7. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and father's education of the parent of the pupil-respondents implies that education stakeholder should tap the fathers of the students for an enhance learning at home which can be done by making the fathers of the students as tutors/mentors/confidante of their children so that problems regarding poor performance would be minimized and reduced.

D8. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and father's education of the parent of the pupil-respondents implies that

parents should play active roles in the Mathematics education of their children especially if the teacher in mathematics is a new and fresh graduate teacher by helping the mathematics teacher by providing their children with test books in mathematics to augment the books, and other mathematics aid and devices so that the teacher will have more time for the students.

D9. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and father's education of the parent of the pupil-respondents implies that parents should approach the mathematics teacher regarding problems regarding mathematics performance of their child especially when their child cannot approach the teacher concerned because he is a male in the case of female pupils and female in the case of male pupils.

D10. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and mother's occupation of the parent of the pupil-respondents implies that parents should be made directly responsible for the academic performance of their children so that they should encourage their children to study their mathematics by showing their interest towards their mathematics subject and their school performance as a whole.

D11. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and mother's occupation of the parent of the pupil-respondents implies that

school administrators should widen their linkages to include parents and other community residents for possible donations of school facilities, teaching aids and devices in mathematics which can be used by the pupils and teacher.

D12. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and mother's occupation of the parent of the pupil-respondents implies that school administrators should conduct survey of the performance of pupils in Mathematics and other subjects so that they will have first-hand knowledge of the situation existing in the classroom and should institute curriculum redirection focusing on mothers occupation since mothers can be tap to help.

D13. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and average family monthly income of the pupil-respondents implies that teachers in mathematics should presents the problems of poor performance in mathematics of the pupils and have a talk with her or both parents how both efforts can be joined together for better performance of the pupils.

D14. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the final grade in Math III and average family monthly income of the pupil-respondents implies that teachers should give assignment, homework, exercises, and projects in their mathematics classes considering the average family monthly income of the

majority of his/her pupils so that they will not be burned if it will entails a lot of expense.

E. – based on District Achievement Posttest Score

- significant are: mother education, father education, mother religion, father religion, and household size.
- best predictor – mother education.

E1. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and mother education of the parent of the pupil-respondents implies that administrators and other education stakeholders should considers gender sensitive issues in formulating and implementing school policies, activities, and others involving enhancement pupils' performance in Mathematics.

E2. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and mother education of the parent of the pupil-respondents implies that school administrators should consider the educational attainment of the mothers of their pupils in their planning for better mathematics achievement of the pupils such as in the choice of textbooks, workbooks, exercise to use, as well as in the establishment of mathematics clinics, mathematics clubs and contest like Damath since it is

the mothers who are the most of the time left to attain to the education of their children.

E3. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and mother education of the parent of the pupil-respondents implies that pupils should present his/her problems regarding low/poor performance to their mother first so that they can plan how to improve such performance. Pupils who excel can present the same problem to their mothers so that they can plan additional enrichment activities/lessons through the help of the teacher or a tutor.

E4. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Score in Math III and father education of the parent of the pupil-respondents implies that parents should do tasked to help their children by improving their study habits, making their children do self-study, assigning themselves as tutors, hiring professional tutors if it is not possible for them to tutor them having a better bonding and explaining to them the importance of education.

E5. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Score in Math III and father education of the parent of the pupil-respondents implies that parents if possible should use English in their

communications at home or at least some English term in their communications at home so that their child will be more competent using English in communicating in their mathematics classes because they have lots of practiced at home.

E6. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Score in Math III and father education of the parent of the pupil-respondents implies that pupils should involve their fathers in their mathematics education by asking them for help with their school homework, assignment, problems sets or exercises, school projects, and the like.

E7. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest in Math III and mother religion of the parent of the pupil-respondents implies that parents especially those whose religion is not Roman Catholic should make their children attend bible study since it developed in them their higher thinking ability and English understanding which makes them cope up with test that are given without much review and preparation.

E8. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Score in Math III and mother religion of the parent of the pupil-respondents implies that good deeds should be emphasize in the pupils, that

pupils who can share resources to their classmates should cultivate such attitude to maximize the use of resources specially if in doing so will contribute to his learning of mathematics and that of his/her classmates.

E9. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Scores in Math III and mother religion of the parent of the pupil-respondents implies that parents of the pupils should not show gender bias towards the mathematics teachers of their children which can be seen in their attitude towards their teacher.

E10. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Scores in Math III and father religion of the parent of the pupil-respondents implies that parent of the pupil-respondents implies that parents should take active role in the education of their children by developing in them good Christian values, good attitude towards studies and better study habits.

E11. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Scores in Math III and father religion of the parent of the pupil-respondents implies that pupils should be able to share their training at home in terms of doing good deeds to their classmates by being cooperative

in their mathematics projects, doing their share in the assigned mathematics exercises, homework and others.

E12. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Scores in Math III and father religion of the parent of the pupil-respondents implies that the father should develop in their children the trait of honesty that if they have problems they should tell their parents specially if such problems concerns their performance in school and problems in school.

E13. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Scores in Math III and family monthly income of the parent of the pupil-respondents implies that parents should adopt a much improved supervision procedure to developed in their children much better study habits and favorable attitude towards studies and if they cannot help them because of their low educational attainment or because of the demand of their occupations hire a tutor for them.

E14. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Scores in Math III and family monthly income of the parent of the pupil-respondents implies that parents should help in the mathematics education of their children by providing them with calculators, mathematics

books, encyclopedias, computers or net pod, internet connectivity and other devices if financially possible.

E15. A significant correlation between levels of achievement in Mathematics of the pupil-respondents based on the District Achievement Posttest Scores in Math III and family monthly income of the parent of the pupil-respondents implies that pupils who can well afford should share their resources to other pupils which would enhance their mathematics learning and other children learning as well and parents with better or high family average family monthly income should be encourage to sponsor a math teacher to attained as seminar or training in Mathematics especially those with own firm/agency/establishment or sponsor group of students to attend field or educational trips which will enhanced pupils math knowledge and skills.

Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides the summary of findings, the corresponding conclusions, and recommendations that were formulated.

Summary of Findings

From the data collected, organized, and analyzed, the findings obtained were the following:

1. The 117 pupil-respondents of the study have a mean age of 10.26 years old, majority of them female, with the mean number of siblings of five, with a mean number of sisters of three, of brothers three, with majority of them having birth number of one to five, with a mean final grade of 80.96 in English III, 80.68 in Health & Science III, 81.48 as general weighted average (GWA) grade in grade III, the District Achievement Posttest score in English III, has a mean of 10.94 and 9.66 for Health and Science III, with a mean distance of home from school of 1.19 kilometers, with a grand mean for study habits of 3.54 interpreted as often practiced indicating a good study habits, and their attitude towards mathematics obtained a grand mean of 3.62 interpreted as agree which indicate a very favorable attitude.

2. The five Mathematics teacher-respondents have mean age of 53.8 years old all females and married, with mean income of P31,400 or high income,

majority of the teacher-respondents are college graduates (BEED/BSED) with MA units, have a mean teaching experience in teaching math of 26.2 years, and have a mean number of relevant serve years attended of two seminars each, with RPAST rating of 3 of them VS and 2 of them O, all five were Roman Catholics, they used varied instructional materials in teaching mathematics such as books, pictures, flashcards, charts, and other as instructional materials, used varied teaching in teaching mathematics such as deductive, inductive, demonstration, cooperative learning, others and has obtained a grand mean for their attitude towards teaching math 4.74 interpreted as "strongly agree" which meant very highly favorable attitude. The profile of the 117 parents of the pupil-respondents. The pupil respondents fathers have a mean age of 40.68 year's old, majority are elementary graduates, laborers and construction workers, and Roman Catholic. The pupil-respondents mothers have a mean age of 38.47 year's old, majority are elementary graduates, housekeeper and Roman Catholic. The mean family income of the parents of the pupil-respondents is Php7, 800, with a mean household size of 7 members and the parent's attitude towards mathematics obtain a grand mean of 4.11 interpreted as "agree" which indicated a highly favorable attitude towards mathematics.

3. The pupil-respondent parents, the fathers' have a mean age 40.68 years old and mothers' mean age is 38.47 years old, the majority of the fathers and mothers were elementary graduates, majority of the mothers are housekeeper, fathers laborers and construction workers, the majority of the father and mother

are Roman Catholic, with mean family income is Php 7,800, and the mean household size is seven members or big households, parents' attitude towards mathematics obtained a grand mean of 4.11 interpreted as "agree", which indicated a highly favorable attitude towards mathematics.

4. The mathematics achievement of the pupil-respondents based on the final grade in Mathematics III obtained a mean grade of 80.84 interpreted as satisfactory/average performance.

5. The level of mathematics achievement of the pupil-respondents based on the 20 items test of the District Achievement Posttest in Mathematics III obtained a mean score of 10.55 interpreted as satisfactory/average performance.

6. No correlation was obtained between level of mathematics achievement based on final grade obtained in Math III and the following teacher-related factors, namely: sex, civil status, and religion.

7. No significant correlation was found between level of mathematics achievement based on final grade obtained in Math III and the following teacher-related factors based on the r-value and the corresponding Fisher's t-value; educational attainment with an r = -0.07, relevant seminars/training attended with an r = 0.14, and RPAST rating r = -0.04.

8. A significant correlation was obtained between level of mathematics achievement based on final grade obtain in Math II and the following teacher-related factors: age with an r-value of 0.30 and a t-value of 3.35, average family monthly income with an r= -0.74 and a t-value of -11.78, teaching experience with

an r and t-value of -3.41, teaching strategies used with an r = -.30 and a t-value of -3.35, and attitude towards mathematics with an r = 0.39 and a t-value of 4.50.

9. No correlation was obtained between levels of mathematics achievement related factors, namely: sex, civil status, and religion.

10. No significant correlation was found between level of mathematics achievement based on District Achievement Posttest in Math III and the following teacher-related factors based on the r-values and the computed Fisher's t value: age with an r-value of 0.17 and a t-value of 1.83 educational attainment with an r = 0.03 and a t-value of 0.32 , relevant seminars/training attended with an r = -0.15 and a t-value of -1.61, and RPAST rating r = 0.11 and a t-value of 1.17.

11. A significant correlation was obtained between level of mathematics achievement based on District Achievement Posttest in Math III and the following: average family income with an r = -0.38 and a t-value of -4.44, teaching experience with an r-value of 0.28 and a t-value of 3.16, instructional materials used in teaching mathematics with an r = 0=-.40 and a t-value of -4.70, teaching strategies used in teaching mathematics with an r = -.34 and a t-value -3.93, and attitude towards mathematics with an r = 0.23 and a t-value of 2.59 is significant.

12. No significant correlation was found between level of mathematics achievement based on final grade obtained in Math III and the following pupil-related variables: age with an r= 0.05 and a t-value of 0.53, sex with an r= 0.00 and t-value of 0.03, number of brothers with an r-value of -0.10 and a t-value of 1.08, number of sisters with an r-value of -0.02 and a t-value of -1.20, birth order with

an r = 0.03 and a t-value of 0.27, distance of home from school with an r-value of 0.07 and a t-value of 0.77, and study habits with an r-value of 0.15 and a t-value of 1.62.

13. Among the pupil-related factors correlated with level of mathematics achievement based on final grade obtained in Math III of the pupil-respondents found significant were: a) Correlation between final grade in English and level of mathematics achievement based on final grade obtained in Math III, r = 0.95 and a t-value of 31.58; b) Correlation between final grade in Health & Science III, and level of mathematics achievement based on final grade obtained in Math III, r = 0.93 and a t-value of 26.71, c) Correlation between general weighted average (GWA) in grade III and a level of mathematics achievement based on final grade obtained in Math III, r = 0.98 and a t-value of 47.99; d) Correlation between District Achievement Posttest in English III and level of mathematics achievement based on final grade obtained in Math III, r = 0.45 and a t-value of 5.42; e) Correlation between District Achievement Posttest in Science and Health III and level of mathematics achievement based on final grade obtained in Math III, r = 0.31 and a t-value of 3.55; and f) Correlation between attitude towards teaching mathematics and level of mathematics achievement based on final grade obtained in Math III, r = 0.26 and a t-value of 2.86.

14. The correlation between the pupil-respondents levels of achievement in Mathematics III based on the District Achievement Posttest in Math III and the following pupil-related variants were found not significant based

on the r-value and the corresponding Fisher's t-value, namely: age (r = 0.7), sex (r = -0.01), number of brothers (r = 0.00), number of sisters (r = -0.10), birth order (r = -0.01), Final Grade in English III (r = 0.16), District Achievement Posttest in Health & Science III (r = 0.08), distance of home from school (r = 0.10), study habits (r = 0.08) and attitude towards mathematics (r = 0.04).

15. Among the pupil-related factors correlated with level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III found significant were: a) Correlation between final grade in Health & Science II of the pupil-respondent and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III (r = 0.20), b) Correlation between general weighted average (GWA) grade in grade III and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III (r = 0.20), and c) Correlation between District Achievement Posttest in English III and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III (r = 0.23).

16. No significant correlation was found between level of mathematics achievement based on final grade obtained in Math III and the following parent-related variables: mother's age with an r = 0.03 and a t-value of 0.33, father occupation with an r = 0.12 and t-value of 1.24, parents' religion (both mother and father) with an r-value of 0.07 and a t-value of 0.73 respectively, average family

monthly income with an r-value of 0.06 and a t-valye of 0.60, and parents' attitude towards mathematics with an r-value of 0.08 and a t-value of 0.91.

17. Among the parent-related factors correlated with level of mathematics achievement based on final grade obtained in Math III of the pupil-respondents found significant were: a) Correlation between father's age and level of mathematics achievement based on final grade obtained in Math III, r = 0.20 and a t-value of 2.16; b) Correlation between mother education and level of achievement based on final grade in Math, r = 0.38 and a t-value of 4.35, c) Correlation between father education and level of mathematics achievement based on final grade obtained in Math III, r = 0.29 and a t-value of 3.28; d) Correlation between mother's occupation and level of mathematics achievement based on final grade obtained in Math III, r = 0.18 and a t-value of 1.96; e) Correlation between household size and level of mathematics achievement based on final grade obtained in Math III, r = 0.27 and a t-value of 3.01.

18. The correlation between pupil-respondents level of achievement in Mathematics III based on the District Achievement Posttest in Math III and the following parent-related factors were found not significant based on the r-value and the corresponding Fisher's t-value, namely: mother's age (r = 0.02), father's age (r = 0.08), mother's occupation (r = -0.05), father's occupation (r = 0.09), average family monthly income (r = -0.03), and attitude towards mathematics (r = 0.04).

19. Among the parent-related factors correlated with level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III found significant were: a) Correlation between mother's education of the pupil-respondents and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III ($r = 0.23$), b) Correlation between father's education and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III ($r = 0.21$), and c) Correlation between mother religion and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III ($r = 0.18$), d) Correlation between father's religion and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III ($r = 0.18$), e) Correlation between household size and level of achievement in mathematics of the pupil-respondents based on the District Achievement Posttest in Mathematics III ($r = 0.18$).

20. The teacher-related factors which can significantly predict the mathematics achievement of pupils in Math III based on final grade in Math III are age of the teacher, average monthly income, and teaching experience with t-value of -2.179, -11.524, and 3.500 respectively with p-value of 0.031, 0.000, and 0.001 respectively.

21. The teacher-factor, teaching strategies of the teacher with t-value of 1.796 and p-value of 0.075 is not significant predictor of mathematics achievement based on final grade in Math III of the pupil-respondent.

22. Other teacher-related factors such as sex, civil status, educational attainment, RPAST rating, relevant training and seminars attended, religion, instructional materials used in teaching math, and attitude towards mathematics can be removed from the regression equation without affecting it.

23. In comparing the contribution of each independent variable, the beta values were used, with teaching experience with t-value of 2.07, p-value of 0.040 was significant predictors of mathematics achievement of grade III pupils District Achievement Posttest scores when the variance in all the other variable are controlled.

24. The teacher-related factor which significantly predicts the grade III pupil's District Achievement Posttest score in Math III is teachers' teaching experience in teaching mathematics with t-value of 2.074 and a p-value of 0.040.

25. The teacher-related factors, namely: age with t-value of -1.912 and p-value of 0.058, average family monthly income, with t-value of -1.48 and p-value 0.142, and teaching strategies used in teaching mathematics with t-value of -1.491 and p-value of 0.139 were not significant predictors of mathematics achievement of pupils based on the District Achievement Posttest score in Math III.

26. Teacher-related factors such as sex, civil status, highest educational attainment, RPAST rating, relevant seminars and trainings attended, religion,

instructional materials used in teaching mathematics, teaching strategies used in teaching mathematics, and attitude towards teaching Mathematics are factors the can be removed without affecting or influencing the regression equation.

27. The pupil-related factors predict mathematics achievement as indicated by the significant value of F which is greater than the F-value at 0.05 level of significance with p-value = 0.000 which is less than the .05 level of significance.

28. The pupil-related factors, age, sex, total number of siblings (brothers and sisters), birth order, final grades in English III, District Achievement Posttest scores in English III, and Health & Science III, distance of home (residence), from school, study habits, and attitude towards Mathematics were not significant predictors of achievement of grade III pupils based on their Math III final grade.

29. The pupil-related factors, final grades in Health & Science III with t-value = -2.470 and a p-value of 0.013, and general weighted average grade in grade III with t-value of 9.785 and a p-value of 0.000 were significant predictors of mathematics achievement of grade III pupils based on Math III, final grade when the variance in all the other variables are controlled. These probability values are less than the probability value of .05 which means that these variables are significant predictors.

30. All the pupil-related factors, namely: age (t = 0.827 and p = .0.410), sex (t = 0.268 and p = 0.789), total number of siblings (t = 0.603 and p = 0.548),

number of brothers (t = -0.408 and p = 0.648) and number of sisters (t = -0.408 and p = 0.684), birth order (t = 0.221 and p = 0.826), final grades in English III (t = 1.677 and p = 0.097), final grades in Health & Science III (t = -0.001 and p = 0.999), District Achievement Posttest Scores in English III (t = 1.740 and p = 0.085), District Achievement Posttest Scores in Health & Science III (t = 0.073 and p = 0.942), distance home from school (t = 0.815 and p = .0.417), study habits (t = 0.487 and p = 0.627), and attitude towards Mathematics (t = -.0.310 and p = 0.7575) were not significant predictors of pupils' mathematics achievement based on the District Achievement Posttest Scores.

31. Among the parent-related factors, namely: mother's age (t =0.110, p - value = 0.121), father education (t-value = -0.844, p-value = 0.401), mother occupations (t-value = 1.380, p-value = 0.171), father occupations (t = -0.530, p-value = 0.579), father religion (t-value = 0.704, p-value = 0.483), household size (t-value = 0.025, p-value = 0.980), average family monthly income (t-value = 1.111, p-value = 0.269), and attitude towards Mathematics (t-value = 0.013, p-value = 0.990), were not significant predictors of pupils' mathematics achievement based on final grade in Math III, and mother's religion can be removed from the factors without affecting the regression equation.

32. The parent-related factors, father's age with t-value = 2.326 and a p-value of 0.022 and mother education with t-value of 10.074 and a p-value of 0.03 were significant predictors of mathematics achievement of grade III pupils Math

final grade when the variance in all the other variables are controlled. These probability values are less than the probability value of .05 which means that these variables are significant predictors.

33. The parent-related factors used to predict mathematics achievement based on the District Achievement Posttest in Math III, mother's age (t-value = -0.191, p-value = 0.849), father's age (t-value = 0.346, p-value = 0.730), mothers education (t-value = 0.000, p-value = 1.000), father education (t-value = 0.457, p = 0.649), mother occupations (t-value = -0.481, p = 0.631), father occupations (t-value = -0.792, p = 0.430), household size (t = -0.912, p = 0.364), average family monthly income (t-value = 1.417, p = 0.160), and attitude towards Mathematics (t = -0.235, p = 0.815) were **not significant predictors** of mathematics achievement based on the District Achievement Posttest in Math III, and mother's religion can be removed from the factors without affecting the regression equation.

34. The parent-related factors used to predict mathematics achievement based on the District Achievement Posttest in Math III is father's religion with t = 2.034 and p of 0.044 was a significant predictor of mathematics achievement of grade III pupils based on the District Achievement Posttest score when the variance in all the other variables are controlled. This probability value is less than the probability value of .05 which means that this variable is a significant predictor.

Conclusions

The following were the conclusions based from the salient findings of the study:

1. The grade III pupil respondents of Catbalogan II Central Elementary School possess characteristics which are common to grade III pupils of public elementary schools in Catbalogan, Samar in terms of age, sex, number of siblings (brothers and sisters), birth order, final grades in English III, Health & Science III, general weighted average (GWA) grade in grade III, District Achievement Posttest Score in English III and Health & Science III, distance of home from school, study habits, and attitude towards mathematics.

2. The mathematics III teacher-respondents in Catbaogan II Central Elementary School have characteristics which are possessed by mathematics teachers in the same school teaching other grade level such as grades I, II, IV, V, and VI and other public elementary schools in Catbalogan, Samar with respect to age, sex, civil status, average family monthly income, educational attainment, teaching experience in teaching Mathematics, relevant trainings and seminars attended, RPAST rating, instructional materials used in teaching mathematics, teaching strategies used in teaching Mathematics and attitude towards Mathematics teaching.

3. The parents of the grade III pupil-respondents now grade IV in Catbalogan II Central Elementary School home characteristics are common home characteristic possess by pupils in public elementary school in Catbalogan in terms

of parents' age, parents' educational attainment, parents' occupations, parents' religions, household size, average family monthly income, and parents' attitude towards Mathematics.

4. The level of Mathematics achievement of the pupil-respondents based on their final grade in Mathematics III is satisfactory or average performance and hence, can be further improved or raised or to a much higher level.

5. The level of Mathematics achievement of the pupil-respondents based on the District Achievement Posttest in Mathematics III is satisfactory or average performance which can be improved further by the pupils, cooperative efforts of the teacher and parents.

6. The teacher-related factors which are significantly relate to the level of Mathematics achievement of the pupil-respondents based on final grade in Math III are: age, average family monthly income, teaching experience in teaching mathematics, instructional materials in teaching mathematics, teachings strategies used in teaching mathematics and attitude towards teaching Mathematics.

7. The teacher-related factors which are significantly related to the level of Mathematics achievement of the pupil-respondents based on the District Achievement Posttest Scores in Math III are: age, average family monthly income, teaching experience in teaching mathematics, instructional materials in teaching mathematics, teachings strategies used in teaching mathematics and attitude towards teaching Mathematics.

8. The pupil-related factors which are significantly related to the Mathematics achievement of the pupil-respondents based on final grade in Math III are: final grade in English III: final grade in Health & Science III, general weighted average (GWA) in grade III, District Achievement Posttest Scores in English III, District Achievement Posttest Scores in Health & Science III, and attitude towards Mathematics.

9. The pupil-related factors which are significantly related to the Mathematics achievement of the pupil-respondents based the District Achievement Posttest Scores in Math III are: final grade in Health & Science III, general weighted average (GWA) in grade III, and District Achievement Posttest Scores in English III.

10. The parent-related factors which are significantly related to the Mathematics achievement of the pupil-respondents based on final grade in Math III are: father's age, parents' (both mother and father) education, mother's occupation, and average family monthly income.

11. The parent-related factors which are significantly related to the Mathematics achievement of the pupil-respondents based on the District Achievement Posttest Scores in Math III are: parents' (both mother and father) education, parents' religion (both mother and father), and average family monthly income.

12. The teacher-related factors that can predict the level of Mathematics achievement of the pupil-respondents based on final grade in mathematics III are

age, average monthly family income, and teaching experience, the school should consider these qualities possess by their mathematics teachers as coach in training of pupils which will represent the school in Math competitions both in school, out of school, locally and in the region or in the national level.

13. The teacher-related factor that can predict the level of Mathematics achievement of the pupil-respondents based on the District Achievement Posttest score in Mathematics III is teaching experience, as such, more experienced mathematics teachers should phase their knowledge in content of mathematics and teaching strategies to new math teachers.

14. The pupil-related factors that can predict the level of Mathematics achievement of the pupil-respondents based on final grade in mathematics III are final grade in Health & Science III, and general weighted average (GWA) grade in grade III.

15. No pupil-related factor can predict the Mathematics achievement of the pupil-respondents based on the District Achievement Posttest score in Mathematics III.

16. The parent-related factors that can predict the level of Mathematics achievement of the pupil-respondents based on final grade in Mathematics III are father's age and mother's education. Therefore, the school should consider the age of the pupil-respondents father and the level of education of the mother in their math activity/exercise involving parents.

17. The parent-related factors that can predict Mathematics achievement of the pupil-respondents based on the District Achievement Posttest score in Mathematics III is father's religion, textbook writers and mathematics III teachers should give mathematics examples in the textbooks which will developed pupils values of honesty, thrift, patience, and others which are both personal and family values which will not contradict religious teaching.

Recommendations

The following were the recommendations based on the findings and conclusions derived from the study:

1. The Mathematics III teacher should diagnose the pupils for pre-requisite skills needed in Mathematics by giving them a diagnostic test which will cover content or the minimum learning competency of every year level since higher level skills is build up from lower level skills.

2. The identified common deficiencies/difficulties of the pupils in mathematics based on the result of the District Achievement Posttest should be made as input for teachers to improve Mathematics III teaching in the presentation of mathematics topics from simple to complicated, so that simple skills is developed in the learners before more complicated one.

3. Before new topic is introduced to the learners, the mathematics teachers must evaluate the competency of the pupils in their previous topics by giving them a test on content mastery and computational skills.

4. The Mathematics curricula should emphasize interactions between learners and learning tasks, the teachers must continually adjust the level of his or her help in response to pupil's level of performance. If pupils are deficient in computational skills for example which is needed in the succeeding tasks a review should be conducted by the teacher or exercises should be given to hone the skills.

5. The mathematics teacher should sequence instruction and identify prerequisites skills that should be completed in the learning hierarchy.

6. The school administrators, teachers and other education stake holders should make a commitment to improve mathematics learning by all pupils.

7. The school elementary mathematics curriculum should aim for enhanced classroom instruction in Mathematics.

8. The school should invest on teacher's professional development and capacity building to support improved mathematics achievement.

9. The mathematics teachers in Catbalogan II Central Elementary School should analyzed the District Achievement Posttest scores in Mathematics III to improve or raised the level of achievement in mathematics.

10. School administrators in public elementary schools should encourage their mathematics teachers to take advanced studies in their own or through scholarship since majority of them are in their bachelor's degrees only.

11. School administrators in public elementary schools should encourage their mathematics teachers to construct their own or improvised

instructional materials in mathematics to be used in teaching the subject to augment the dire supply of instructional materials.

12. School administrators in public elementary schools should send their mathematics teachers to seminars/trainings in mathematics content and teaching so that they will be more competent in teaching mathematics or sponsor a mathematics seminar locally inviting speakers who are national leaders in mathematics teaching and content experts from the mathematics association of the Philippines and other organizations.

13. Mathematics teachers should be encourage to use other teaching strategies in teaching mathematics, such as multi-media to expose their pupils to varied teaching strategies which will develop positive attitude in their pupils towards Mathematics and improve their computational skills which is needed in learning more complicated mathematics skills

14. Mathematics teachers should be trained to develop achievement test like that of District Achievement Posttest in Mathematics III which they can use in evaluating pupils' mathematics performance and their teaching effectiveness in teaching the subject.

15. Mathematics teachers who content. Wise can be considered as experts in a certain topic in Grade III mathematics and also has a strategy which can be considered as effective in teaching certain topics in mathematics should be asked to demonstrated to mathematics peers to show it should be done in teachers meeting, seminars or trainings and peers assembly as the case maybe.

16. Another research should be conducted using score or rating of pupils in a Grade III mathematics achievement test development cooperative by math peers which will disregard basis of rating obtained by pupils such as in using final grade in Math III because this is subjective since there are five teachers in Math III as in this case and considering also the topics in Math taught to all the pupils takers because the District Achievement Posttest in Math III may contain math topics which were not treated in class.

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A P P E N D I C E S

Appendix A

COVER LETTER OF THE QUESTIONNAIRE FOR THE RESPONDENTS

Republic of the Philippines
SAMAR STATE UNIVERSITY
Catbalogan, Samar

February 14, 2011

Dear Respondents,

I am presently conducting a research entitled "Predictor of Mathematics Achievement of Grade III Pupils" in partial fulfillment of the requirements for the degree, Master of Arts in Elementary Education.

In this connection, you are chosen to be one of the respondents of this study. Rest assured that your answers would be kept with utmost confidentiality.

Thank you very much.

Very truly yours,

(SGD.) CRISTINA C. BONGALON
Researcher

Appendix B

QUESTIONAIRE
(For the Pupil-Respondents)

PART I. Profile of Pupil:

Direction: Please supply the needed information. Check or write your answers on the appropriated box or space provided for each item.

1. Name (Optional):_____
2. Age (in years):_____
3. Sex ☐ Male
   ☐ Female

4. Total Number of Brothers & Sister:_____
   Number of Brothers Only: _____
   Number of Sisters Only: _____
5. BIRTH ORDER (1st, 2nd, 3rd, 4th, etc):_____
6. Distance of Home from School (in Kilometers) ☐
7. General Weighted Average (GWA) Grade in Grade I ☐
8. FINAL GRADE (in Grade III) in:
   English III:_____
   Health & Science III:_____
   Mathematics III:_____
9. District Achievement POSTTEST Score in:
   English III:_____
   Health & Science III:_____
   Mathematics III:_____

PART II – Pupil's Study Habits

Directions: Below are statements pertaining to pupil's study habits, please indicate your rating (by checking the column opposite) whether it is always practiced (AP) – 5, often practice (OP) -4, moderately practiced (MP)-3, sometimes practiced (SP)-2, and not practiced (NP)-1.

STUDY HABITS STATEMENTS	SCALE				
	AP (5)	OP (4)	MP (3)	SP (2)	NP (1)
1. Before I sleep I study my lessons and have the follow up early in the morning when I wake up.					
2. If I cannot solve my assignments at home I come to school early so that I can ask my classmates and teachers about it.					
3. I always make use of my vacant time to study in the library.					
4. I certainly cooperate with my classmates for a group seatwork.					
5. I take a note during classroom discussion and recite when called for by my teacher.					
6. I find time to look for references and other supplemental learning materials for my study.					
7. When I am in the classroom I read my notes if my teacher is not starting our class discussion.					
8. I always review or check my solutions/answer before I submit my papers to my teacher.					
9. I prefer to study alone than group study unless told by my teacher for a group assignment.					
10. I feel comfortable and confident for a sharing of ideas and knowledge with classmates and teachers.					

PART III – Pupil's Attitude towards Mathematics

Directions: Below are statements pertaining to pupil's attitude towards mathematics, please indicate (by checking the column opposite) whether you strongly agree (SA), agree (A), neutral (N), disagree (D), and strongly disagree (SD).

STUDY HABITS STATEMENTS	SCALE				
	SA (5)	A (4)	N (3)	D (2)	SD (1)
1. I enjoy attending my mathematics class.					
2. I feel confident to recite and challenge if I missed to answer math exercises.					
3. I like to do my assignments, problem sets and mathematics project on my own.					
4. I find mathematics important every day.					
5. In case I'm not sure about my answer, I always refer to my lecture notes and mathematics books to follow.					
6. I talk to my mathematics teacher about our lessons to help me understand better.					
7. I study in advance to be acquainted and be prepared for classroom participation.					
8. I encourage my classmates to work as a team when assigned as group leader for our mathematics seatwork.					
9. I am alert and enthusiastic when called by my mathematics teacher to solve on the board.					
10. I spend more time in mathematics than any other subjects.					

Appendix C
QUESTIONAIRE
(Pamakiana)
(For the Pupil-Respondents)
(Para han Kag-anak)

Pupil Name (Ngaran han eskwela):

_____

_____

Part I – Home Profile

Please ask your parents to answer this section and do not leave any item unanswered

(Alayon pagpaki-ana han iyo kag-anak para han baton hini nga mga paki-ana. Waray dire babatonon.)

1. Name of Parents:

(Ngaran han kag-anak)

Father (Tatay):_____

Mother (Nanay):_____

2. Age of Parents (Idad han Kag-anak):

Father (Tatay):_____

Mother (Nanay):_____

3. Highest Educational Attainment of Parents (Pinakahita-as nga Naabot nga Edukasyon):

Father (Tatay):_____

Mother (Nanay):_____

4. Occupations of Parents (Trabajo han Kag-anak):

Father (Tatay):_____

Mother (Nanay):_____

5. Religions of parents (Relihiyon han Kag-anak):

Father (Tatay):_____

Mother (Nanay):_____

6. Household size (Kadamo nga naukoy nga membro han panimalay):___

___

Please count the total number of persons living in the house (parents, children, other relatives living with the family)

Alayon pag-ihap han naukoy nga egbutang deda han blanko.

7. Average family monthly income (Kita han usa ka bulan han pamilya)

Total income of the family in one month (Income of parents and unmarried children)
(Alayon pagsurat an kita han kag-anak ngan mga anak nga lungo nira nga waray pa kalugaringon nga pamilya).

Part II - Parents' Attitude towards Mathematics (Kanan Kag-anak / panan-aw para han mathematics)
Direction: to the parents, please use the scale provided for your response to this portion of the questionnaire.
Direksyon: Alayon gamita it ade ha obos han imo pagbaton han imo nga masesering hit ae nga mga saysay.

5 - Strongly Agree (SA) (Natuod gud)
4 - Agree (A) (Natuod)
3 - Neutral (N) (Nyutral)
2 - Disagree (D) (Deri Natuod)
1 - Strongly Disagree (SD) (Deri gud Natuod)

Attitude towards Mathematics (Pag-abat/Panan-aw para hit Mathematics)	**Scale**				
	SA (5)	**A (4)**	**N (3)**	**D (2)**	**SD (1)**
1. I help my child with his/her mathematics assignment at home. (Gintututduan ko an akon aak han Mathematics ha balay).					
2. I like that math teachers give several examples before giving my child assignment and homework. (Karuyag ko nga an magturudu han mathematics maghatag hin damo anay nga mga eksampol anteshiya maghatag hin "assignment" o de ngani homework.)					
3. I like that my child will recite and participate in his/her math class. (Karuyag ko it akon anak napartisipar ha klase.)					
4. I don't want that my child will make absences in his/her mathematics classes. (Karuyag ko nga it akon anak deri maabsent hit iya klase.)					

Attitude towards Mathematics (Pag-abat/Panan-aw para hit Mathematics)	Scale				
	SA (5)	A (4)	N (3)	D (2)	SD (1)
5. I like that my child will have references in math other than the textbook. (Karuyag ko nga it akon anak damo it libro hit mathematics nga puede niya magamit hit iya pag-aram.)					
6. I would hire a private tutor for my child in mathematics to improve my child school performance. (Makuha ako kon kinahanglan hin pribado nga magturutdo han iya mathematics nga leksyon para hiya magin andam hiya iya mga leksyon ha klase.)					
7. I would ask my child math teacher in school to explain to me topics in math that I am not clarified about in order to help my child in math. (Gin papaki-anhan ko an magturutdo han Mathematics han akon anak ha eskwelahan para han leksyon nga makuri ko masabutan para ko matutduan an akon anak nga kon dein ako magtitikang pagtutdo.)					
8. I will study my child math lessons in advance to help him/her in his assignment, homework and project. (Mag-aaram ako paguna kon kinahanglan han Mathematics han akon anak para ko mabuligan it akon anak hit iya assignment, homework, ngan project.)					
9. I would like that my child will do her/his homework and assignment in math with my help. (Karuyag ko nga trabahuon hit akon anak it iya mga homework ngan assignment ha mathematics para kabuligan ko hiya hit deri hiya maaram.)					
10. If my child will excel in mathematics I will give her reward for good school performance. (Kon an akon anak maniniguro hit iya pag-aram ha mathematics tatagan ko hiya hin pahalipay/premyo han iya mga ipapakita nga higta-as nga makukuha nga grado.)					

Appendix D

QUESTIONNAIRE
(For the Mathematics Teacher-Respondents)

Part I – Personal Profile
Direction: Please supply the needed information and do not leave any item unanswered.

1. Name:_____
2. Age:_____
3. Sex:_____
4. Civil Status:_____
5. Ave. Family Monthly Income:_____
6. Highest Educ. Attainment:_____
7. Teaching Experiences:_____
8. RPAST Rating:_____
9. Seminars/Training Attended in Mathematics (Title of Seminars/Training, Sponsoring, No. of Days (Hours), Date Conducted)

Title	Sponsoring Agency	No. of Days/ (No. of Hours)	Date Conducted

10. Religion:_____
11. Instructional materials used in teaching mathematics (Please state):
    _____
    _____
    _____
12. Teaching strategies used in teaching mathematics (Please state):
    _____
    _____
    _____
    _____

Part II – Attitude towards Teaching Mathematics

Direction: Beside each of the statements presented below, please indicate your rating, strongly agree (SA), agree (A), neutral (N), disagree (D) and strongly disagree (SD).

5 – Strongly Agree (SA)
4 – Agree (A)
3 - Neutral (N)
2 – Disagree (D)
1 – Strongly Disagree (SD)

ATTITUDE STATEMENTS	SCALE				
	SA (5)	A (4)	N (3)	D (2)	SD (1)
1. I appreciate pupils who try their best to solve problems in mathematics on their own or in groups.					
2. I gives several examples before giving my pupils individual exercises, seatwork and board work.					
3. I make it my concern to buy my own mathematics book and go to the library to look for references in mathematics or use the INTERNET.					
4. I let my pupils realize that it is important to enjoy mathematics.					
5. When I see mathematically gifted pupils I encourage them to pursue a career in math.					
6. I allow my pupils to talk to me about what they think and feel towards mathematics and their problems toward learning math.					
7. I like teaching mathematics to my pupils because I believe that the subject is useful to the development of every individual.					
8. Mathematics teaching is interesting and rewarding to me.					
9. I don't hesitate to ask help from my co-teachers about math topics/lessons that I would teach to my class, if I am not very knowledgeable and confident about it.					
10. I like Math because it is mostly expressed in symbols and not in words.					

Appendix E

Values of r for the .05 and .01 Level of Significance

df (N-2)	0.05	0.01	df(N-2)	0.05	0.01
1	0.997	1.000	31	0.344	0.442
2	0.950	0.990	32	0.339	0.436
3	0.878	0.959	33	0.334	0.430
4	0.812	0.917	34	0.329	0.424
5	0.765	0.875	35	0.325	0.418
6	0.797	0.834	36	0.32	0.413
7	0.666	0.798	37	0.316	0.408
8	0.632	0.765	38	0.312	0.403
9	0.602	0.735	39	0.308	0.398
10	0.576	0.708	40	0.304	0.393
11	0.553	0.684	41	0.301	0.389
12	0.533	0.661	42	0.297	0.384
13	0.514	0.641	43	0.294	0.38
14	0.497	0.623	44	0.291	0.376
15	0.482	0.606	45	0.2888	0.372
16	0.468	0.590	46	0.285	0.368
17	0.456	0.575	47	0.282	0.365
18	0.444	0.562	48	0.279	0.361
19	0.433	0.549	49	0.276	0.358
20	0.423	0.537	50	0.273	0.354
21	0.413	0.526	60	0.250	0.325
22	0.404	0.515	70	0.232	0.302
23	0.396	0.505	80	0.217	0.283
24	0.388	0.496	90	0.205	0.267
25	0.381	0.487	100	0.195	0.254
26	0.374	0.479	200	0.138	0.181
27	0.367	0.471	300	0.133	0.148
28	0.361	0.463	400	0.098	0.128
29	0.3555	0.456	500	0.088	0.115
30	0.349	0.449	1000	0.062	0.081

Adapted from A L. Sockloff and J. N. Edney, Some extension of Student's t and Pearson's r central distributions, Technical Report (May, 1972), Measurement and Research Center, Temple University, Philadelphia

C U R R I C U L U M V I T A E

CURRICULUM VITAE

PERSONAL DATA

Name	:	**CRISTINA C. BONGALON**
Address	:	Ubanin, Catbalogan, Samar
Date of Birth	:	November 9, 1969
Place of Birth	:	Calumpit, Bulacan
Curriculum Pursued:		Master of Arts in Education Major in Elementary Education
Civil Status	:	Married
Husband	:	Rico P. Bongalon
Children	:	Rico Jr., Roque, Maria Rica
Place of Work	:	Catbalogan II Central Elementary School Catbalogan, Samar

EDUCATIONAL BACKGROUND

Elementary	:	Darahuway Dako Elementary School Catbalogan, Samar 1981
Secondary	:	Samar State Polytechnic College Catbalogan, Samar 1987
College	:	Samar College Catbalogan, Samar 1991
Graduate	:	Samar State University Catbalogan, Samar (on going)

EXAMINATION PASSED

Licensure Examination for Teachers, 1996

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