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A MODEL OF AN OUTSTANDING MATHEMATICS TEACHER

A Thesis
Presented to
The Faculty of College of Graduate Studies and Teacher Education Research
Philippine Normal University
Manila

In Partial Fulfillment
Of the Requirements for the Degree
MASTER OF ARTS IN EDUCATION
with Specialization in Mathematics Education

ARNEIL D. ARO

April 2017

APPROVAL SHEET

This thesis entitled “A MODEL OF AN OUTSTANDING MATHEMATICS TEACHER” prepared and submitted by ARNEIL D. ARO in partial fulfillment of the requirements for the degree of Master of Art in Education with specialization in Mathematics Education, has been examined and recommended for approval and acceptance.

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ABSTRACT

Name : ARNEIL D. ARO

Title : A Model of an Outstanding Mathematics Teacher

Key Concepts : Beliefs
 Characteristics
 Knowledge
 Model of Outstanding Mathematics Teacher
 Pedagogical Practices

Degree : Master of Arts in Education
 with Specialization in Mathematics Education

Adviser : Erminda C. Fortes, Ph.D.

This study explored the characteristics of the outstanding mathematics teachers in the Schools Division of Valenzuela City, as perceived by the teachers themselves and their principals, master teachers, head teachers and students. Using a sociocultural perspective as theoretical basis, this study examined the pedagogical practices of the outstanding mathematics teachers from the viewpoint of six outstanding mathematics teachers, six mathematics master teachers, six head teachers of mathematics and three hundred students through a modified questionnaire. The outstanding mathematics teachers' beliefs, knowledge, and teaching practice were also investigated through semi-structured interview with the objective of gaining an in-depth understanding of outstanding mathematics teachers. Classroom observations were also undertaken to bring out the deepest perspective, characteristics and belief of the outstanding teachers towards mathematics within the principles of classroom situation.

Frequency counts, percentages, and mean were used in this study for analyzing the quantitative data and within-case coding process were adopted for data analysis. Pedagogical

practices identified were considered as components of the characteristics of outstanding mathematics. It was found that outstanding mathematics teachers play multiple roles including demonstrating excellence in teaching, conducting research and mentoring teachers. These multiple roles are greatly influenced by both cultural and social factors. As regard cultural aspect, outstanding teachers continually adapt their teaching practices based on pre-determined beliefs such as beliefs on the subject itself and beliefs on how the subject is taught. Whereas, social factors impact outstanding teachers in terms of classroom management and provision of activities that enhance strong collaboration and active inquiry among students. Outstanding teachers are expected to design, implement and evaluate instruction effectively through in-depth lesson planning, application of research-based strategies, provision of activities that promote critical thinking and formulation of standard-based assessments. Moreover, results revealed that the outstanding mathematics teachers are culturally bounded and their teaching is influenced by the social, school and cultural context, but they also exhibit the ability to analyze social, school and cultural constraints and modify their teaching practice accordingly. Findings of this study were treated as basis in crafting a model of outstanding mathematics teacher based on characteristics and pedagogical practices, beliefs and knowledge of the outstanding mathematics teachers within a sociocultural and school context. Further research is recommended to investigate the formation and characteristics of outstanding mathematics teachers at other grade levels and in other social and cultural contexts to provide a deeper understanding of outstanding mathematics teachers.

DEDICATION

To

My **Father in Heaven**
and
His son, **Jesus Christ**, my Savior and Redeemer,
for their endless love

Bignay National High School, my second family,
for providing me opportunities to discover and learn new things,

Neil, Ancy, Arnan and Aryl
for their prayers and source of my inspiration
to continue and never stop learning,

and

Pangga Nancy,
for always being there for me and
whose support and love has always been a source of strength and inspiration

THIS THESIS IS FOR YOU.

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his sincerest gratitude appreciation and gratitude for everything !

ADA

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CHAPTER 1

THE PROBLEM AND ITS BACKGROUND

Introduction

Qualified teachers are needed in the education system to train young individuals adapt to the fast changing society. More than any kind of resources as a significant factor of student achievement is the teacher. In addition, the school is of course, the seat of trainings in producing equipped, capable and effective teachers. The quest for teachers with effective and outstanding class management is somehow necessary.

Brown (in Bossing, 1952) wrote as follows:

The teacher is, by all odds, the most influential factor in high school education. Curriculum, organization or equipment, which is important as they are, count for little or nothing except as they are vitalized by the living personality of the teacher.

More recent research has established the link between teacher performance specifically, the amount of course work the teacher had and the teacher's scores in basic skill tests, and the student output. Monk (1994) found out that teachers' characteristics are related to students' test scores. Another study by Ehrenberg and Brewer (1995) which analyzed a large-scale database revealed that teacher's educational attainment, experience, and scores in vocabulary tests are found to be consistently related to student performance.

The level of excellence of teachers will give an important factor in the development of learning. In fact, it is the most important school-related factor in the learning process of students, which "dwarfs other school-related factors such as class size, school size, and even the heterogeneity of prior achievement within a classroom" (Moir et al., 2009). According to An (2004) An et al. (2003), Hargeaves (1994), Leung and Park (2002), and Ma (1999), the

excellence of teachers is a foremost element that can move the quality of education as a whole and the learnings of the stakeholders in Mathematics. That excellence of teachers is a foremost element that can move the quality of education as a whole and the learnings of the stakeholders in Mathematics as teachers are significant in the learners' accomplishment in the said discipline. Since teachers' excellence could serve as a matter in moving one's development, the issue, which might be left hanging, would be is how to be an outstanding Mathematics teacher is and what characteristics an outstanding Mathematics teacher has. Nonetheless, the qualities of teachers are manifested in different ways as to forms and culture. The environment that influences the said qualities enshrines dominant effect towards development of excellence (Berliner, 2004). Hence, on the matter of being "outstanding" it is something which cannot be referred to as generic, rather, it is more of cultural and contextual based issue. (Berliner 2001).

For the past few years, the Schools Division of Valenzuela had been excelling in various competitions here and abroad in the stage of Mathematics. As per documents gathered by the researcher, a number of achievements had been monitored in the said schools division. Two of the public secondary schools delivered the goods with pride and honor (See Appendix K).

Moreover, aside from Valenzuela City School of Mathematics and Science (VCSMS), another performing school was able to touchdown the platform of international stage as Dalandanan National High School proved its wit in Mathematics competitions. The two above stated schools raised the Philippine Flag before different foreign competitors abroad.

In 2012, silver and two bronze medals were taken in Hong Kong. Though nothing won 2013, Valenzuela participated in Nevada, USA. Both of the aforementioned events were represented by Dalandanan National High School.

VCSMS also represented the country in various international stages and competitions. For the past few years, they gathered numerous awards in different Math events. In 2010, VCSMS represented the country in Amsterdam, Netherland, Bali, Indonesia and Beijing, China, which they took home second runner-up in-group category, Certificate of Merit for team and individual, and Certificate of Bronze Distinction. In 2012, they also got Bronze Medal in Singapore and a Silver Medal in SM North EDSA, Philippines, an international competition.

While the two above-stated schools secured a number of awards outside the country, they, of course, won a whole lot more in division, regional and national levels of competition. These all show that City of Valenzuela has marked its way towards victorious peak of achievements.

Former Mayor Sherwin Gatchalian of Valenzuela City stated that the improved performance of Valenzuela City Students in the National Achievement Test for two consecutive school years (2009-2010, 2010-2011) was achieved through the joint effort of the administration, teaching personnel, students and one of the most outstanding teachers in Mathematics.

This also served as the major reason why the City Government of the said city decided to expand its Science High School to a first ever in the country and a state-of-the-art Mathematics and Science High School, which had been previously managed as principal by the researcher.

In the light of the above, the researcher thought that it would be reasonable to suppose that outstanding mathematics teachers in Valenzuela City may have some characteristics that have greatly influenced the Mathematics performance of the students.

Cooney et al. (1998) indicated that it would be nice to learn how people of another culture in the past looked at the issue of being an outstanding Mathematics teacher hence this study is yet another realization of such. Contextualizing the ideals of an outstanding Mathematics teacher, this study will figure-out and define the aspects manifested by the outstanding

mathematics teachers, which contribute to the success of high achieving education system in the Division of Valenzuela.

Despite the availability of researches that link teachers' performance and student achievement, it is equally important to draw findings from a qualitative research. A model of an outstanding mathematics teacher, which captures the cultural and social contexts and integrates the school, classroom and external factors, has not yet been elucidated. Thus, this study seeks to fill the gap in the literature by using both quantitative and qualitative methods to generate a contextualized model of an outstanding Mathematics teacher taking into account the macro and micro level factors affecting such development.

Conceptual Framework

The need in the development of a model for an outstanding teacher can be greatly influenced by social and cultural factors. Social factors refer to the range of elements that have their roots in the society. On the other hand, cultural factors have their origins on the culture of a particular society. The former primarily focuses on the five main social institutions, namely, family, education, political, economic and religious while the latter emphasizes on the norms, values and beliefs of the society.

Social Theories

The Symbolic Interaction argues that people's selves are social products but that these selves are also purposive and creative (Griffin, 2006). The fundamental definition of symbolic interactionism is the manner in which the individual is connected to the social structure and the possible interplay between the individual and others. The interactionist perspective maintains that human beings engage in social action based on meanings acquired from social sources,

including their own experience. These meanings are both learned from others and to some extent shaped or reshaped by those using the symbols. As humans learn and use symbols and develop meanings for objects in their social contexts, they develop a “mind” that is both reflecting and reflexive. Mind is not a structure but a process that emerges from humans’ efforts to adjust to their environment (Turner, 2004). The theory is summarized into three basic orienting principles: human agency, interactive determination, symbolization, and emergence (Hermann-Kinney, 2003).

Social Constructivism

Social constructivism is a variety of cognitive constructivism that emphasizes the collaborative nature of much learning. All cognitive functions originate in, and must therefore be explained as products of social interactions and that learning is not simply the assimilation and accommodation of new knowledge by learners; it is the process by which learners are integrated into a knowledge community (Vygotsky, 1999). Collaborative learning methods require learners to develop teamwork skills and to see individual learning as essentially related to the success of group learning.

The most important process and goal in constructivism is “understanding”. Items or facts to be remembered are only secondary. Constructivism requires that teachers reflect on all aspects of the teaching in which they engage, as educators, they are learners themselves. They must examine their planning, their use of external standards, the materials we use, the environment in our classroom, our own attitudes and expectations, and especially, the needs of their students, whether they be children or teachers (Richardson, 2007).

Cultural Theory

Culture consists of a complex of shared understandings, which serves as a medium through which individual human minds interact in communication with one another.

Culture Model implies that “knowledge, attitudes, and ideologies” are socially and culturally constructed and shared, but how an individual (personally) constructs unique understandings and uses from and of that knowledge, attitude, and ideologies are the (cultural) models for they are a hybrid of personal and social constructs (Awenowicz, 2009). Thus, it is argued strongly that in the learning of mathematics, valorization operates not only on the societal plane but also on the personal plane, because it impacts the construction of social identities (Abreu, 2000).

Sociocultural theory

The sociocultural theory has its roots in the writings of Vygotsky (1999), in which some primary concepts such as mediation, internalization, and the zone of proximal development are established. This study adopts “mediation” as its theoretical underpinning specifying human mind as *mediated* (Lantolf, 004) to pursue an in- depth investigation of the conceptualization of excellence in mathematics held by outstanding mathematics teachers in Valenzuela City.

Sociocultural theory (Ratner, 2002) is concerned with content, mode of operation, and interrelationships of psychological phenomena that are socially constructed and shared, and are rooted in other social artifacts. One fundamental claim of sociocultural research is that its proper focus is human action (Wertsch et al., 1995) which may be both external and internal and may be carried out by groups or by individuals. Sociocultural study tries to elucidate the connection between human action and context as to institutional, cultural and historical in which action progresses. In other words, the label ‘sociocultural’ does not only refer to a theory of the social or of the cultural aspects of human existence but rather a theory of mind that recognizes the central

role that social relationships and culturally constructed artifacts play in organizing uniquely human forms of thinking (Lantoff, 2004).

Socio-cultural theory has become a powerful and commonly used theory to understand the impact of culture on mathematics learning and teaching (Lemke, 2002). Socio-cultural theory accentuates the importance of peoples' interaction within the family, school, and environment.

Mediation, the central concept of sociocultural theory, is the process through which humans deploy culturally constructed artifacts, concepts, and activities to regulate (i.e., gain voluntary control over and transform) the material world or their own and each other's social and mental activities (Lantolf & Thorne, 2006).

There are two levels of mental functions as stated in various studies: these are the primitive or elementary and higher psychological or mental functions. The primitive function is practically refers to the following: simple perception; natural memory; and, involuntary attention. These matters are known to be universal since time in memorial. Moreover, it likewise manipulated by biological environment. (Geredler and Shields 2008). On the other hand, mental function is a complete opposite of the other for it is referred to as voluntary. It includes: conceptual thinking; self-organize attention; logical memory; and categorical perception which are the outputs of wisdom to embark the flagship of culture to improve wide range of thinking. Higher form of thinking is a matter of pegging cultural which symbolic system refers to peripheral and accessory, which leads to mental process (Vygotsky, 1999). Higher form of thinking is constantly facilitated by symbol systems (lantolf, 2004). Hence, it comes in different blends in different cultures (Gredler & Shields 2008).

The foregoing explains the view of process of personal development as they influence and is influenced by interpersonal and cultural/historical routines and practices

(Rogoff et al., 1995). Human higher mental functions are directly driven by cultural context. Thru this, people can communicate on different issues with different people having different cognitive level. To communicate may mean to say creating concepts out of matter and process it to make such meaning as its effect. Likewise, cultural concept will allow a person to utilize his senses and store the interpreted meaning in his memory, which is purely subjective (Ratner, 1997). Therefore, the concepts formed out of the process previously mentioned create trends and practices which eventually taken as part of culture and cultural symbols organize psychological phenomena.

As per Vygotsky's perspective, humans are normally molded by his external models/context, which made him completely dependent. In contrast, "human mental functioning, even carried out by individuals, is inherently social, or sociocultural, in that, it incorporates socially evolved and socially organized cultural tools" (Wertsch&Tulviste, 1992). Aside from the content of thinking culturally developed and historically determined, human mental functioning includes cultural accomplishments. This refers to learning new ideas in full detail (Hedgaard&Chaicklin, 2005). Meaning to say, deeply knowing one's environment where he does most of his activities is required in elucidating human activities and mental functioning. Moreover, it has founded truth that the basic principle of sociocultural and mental activity is destined in a reliant, symbolically facilitated relationship (Lantolf&Pavlenko, 1995).

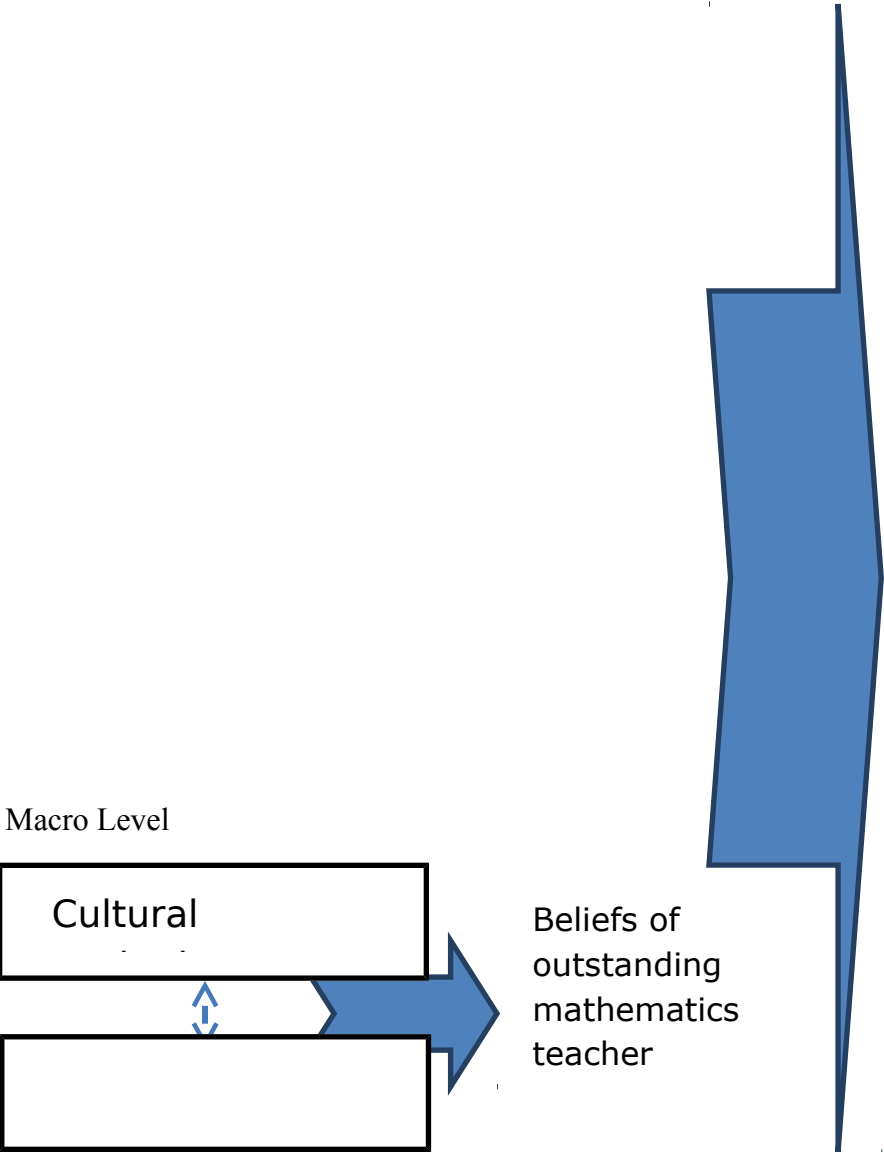
Sociocultural theory and mathematics education

As to the sociocultural theory and Mathematics education way back few decades ago, a number of Mathematics Education Researchers were influenced by it in most of the aspects (e.g., Abreu, 2000; Yang & Cobb, 1995). The discipline of mathematics can be perceived and presented differently as to cultural, economic and social situations. This means, "mathematics education in

a society is influenced by its historical, cultural, and social contexts, or, mathematics education is culturally shaped” (Bishop, 2002). For example, pedagogical techniques employed by the teachers are susceptible to be affected by their beliefs about Mathematics (Ernest, 1989). Since teaching is believed to be culturally passed through generation to generation, then, same is true in learning mathematics (An, 2004). As sociocultural practices, the manner of acquisitions of knowledge of the teachers towards the discipline is something to consider to be understood as well. Some researchers of mathematics education implied that mathematics learning acquisition is cultural, therefore, should be taught and learned culturally like a cultural artifact and that once again, imply of being subjective instead of being objective (Lerman, 1998). The previously named authors were practically implying that Mathematics is destined to be as cultural and really cannot be looked at as culture-free (Presmeg, 1998). Aside from the impacts of social, historical and cultural context, the concern of mathematical teaching and learning is the wider range of educational matters leading to Mathematics Education (Wong et.al. 2001).

As to the Sociocultural theoretical perspective, conceptualization of an outstanding Mathematics teacher should be facilitated by its sociocultural context – its effect should reflect in teacher’s pedagogical techniques and school procedure. Typically, pedagogical techniques and school procedure do have their distinct characteristics to be found in different schools, society and country. It only carries the way they interpret progress and development and this interpretation is supported with other means of learning like magazines, trainings and the likes.

With the established context, it suggests that the chance for characteristics possessed by an outstanding teacher to be shared by other outstanding teacher in the same society.



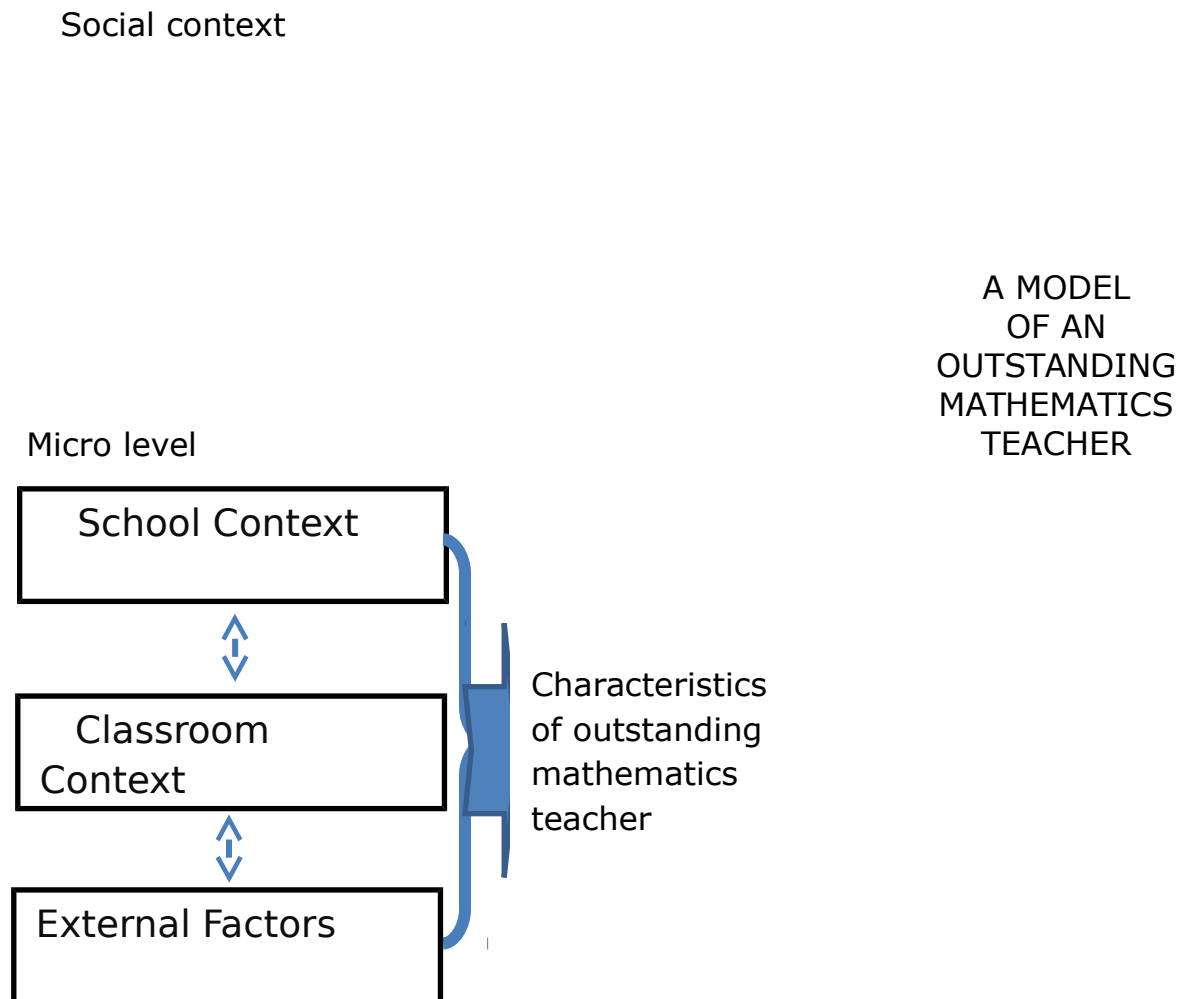


Figure 1 illustrates the conceptual paradigm of a model of outstanding teachers. The model is based on the understanding of the relationship between the teacher and the environment. There are two kinds of Macro-Context (MaC): MaC 1 – cultural background

&MaC 2 – social context. In here, ideologies or values are the things being referred to. The ideas governing ideas about education in general, where mathematics is part of it, particularly the traditional beliefs on it are measured as cultural factors. On a different note, in MaC2 is leading towards the composites of the education system like the system itself, teacher, structure, curriculum and the likes. Although these two factors are connected the difference between them is concrete. As Lerman (1994) pointed out, social factors involve various groups of people, and culture is the glue that binds them together. The cultural factor is the invisible and apparently shared meanings that teachers and pupils bring to the classroom while the social factor is the interaction between the teacher and pupils and/or the classroom itself. On the other hand, Micro Context (MiC) refers to the immediate features of the present situation. It involves past and present learning that is reinforced by the factors found within the immediate environment. It is likewise divided into three: MiC1, MiC2 and Mic 3. MiC 1 is talking of the matters about school context like workloads, learning materials, teaching and learning evaluation system and others. On the contrary, MiC 2 governs the classroom context like class population, a learners' behavior. School context relates to factors concerning the roles of the teacher ascribed by the school system whereas classroom context according to Nguyen (2016), is a classroom's characteristics, such as "the composition of the student body, classroom structures, and resources." However, it does not include teachers or their ability to teach. The MiC 3 refers to the external factors. Factors such as impact of former teachers to the professional lives of outstanding teachers. While it is true that there is a separation of ideas between the contexts, they, at the same time, influence and dynamically and spontaneously act and interact within the proposed model.

This study seeks to explore the characteristics, performance and personality characteristics of outstanding mathematics teachers. The attempt to discover more about

pedagogical technique of the outstanding teachers became very popular among the researchers and educators and groups/associations in the field of Mathematics like TIMMS. The paradigm shows that teachers' beliefs and instructional practices then provide data as basis for model reference in the selection of outstanding mathematics teachers in the Division of Valenzuela City.

Statement of the Problem

This study generally aims to probe the characteristics of outstanding mathematics teachers in the Schools Division of Valenzuela City. In particular, four research questions are investigated in this study:

1. What are the characteristics of the selected outstanding mathematics teachers in the Schools Division of Valenzuela City as perceived by:

- 1.1 outstanding mathematics teachers themselves;
- 1.2 their principals;
- 1.3 master teachers;
- 1.4 head teachers; and
- 1.5 students?

2. What are the pedagogical practices of the outstanding mathematics teachers?

3. How do cultural, social, school and classroom and other external factors contexts and other external factors contribute to being an outstanding mathematics teacher?

4. Based on the study, what model of an outstanding mathematics teacher can be developed?

The four main questions are laid down to gather data that lead to a rich conceptualization, description and understanding of the characteristics of the six (6) outstanding teachers.

Significance of the Study

It is anticipated that the descriptions which developed through this study will help identify the practices, perceptions, and motivations of recognized teachers. These findings will add to the literature informing development of educational programs for teachers that foster realistic expectations and these equip them with tools to become outstanding teachers and which will help them realize the rewards of teaching early in their careers. The findings also add to the literature on teachers as leaders, an area of study that is evolving.

On this backdrop, the researcher believes that the results of the study will be beneficial to the following:

DepEd Officials. The results of this study would serve as a revelation for DepEd officials especially in the Schools Division Office of Valenzuela. This would be very helpful to design a program based on outstanding mathematics teachers' beliefs and characteristics that could be of great help to improve mathematics teaching.

Mathematics teachers on their personal and professional development. This could also be a basis for them to adopt the model that would boost their confidence to become outstanding mathematics teachers.

School Heads. The findings of this study would provide insights to school heads to realize the value of maintaining outstanding teachers to ensure heightened dedication and commitment, which would result to better delivery of instruction. This would also be an avenue for them to reflect on the practices of teachers for a more productive education community.

Teachers. This study will yield data on the most crucial factors that constitute outstanding mathematics teachers. Awareness would lead to self-analysis and reflection on their personal and professional needs and undertakings leading them to better understand their fellow

educators, their students and their school heads, which in effect would result to a holistic educator manifesting exemplary attitude resulting to better instructional practices.

Pupils. The pupils are the best beneficiaries of this study because they will have better teachers and school heads that would surely deliver quality instruction, thus making them better learners by maximizing their potentials and becoming great achievers and holistic individuals ending up to be responsible and productive citizens who could give justice to the words of Dr. Jose Rizal, *“The Filipino youth is the hope of our Fatherland.”*

Parents. Indirectly, parents would be benefited since having outstanding teachers would ensure better instruction for their children. Likewise, this would also result to better relationships between parents and school personnel especially the teachers that would surely redound to better partnerships for better learning outcomes.

Future Researchers. This study could be a basis for other researchers to conduct researches of the same kind for the improvement of school performance.

Scope and Delimitation of the Study

This study is delimited to the antecedents of beliefs and characteristics among all the six outstanding mathematics teachers in the Schools Division of Valenzuela, as viewed by themselves as well as by the six school principals, six master teachers, six head teachers and three hundred (300) students. They are purposively selected. The variables include beliefs, which include social and cultural beliefs and characteristics grouped as performance and personality characteristics.

The study uses the mixed method type of research. The statistical treatments that are utilized for data analysis are frequency, mean and percentage.

To describe an outstanding mathematics teacher, the researcher crafted a self-made questionnaire based on his readings as well as his experiences as an educator. The self-made questionnaire is validated with teachers as sample respondents. To describe the performance and personality characteristics, the Characteristics of Outstanding Teachers by Al-Mohaimed, et al. (2012) is used. Since this is a standardized instrument, validation is not a requirement.

Definition of Terms

The following terms are defined for a thorough understanding of the study.

Beliefs about mathematics. It is about mathematics teachers' conceptions of mathematics and their relationship to instructional practice (Barkatsas & Malone, 2005).

In this study, it refers to outstanding mathematics teacher's thoughts on mathematics and the teaching and learning of mathematics.

Beliefs about mathematics learning. It is about the role played by beliefs in mathematics learning and teaching. Assessing or evaluating of teachers' mathematical knowledge must be made in awareness of their beliefs (Wiggins, 2014).

In this study, it is defined as the outstanding mathematics teachers' perceptions about difficulty in learning mathematics as well as the best way in learning mathematics for students.

Beliefs about mathematics teaching. This refers to beliefs that deal with the influence on the teachers' daily pedagogical decisions and that their beliefs about the nature of mathematics served as a primary source of their beliefs about pedagogy and student learning (Marasigan, J.A, 1999).

In this study, it is defined as the outstanding mathematics teachers' perceptions about the objectives of mathematics teaching, the ways to teach a successful mathematics lesson, the description of a successful mathematics lesson and the most effective ways to teach mathematics.

Cultural context. This refers to the integration of beliefs, attitudes and norms to mathematics teaching and learning that exploits students' daily life experiences, cultural heritage, and background experiences and vocabulary to frame mathematics problems in the classroom and helps students to make connections between their community, national, ethnic, and cultural identities which can promote awareness, sensitivity, appreciation, respect, and pride in community and culture (Bishop 1999).

In this study, this refers to traditional beliefs in general and in mathematics in particular.

Instructional characteristics. This typically refers to the qualities of teachers that generally refer to the direct observation of their impact on students' learning in terms of either students' test performance or teaching behaviors (Lone, 2002).

In this study, it is defined as the characteristics of mathematics teachers culled from their teaching practices and beliefs in mathematics as well as from teaching and learning as part of the objective of this study.

Outstanding teachers. This refers to mathematics teachers who exhibit competence, remarkable dedication to their work, and effective educational leadership, as well as their various community involvements (Cobb & Hodge, 2002).

In this study, it refers to awardees of the search for outstanding mathematics teachers in the Schools Division of Valenzuela who are considered as excellent teachers.

Social context. This relates learning to the social situations in which learning occurs and teachers consider strategies they can use to build learning communities (Chua, Q.L,1999).

In this study, this refers to the education structure and aims, teacher education system and curriculum system.

Teaching practices. It is the systematic manner of transmitting body of knowledge and skills to students with application of strategies and methodologies influenced by different external factors (Bowden, 2008).

In this study, it desires to determine not only everything teachers do that contributes to their teaching (planning, assessing, and interacting with students) but also everything teachers think about, know, and believe what they do with regard to mathematics and teaching mathematics

CHAPTER 2

REVIEW OF RELATED LITERATURE

This section highlights an array of literatures pointing to the views of various intellects on excellence in teaching and characteristics of effective teachers. This chapter presents literature related to the present study.

On being an excellent teacher

There have been models developed over the past years that view teaching as a development process. To mention are the development of teacher concerns and the model of teaching expertise development developed by Lian (2008) from psychological perspective. These two models differ in terms of number of stages, teaching experiences needed to achieve a certain stage, characteristics of every stage, and so on. Lian's (2008) model considers teachers at the final stage as excellent teachers started with other disciplines such as Physics.

As cited by Bond et al. (2000), it is difficult to define excellence in teaching operationally and at the same time assess. Hence, teachers who can be called excellent seem to open for investigation. While some researchers still tried to define excellence in teaching, others argued that excellent teacher are thought to be similar in many aspects (Ropo, 2004).

Previous studies on effective teacher would show that different researchers adopted different ways to choose participants. Smith and Strahan (2004) chose those who achieved National Board certification as expert teacher. Although it is a common knowledge that is hard to figure out and evaluate expertise in teaching (Bond et al, 2000). Few decades ago, having less with theoretical guidance, a number of researchers were observed having much interest to exploring the characteristics of outstanding teachers. In many times, the differences between the greenhorn and expert teachers were identified. These differences were detailed in various

pedagogical models of expertise and prototype models. As to the characteristics of expert teachers Berliner (2001) outlined several propositions about expert teachers:

From the word itself “expert”, known for his greatness in his trade. Given the fact that it is almos the opposite of being a novice. An expert teacher is of course expected to perform well compare to that of novice. An expert teacher provides himself a method bank where he can withdraw his procedures method, activities etc. at any given point of time; an expert teacher is very much aware whenever problem arises as to the pedagogical problems and he can instantly react on it depending on what and how the situation requires him to react; expert teacher is normally a risk taker where he doesn’t fear to take every opportunity in addressing problem and improvement; expert teacher handles problems in an experiential approach; expert teachers have a more effective and efficient capability recognition technique; expert teacher manifests a real-life based pedagogical practices and, expert teacher doesn’t rush thing out in assessing problem’s nature and life practicality is employed in handling it.

The above stated characteristics of an expert teacher were already seen and observed. With this, it risen the interest to probe the effectivity and efficiency of it. These expert teachers manifested a prototypical characteristics which made a number of researchers improvised distinctively fit ways to evaluate each one. They hypothesized 13 identified characteristics to be acquired by the expert teachers as prototype summarized by Berliner (2001) as follows: better use of knowledge; extensive pedagogical content knowledge; better problem solving strategies; better adaptation and modification of goals for diverse learners; better skills for improvisation; better decision making; more challenging objectives; better classroom climate; better perception of classroom events; better ability to read the cues from students; greater sensitivity to context; better monitoring of learning and providing feedback to students; more frequent testing of hypotheses, greater respect for students and display of more passion for teaching.

Bond et al. (2000) likewise hypothesized the characteristics of students’ outcomes under the instruction of expert teacher and summarized by Berliner (2001) as: higher motivation to

learn and higher feelings of self-efficacy; deeper, rather than surface understanding of the subject matter; and higher levels of achievement.

Their investigation revealed that expert teachers excelled at each of the prototypical characteristics. It further revealed that there were significant differences among eleven of the thirteen features.

Ropo (2004) also summarized six propositions of expert teachers, such as: 1) expertise develops in a narrow field of knowledge and the knowledge base is bound to a specific context; 2) experts react to frequently recurring situations automatically; 3) comparing with novice teachers, experts are more sensitive to individual students in both class situations and the characteristics of task situations; 4) experts are faster and more accurate in their observations; 5) experts take longer to represent a problem, but they can end up with a better representation of the problem; and 6) expert teachers' knowledge is wider on account of the levels of abstraction and more hierarchical. These characteristics summarized by those researchers suggest some common features of expert teacher such as automaticity, flexibility, insight, sensitivity, wide knowledge base, deep interpretation of problems. Even though some characteristics summarized by these researchers were discovered under an experimental condition, some of them were found to be possessed by expert teachers in natural teaching settings. For example, recently, with the adoption of prototype view of teaching expertise, Smith and Strahan (2004) found that the three expert teachers in their study: 1) have confidence in themselves and in their profession; 2) mention their classrooms as learners' communities; 3) emphasize the importance of developing relationships with students; 4) demonstrate a student-centered teaching approach; 5) contribute to the teaching profession by leadership and service; and 6) master the content in the field they are teaching. However, one thing that needs to be pointed out is that although these central

tendencies of expert teachers were discovered based on empirical work, the participants in this study were from different subjects. Consistent with the existing researches on excellent teachers, Mohanan (2005) provided a summary of qualities of excellent teacher. According to him, with the idea of teaching as a learning-triggering activity, it follows that excellent teaching is that which maximizes the chances of learning. Further he stressed out that excellent teacher has a deep knowledge and understanding of the subject matter, is committed to teaching and is hard working, continually seeks ways to improve, innovate, and be up-to-date, has a strong passion for subject, has a high enthusiasm for teaching, is an inspirational role model to students, has a high EQ to empathize with students, and is eminently approachable.

Another study by Mcber (2000) revealed three dimensions of teaching effectiveness. Based on the study, an excellent teacher should exhibit professional characteristics and teaching skills and should foster good classroom climate. Professional characteristics and teaching skills are factors which relate to what a teacher brings to the job whereas classroom climate is an output measure which displays the teacher's understanding of what the student feels in the teaching-learning process. The findings of the study suggest that these three dimensions taken together will predict well over 30% of the variance in pupil progress.

On the one hand, as discussed by Berliner (in Oser et.al 1992), expert teachers deliver effective and responsible teaching. He further described effective teaching as being able to meet criteria or standards of performance.

Locally, Reyes (2000) developed a model of teaching expertise in the context of higher education in the Philippines. Based from the study, expert teachers are the ones who possess subject matter expertise, instructional expertise, classroom management expertise, diagnostic expertise, relational expertise and communication expertise.

On being an excellent mathematics teacher

General pedagogical knowledge, as a focus of most research on teaching, includes various knowledge, beliefs, and skills needed for teaching. Leinhardt and Greeno (2000) compared elementary school mathematics lessons taught by an expert and a novice teacher. As a result, the expert Mathematics teacher showed and template-like pedagogical practices. More or less, one-third of the routines which they are enforcing is held developed and established during the first two days of the class. Eventually, these routines became the model routine to be applied all throughout the year (Leinhardt et al, 2007).

Mathematics expert teachers indeed craft their routines accordingly and based from the nature of class they had. It was found out in several studies that expert teachers find it hard to control their teaching and sometimes had no control with it if and when they see it effective and smoothly going on. (Leinhardt, 2000).

The characteristic of being proficient and automatic found in expertise of other fields was also found in expertise in the field of mathematics teaching. In teaching, expert mathematics teachers were found to rarely control their teaching or they did not control it at all if everything went smoothly (Leinhardt, 2000). Expert mathematics teachers were further found to be very skillful at keeping their teaching on track and accomplishing their objectives (ibid). Moreover, during their teaching, students were also allowed to raise their questions and comments and the expert teachers were able to use relevant comments for further discussion (Livingston, 2009). Ropo (2004) also found that compared to novice teachers, expert mathematics teachers were better able to take students' answers into account and adjust their teaching accordingly. Similarly, Carter (2009) found that expert mathematics teachers tend to emphasize the information that has instructional significance. This might suggest, as Ropo hypothesized, that expert mathematics

teachers have better-developed pedagogical knowledge structure, and more importantly, they could access this without deliberate control. Expert

teachers have a mile advantage against those who are not. The novice teachers may have a good outlook and knowledge with the discipline they are imparting, yet, limited to it. The expert ones have a wide range of perspective in imparting the discipline. They know how to properly handle questions of the students that would lead into a deeper understanding. They know what and how to put necessary prominence to particular detail, especially if it will give a vivid picture of practical application. As to the character, expert teachers manifested somebody who is in authority, yet, kind in accommodating students learning experiences. Experienced teachers (who are not expert) tend to portray somebody who is knowledgeable, qualified, academically competent and able to help students in their learning acquisitions (Ropo, 2004). As repeatedly stated in the previous paragraph, expert teachers were marked as those with a more exceptional pedagogical practices compare to those who are not. Likewise, they stood with a more complex and sensible beliefs about mathematics. While these theories exist, same is true that there are studies which are going against the tide of it. A study showed that novice teachers manifested a higher mastery and pedagogical practices in the said discipline – Mathematics (Yu, 2000).

Model of Outstanding Teachers

A good number of researches were already made as to the development of criteria or standards of being an outstanding teacher. However, the journey of a teacher from fair to good to great to outstanding is a complex one which involves high levels of interaction.

Begel (2012) proposed that an outstanding teacher should be able to reach the level of the “contributing stage” wherein he/she can teach, coach and/or mentor fellow teachers. Engaging

in research is also one of the main features of this stage. Outstanding teachers are expected to contribute to their field of specialization by conducting researches that are geared toward students' holistic development. Based on the model, earlier stages of outstanding teacher include scaffolding, developing and collaborating.

Another innovative model of outstanding teacher was designed by Opportunityculture.org which is called In-Person Flex model. The proposed design enables excellent teachers to reach more students because a portion of their instructional time is replaced with technology-based instruction. In-Person Flex model emphasized the utilization of technology by expert teachers to facilitate digital learning time. One interesting characteristic of excellent teacher that emerged from the model is the shift of role of teacher from the routine based to flexible roles. With the use of digital instruction, excellent teachers spend their time with students building deeper knowledge and higher-order thinking skills.

In the United Kingdom, the Office for Standards in Education (2016) has proposed a model of being an outstanding teacher. Based on its framework, the teacher should facilitate personalized learning, can create opportunities to practice both literacy and numeracy, sets homework appropriate to learner's development and should be realistic in assessing students success.

The Asia Society Partnership for Global Learning (2013) held its International Summit focusing on the teaching quality. Themes emerged from the summit reflecting the qualities of an outstanding teacher. According to Susan Hopgood, Education International President there are aspects of pedagogical practice that are pivotal to effective delivery of instruction; feedback, collaboration, teacher self-efficacy and confidence, and trust.

Further, Metrobank Foundation in partnership with the Department of Education (DepEd) and the Commission on Higher Education (CHED), recognizes the great contribution of outstanding teachers in the country. With the Metrobank Search for Outstanding Teachers, teachers who display exemplary performance in their fields are singled out. Congruent with the different existing models of outstanding teachers both internationally and locally, Metrobank SOT has set criteria covering three major areas of the teaching profession namely, (1) Personal Qualities and Character, (2) Instructional Competence and Teaching effectiveness, and (3) Professional and Community Involvement. The personal qualities and character criterion encompasses the morality and integrity of the teacher candidate. Also, it is expected of him/her to display good social relations in school as well as in the community. On the one hand, the instructional competence and teaching competence criterion revolves around the teacher candidate's high performance evaluation and rank as supported by the display of quality teaching skills, production of appropriate instructional materials, involvement in co-curricular and professional development, and production of research and creative outputs. For the professional and community involvement criterion, the teacher candidate should display high level of engagement in different teaching, community and civic programs. Whereas the DepEd Search for the Outstanding Teachers has four-pronged criteria which is comprised of (1) Instructional Competence, which basically covers teaching competence, outstanding accomplishments and creative outputs, (2) Professional Growth includes indicators of the teacher candidates effort in upgrading and retooling his/her craft, which includes continuing education, speakership, publication and trainings , (3) Community Development which centers around the teacher candidate's involvement in outreach activities and establishing linkages through membership in

different organizations and (4) Personal Characteristic, which covers the work ethics and moral standards displayed by the teacher candidate.

Synthesis

While it is true that a number of studies about excellent teachers paved the way of research, there were only few studies on the conceptualization and characteristics of outstanding teachers. With this, vagueness of the idea concerning a deep description and understanding on outstanding teachers remains as it is, ergo, conduction of studies about excellent teachers of a particular discipline is earnestly suggested and needed.

Same is true that western people conducted voluminous number of researches about their excellent teachers, likewise in the Philippines, the interest steering as such is obviously getting higher. Most them are engrossed with pedagogical content knowledge of the teacher, problems employed, classroom discourse and others alike. To reiterate, it is very seldom to encounter such study analytically converging on instructional characteristics of outstanding teachers beliefs, knowledge and teaching practice as a whole. Hence, different peculiarities are expected to be showcased by outstanding teachers of different cultures in different grade level. As mentioned earlier, the necessity in coming up with a study about outstanding teachers within the principle of cultural context of a particular grade level is getting advanced. within a clearly identified cultural context and at particular grade level are needed.

In view of these gaps, this study that focuses on probing the conceptualization of outstanding mathematics teachers at secondary school level emanates from the common instructional characteristics of outstanding mathematics teachers in Valenzuela City, and how the

social and cultural context influences the conceptualization of an outstanding mathematics teacher.

To actualize the target conceptualization, two national award for the outstanding teacher were used as frame of reference of the study namely, the DepEd and Metrobank Search for Outstanding Teacher.

CHAPTER 3 RESEARCH METHODS

This chapter provides a discussion about the research design, the participants of the study, the setting of the study, the research instruments, the data gathering procedure, and the data analysis.

Research Design

This study employs a descriptive research design. It involves collections of quantitative information that can be tabulated along a continuum in numerical form. Descriptive research involves gathering data that describe events and then organizes, tabulates, depicts, and describes the data collection (Fraenkel and Wallen, 2009). This study combines the quantitative information with documentary analysis supported by qualitative data to adequately address the research questions.

Participants of the Study

This study involved six outstanding mathematics teachers, six school principals, six mathematics master teachers, and six head teachers of mathematics as participants in the interview conducted. Fifty (50) students of each outstanding teacher – respondent were also included as participants by accomplishing structured survey/questionnaire. Purposive sampling was used to select the 50 students. Each outstanding teacher had a regular load of 5 classes each day. Each class normally had 50-55 students. A class or section with exactly 50 students per outstanding teacher was purposively selected as a class for each outstanding teacher.

For the inclusion criteria, the researcher identified those winners of Division Outstanding Mathematics Teachers, Master and Head Teachers with due appointments in the same discipline

and students of the Outstanding Mathematics Teacher – respondents. On the other hand, the researcher intentionally did not include those who were just nominees of the above-stated award and subject coordinators (acting as head teachers) without due appointment as Head Teacher.

The six outstanding teachers were selected based on Division Memorandum No. 358 s. 2015, Search For Responsible Public Servants dated October 29, 2015 (see Appendix H). They were awardees of various mathematical competitions in the region as coaches and trainers of the student-winners. Majority of these outstanding teachers were accomplished and winners in action research competitions in the region and division levels. The outstanding mathematics teachers from Valenzuela City School of Mathematics and Science were awardees at the National Level of Metrobank-Mathematics Teachers Association of the Philippines National Mathematics Competition. The others Outstanding Mathematics Teachers proved their worth in various international mathematics competitions as winning coaches in Singapore, USA, Hong Kong, China, Indonesia and Thailand.

Setting of the Study

This study was conducted at the Schools Division of Valenzuela City during the second semester of School Year 2015-2016. DCS-Valenzuela is one of the sixteen schools divisions in the National Capital Region with 37 public elementary schools and 18 public secondary schools.

There were six Outstanding Mathematics Teachers, six Master Teachers and six Head Teachers of the same discipline and 300 students, all coming from the above stated schools division. The data gathered from the respondents was dealt with full confidentiality to ensure their safety and interests.

Research Instruments

Questionnaire on characteristics of the selected outstanding mathematics teachers in the Division of Valenzuela City

The questionnaire consists of twenty-four items on performance characteristics and seventeen personality characteristics, which were derived from the previously conducted studies designed to identify attributes of outstanding teachers and the international guidelines. The performance characteristics questionnaire describes the different functions and roles of a teacher in relation to classroom setting. On the one hand, questionnaire for personality characteristics covers the patterns of thinking, feeling, and behaving of teachers. For the purpose of clustering the questionnaire for performance characteristics covers five domains of teaching job performance, specifically, subject matter expertise, classroom management expertise, instructional expertise, diagnostic expertise and professionalism. Four (4) items under subject matter expertise reflect content mastery of the teacher; ten (10) items for classroom management expertise indicate maintainance of high level of student's on-task behavior and positive learning environment; four (4) items for instructional expertise covers items that indicate teachers ability to apply different teaching strategies and methodology; and three (3) items for diagnostic expertise which reflect the teacher's knowledge and skill of assessing students and lastly, professionalism as an area, includes three (3) items that reflect the teacher's awareness of their functions and roles. Whereas the personality characteristics questionnaire reflects the five-factor model which is comprised of, Openness, Conscientiousness, Extroversion, Agreeableness and Emotional Stability. All items were subjected to content validation and were verified by experts. The instruments were distributed personally to each panelist/reviewer. The completed instruments were returned to the researcher personally. This was done in order to ensure that

there was a sufficient level of control for chance agreement and statistical justification especially concerning the newly added items. In addition, this was necessary in order to determine how well the new item additions were assimilated into the previously validated instrument and the ability to retain its usability.

The experts were also requested to identify deficient areas and provide recommendations or suggestions on ways to improve the sentence structures to ensure clarity and conciseness based on any difficulties encountered in deciphering the instructions for filling out the instrument.

The responses of the panel of experts were indicated using favorable or unfavorable ratings. In addition, the experts were to indicate any perceived inconsistency or potential difficulties regarding the clarity of the individual items. The cumulative average of the level of agreement among the experts was assigned a numerical value known as content validity index (CVI) which is the proportion of items on an instrument that achieved a relevant rating by the content experts. In a panel consisting of three experts, a CVI index of greater than 80% or 0.80 is a high value which denotes a high level of agreement — a significant majority of the panel's opinions agree that items are relevant to concepts being investigated — and reveals the potency of the items on the instrument. Likewise, a low CVI of less than 80% means the items on the instrument does not adequately address the domains being explored because it raises the issue of objectivity and appropriateness. Such an instrument must be significantly revised before it can proceed on to the next stage in determining the validity and reliability of the instrument. The overall snapshot was that the instrument must be able to measure the concepts that were being studied adequately.(Lynn, 1986)

The CVI method used in this study does not indicate the level of agreement; rather it measures the proportion of agreement among a group of experts. In addition, unlike other content validation methods, the CVI is not able to delineate chance agreement. Thus, the minimal agreement of some of the items may have been because the CVI uses only a dichotomous scale — relevant or not relevant — that does not allow chance agreement among panelists. However, this characteristic makes the CVI very robust in that it eliminates ambivalence and allows straight forward interpretation, which helps in constructing more reliable and valid data concerning content validity.

As recorded in the results of validation, the items on the final instrument strongly represented the personal and professional characteristics of outstanding teachers. The four items omitted from the original version, which contained 45 items, were deemed irrelevant to the domains based on the low CVI index. Noteworthy is that the four items were removed because of perceived ambiguity in their applicability to their domains as related to the goals of the study for which the survey is designed. (See Appendix C)

Interview Guide for principals, head teachers, master teachers, outstanding teachers and students

- Interview guide for principals, head teachers and master teachers

The interview guide for school principals, master teachers and head teachers on outstanding mathematics teacher was patterned after Zhang (2007) and was used for collecting the qualitative data. Each respondent received a questionnaire. Prior to the conduction of survey, the researcher conducted an orientation talk to the respondents for them to have a deep understanding of the end of the study and to avoid deception. The semi-structured interview was adopted as a major method for gathering data about two issues: 1) how school principals and

mathematics teachers characterize outstanding mathematics teachers; and 2) gaining an in-depth understanding about outstanding mathematics teachers' thoughts about their own teaching (characteristics). The major questions included are:

- 1) Describe an outstanding mathematics teacher at secondary school level;
- 2) Tell differences and similarities between outstanding mathematics teachers and other mathematics teachers at other development stages.

- Interview guide for outstanding teachers

A semi-structured interview guide was used with the outstanding mathematics teachers in this study to collect the following information:

- 1) Basic information about the teacher's work and the observed class, such as number of students, students' background, and so on;
 - 2) Brief personal history: The outstanding mathematics teacher's history, including secondary school experience, pre-service training experience, in-service experience, and so on;
 - 3) Beliefs: Beliefs about mathematics, mathematics learning, and mathematics teaching; and
 - 4) Teachers' thoughts about their own teaching.
- Interview guide for students

An interview guide for students was prepared to primarily gain understanding of students' idea of their outstanding teachers. Students were asked to describe the characteristics of their outstanding teachers exemplified in and out of the classroom.

Validation

The interview guide on the pedagogical practices of outstanding teachers was reviewed by three experts for validity. These experts were familiar with the pedagogical practices. One of the experts was a graduate school professor of education with extensive experience and expertise in teaching. The other expert was the researcher's former colleague at the Schools Division of Valenzuela, an Assistant Schools Division Superintendent and English professor. These experts evaluated the items for their clarity, importance, and relevance. The results of the expert review indicated that all 23 items were important and relevant to the interview guide. Based on the experts' comments and feedback, three paraphrased items were removed from the interview guide because the experts indicated that they were overlapping with the original items. Also, some minor changes were made in word choices and sentence structure to improve the clarity of the items.

After the content review, the interview guide was reviewed by an English language editor to make sure that there were no structural errors in the items and the wording of the items was appropriate. Based on the editor's feedback, some word changes were made to improve the clarity and consistency of the items. For instance, expert recommended to replace the following questions "Why you choose teaching as a profession?" with Could you tell me why you choose teaching as a profession?, What is your opinion on "all students are capable of learning mathematics". Please explain with Do you think all students are able to learn mathematics well, why, yes or no? and "What will you do if your student has a difficulty in learning a mathematics concept?" with If one student has some difficulties in learning a certain concept or solving a problem, what will you do. Finally, the interview guide were piloted with two former nominees to the outstanding teacher awards piloted the interview guide to ensure that all the items were

comprehensible. The two teachers indicated that the items were meaningful to them, and that they had no difficulty in reading and understanding the items.

As a result of this step, the final draft of the interview guide was created.

Classroom observation guide

There were three types of observation guide employed in this study such as: highly structured, semi-structured, and unstructured observation. As to the semi and unstructured observation guide, there was a total of 5 hours of observation per respondent. This is to bring out the deepest perspective, characteristics and belief of the outstanding teachers towards mathematics within the principles of classroom situation. Moreover, external observers were also accommodated to as preferred by the researcher to avoid any disturbance on the part of the participants' classroom teaching.

The classroom observation tool used was based on the National Competency-Based Teaching Skills (NCBTS) (see Appendix M). The NCBTS is an integrated theoretical framework that defines the different dimensions of effective teaching, which means being able to help all types of students learn the different learning goals in the curriculum (DepEd). The competency-based teacher standards are organized hierarchically. The "basic" level categories of the standards are seven domains. A domain is defined as a distinctive sphere of the teaching-learning process, and is a well-defined arena for demonstrating positive teacher practices. Each domain is defined in terms of a principle of ideal teaching associated with enhanced student learning.

The Teacher Observation Guide for Instructional Competence is composed of the following performance behaviors as reflected on Table 1 below.

Table 1
Teacher Observation Guide for Instructional Competence

Performance Behaviors	Number of Items
A. Diversity of Learners	5 items
B. Curriculum Content and Pedagogy	
• Teacher Behavior in Actual Teaching	9 items
• Learner's Behavior in the Classroom	8 items
C. Planning, Assessing, Reporting Learner's Outcomes	6 items
D. Learning Environment	5 items
E. School, Home & Community Linkages	6 items
F. School Regard for Learning	5 items
G. Personal, Social Growth and Professional Development	10 items

It also contains Narrative Description; Comments to the Teacher; and Agreement of the Teacher and the Observer. Every item in each performance behavior used five Observation Rating such as 0 for NO = Not Observed, 1 for BB = Below Basic, 2 for B = Basic, 3 for P = Proficient and 4 for HP = Highly Proficient. A Summary of Ratings and Templates was computed for the Formative Appraisal and Instructional Supervision.

Documents

Documents are another primary data source in qualitative research. To understand the history and context surrounding a specific setting, some documents were reviewed. In this study, personal documents and official documents were gathered. The personal documents are the lesson plans, copies of textbooks, and PowerPoint Presentations which were files used in the observed lessons. Official documents refer to curriculum standards and relevant regulations issued by the Department of education. These documents were downloaded from relevant official web sites. Teacher assessment policy and lesson evaluation materials within the schools in which the outstanding teachers work were also collected. These documents were used to determine if the

outstanding teachers are following standards, and competencies set by the Department of Education in their preparation of lesson plans/lesson logs and in the teaching-learning process.

Research Procedure

The data were organized by the researcher for simultaneous collection from participants. The data were collected from study participants in the same fashion. The researcher administered the study at each identified school site for the collection and return of all research materials to the researcher in sealed envelopes. The data were then analyzed in four phases after collection. Findings from data analysis were extrapolated and conclusions formed to explain and answer the original research questions.

The following are the three phases of the data gathering procedures:

Phase 1 Pre-data Gathering

1. *Secure permission to conduct the study.* A letter-request was drafted and submitted to the Division Office of Valenzuela in January 14, 2016 asking permission to conduct the study. It was approved a week after, January 21, 2016.
2. *Send letter of introduction and consent form to respondents.* . A letter of introduction with the consent form was given to each respondent. The letter contains information orienting the respondents on the purpose of study and instructions on how to accomplish questionnaires.

Phase 2 Data Gathering

1. *Questionnaires were distributed to respondents.* There was a one-week time allotment to distribute the questionnaires to all the respondents.

2. *Classroom observations were conducted as scheduled.* The schedule with due consent of the respondents was based on the most convenient time of both the researcher and respondents are as follow:

Feb. 16-17 – 1st observation

Feb. 18-19 – 2nd observation

Feb. 23-24 – 3rd observation

Feb. 29-March 1 – 4th observation

March 2-3 – 5th observation

3. *Interviews were held.* The interview was conducted at the guidance office, for privacy and confidentiality of interview and with no one else present during the process. The said interview lasted for at least an hour per respondent to see some sort of reactions, manners, communication skills and the likes of the respondents, in which, very significant in this study.

The researcher gathered the six Most Outstanding Mathematics Teachers in a most appropriate place for group discussion. It was on the purpose and part and parcel of immersion to personally witness how the respondents behave, answer such straightforward questions, react on different issues and express their emotions variably.

The researcher used the questionnaire and interviews in this study to gather data. Using these data collection approaches helped the researcher to provide valid findings. Observations would be a very good method of data collection in this research, however, knowing that observing teachers' classes by an outsider might be upsetting for the relevant management as well as for the teachers and they are used to the practice that it is only their supervisors who observe them for evaluation.

Phase 3 Post Data Gathering

1. Retrieval of the duly accomplished research tools. The researcher has set the submission of accomplished research tools, The researcher personally collated the questionnaires upon completion of the questionnaire by the respondents.

2. Transcribe data collected. This involved a two-fold process wherein the researcher first tuned in and then did the rough transcription. Prior the actual transcription, the researcher has thought about the whole interaction and purpose of the transcription. The researcher listened to the whole recording and then took one event at a time and listened to it two to three times. This has helped the researcher to come up with an overall sequential organization. After tuning in, the researcher started to think about the layout and then transcribing the whole recording taking into consideration the whole interaction, purpose and sequential organization of the discussions.

3. Send transcription of data to respondents thru-email and have them omitted or added

Transcribed data were properly documented by the researcher right there and then after the interview. In the name of transparency and fairness, to provide the participants with truthful feedback, the researcher sent them a copy of transcription thru e-mail and have them omitted and added if necessary.

Data Analysis

Frequency counts, percentages, and mean were used in this study for analyzing the quantitative data.

The whole analysis processes undertaken for the qualitative data were as follows:

The data were analyzed and summarized by instrumentation as individual teacher interviews, artifacts, and field notes were categorized within the specific instances (within-case analysis) for each teacher participant, and then a cross-case analysis was conducted with

interviews, artifacts, and field notes. Data triangulation was used to increase the validity of the study and to merge the various perspectives of the multiple stakeholders. Identification of emerging themes by the researcher was done through coding, allowed for data to be categorized into similarities and differences and meaning was explored through the identification of important patterns and themes.

Within-Case Coding

The within-case coding process was done by reading through each of the transcripts of each interview and focus group three times. Notes in the margins of the transcripts were made and subsequent readings were done to continue a formal coding process within-case using highlighters of different colors to identify phrases or statements related to pedagogical practices of outstanding mathematics teachers. During the within-case analysis, a list of codes from each of the participants' interviews, artifact reviews, and field notes was created. Key words or phrases that were supported in previous research (Hattie, 2003; Schulte et al., 2004) and in Danielson's (2007) Framework for Teaching were used as a baseline for identifying important information in context. A three-column graphic organizer was used to classify individual codes specific to pedagogical practices of outstanding mathematics teachers.

Code lists included sentences, words or phrases representing reoccurring ideas related to the research questions and examples of which are as follows: "He tailors the learning to make each one understand. He understands what each student needs to learn that subject and he can teach it in a couple of different ways to make them all understand it. You know he's got to understand the content to be able to teach it in a few different ways to make everybody get it." and "We used to look at students' levels in mathematics and make them math books at their level,

versus finding books that students are interested in to engage them in the process.” and I look at what type of students I am working with. It’s different for all my classes. Are they better talking or moving? Are they better working with partners or in small groups?”. The code that resulted from the above statements are “knowledgeable about content, engaging, gets to know their students and goes above and beyond expectations.”

Additional reoccurring codes included *“empathy, driven, sincere, respecting of individual differences, meets student needs, tailors instruction, encourage and inspires learning”* were generated from the responses of the respondents. Example of the responses include *“In almost all of my lessons, I try to offer a lot of exercises for students and a lot of concrete examples for practice. Then I try to always offer things they can do at home with parents that are willing to extend if they want, and I offer a lot of remediation.”*

Reoccurring codes included *“empathy, individualization, attention, interaction, emotion, humor, respect, and honesty”* as the major identifiers of an excellent teacher. These emerged from responses such as *“He teaches respect. He teaches respect for everyone. And he doesn’t say it’s going to be okay. He likes this is what it is, this is how I felt, you know how I felt, I told you from the beginning this is how it’s going to happen, you didn’t do it, I told you what would be the consequence. I wish I had his composure”* and *“There’s humor, they know they can have, but there is a line. If you cross it, there are consequences. The teacher has the students knowing somehow, they can have, it can be very, very funny, but you can’t cross the line. It makes them respect the teacher in that regard. He knows how to make each individual student feel like they are important.”*

Field notes were coded and reoccurring codes focused on the “natural ease” in which the teacher talked about teaching, “passion” which was exhibited by participants when reflecting on

students, and “preparedness and confidence” of answers related to pedagogy and content. Artifact codes represented the “importance and relevance” of the documents, “support” for the teaching and learning process, and “communicative” nature of the content.

Within-case coding was an integral part of the data analysis as it set the foundation for the interpretation phase when patterns were generated and themes began to emerge across the cases, further validating the commonalities of the multiple perspectives. Each of the codes from the teacher interviews, focus groups, artifacts, and field notes were categorized as pedagogical practices of outstanding mathematics teachers. For example, codes from teacher interviews were “engaging, and goes above and beyond expectations.” Additional reoccurring codes included “meets student needs, tailor’s instruction, encourage and inspires learning.”

From Codes to Emerging Themes

To confirm the emerging themes, codes from each participant’s perspective, the artifacts collected, and the field notes taken by the researcher were compared. Using categorical aggregation, these were categorized and compared data codes between the participants, the artifacts, and the field notes. In support of the initial themes identified during the within-case analysis, triangulation of multiple perspectives and data points confirmed similar ideas and patterns among each theme. Additionally, perspectives from the multiple stakeholders, coupled with evidence from the artifacts and field notes, were reported to further validate the themes.

When the analysis of the cases was completed (within-case analysis, artifact reviews, and field notes), codes from participant interviews, artifact collection, and field notes converged to enhance the validity of the study and corroborate the findings. Through content analysis and constant comparison, an inductive approach was used to move from specific codes to more

general themes. Key words found in the within-case codes were sorted and categorized into pedagogical practices of outstanding mathematics teachers.

Table 2 displays the number of recurring words or phrases, which support the identification of one of the five themes.

Table 2
Frequency of Codes Across Data Points

Theme	Occurrences Across Data Points	
Design Effective Instruction	Knowledge	20
	Planning and Preparation	25
	Innovation	7
	Technology	8
	Engaging	16

The figures 20, 25 etc. are the recorded number of recurring words from the teacher interviews, administrator interviews, field notes, and artifact reviews to identify core consistencies and meanings. Key words found in the within-case codes were sorted and categorized into the three columns, cognitive attributes, affective attributes, and professional dispositions based on similarities of key words in context and multiple occurrences. The theme was then aligned with the guiding research questions. Table 3 Cross-Case Analysis Framework displays the identified theme in relation to the overarching codes and the guiding research questions.

Table 3
Cross-Case Analysis Framework

Research Question	Theme	Participant Perspectives
What are the pedagogical practices of outstanding mathematics teachers?	Excellent teachers know how to design effective instruction.	Head Teacher Responses: 1.1: Fosters Critical thinking 1.2: Challenge, motivate, and engage learners 1.3: Scaffold instruction 1.4: Meet students where they are 1.5: Flexible lessons 1.6: Develop instructional scope and sequence 1.7: Align content, standards, and assessments 1.8: Research-based strategies 1.9: Use varied instructional approaches effectively Principal Responses: 1.1: Know best practices 1.2: Take time to validate learning process 1.3: Innovative 1.4: Think outside of the box 1.5: Instills confidence in the teaching and learning process 1.6: Creates thinkers 1.7: Individualizes learning 1.8: Tailors instruction 1.9: Grade level appropriate 1.10: Technology as best practice to enhance learning Master Teacher Responses: 1.1: Engaging, interactive lessons subject areas Artifact Review: 1.1: Varied instructional strategies 1.2: Detailed 1.3: Thorough 1.4: Aligned Field Notes: 1.1: Knowledgeable 1.2: Confident in content 1.3: Innovative

Triangulation of Data Points

The triangulation of data is the most important aspect of qualitative data analysis and is used to determine what data stays constant in varying contexts (Yin, 2009). Triangulation was used in this study to determine what pedagogical practices remained the same across multiple perspectives and within varied evidence collections such as artifacts and field notes. The researcher also used triangulation to identify major themes consistently present in all forms of data collected.

All data points, interview and focus group transcripts, and artifacts were reviewed critically by the researcher using both a within-case and cross-case analysis. Codes were categorically aggregated, and themes were formed based on multiple occurrences of important words and phrases found in the codes.

Themes

Multiple sources of data were collected to create a rich, in-depth narrative regarding the pedagogical practices of outstanding mathematics teachers. Interviews, artifacts, and field notes were used to triangulate the data collected from these multiple sources. Data source was used to reflect on the multiple perspectives of the participants. In triangulating the data from the sources described above, the theme “Outstanding Mathematics Teachers are subject-matter experts”, “Outstanding Mathematics Teachers provide meaningful experiences to students”, “Outstanding Mathematics teachers differentiate instruction according to student’s learning style and preference, needs and cognitive level”, “Outstanding mathematics teachers are highly adaptable”, “Outstanding Mathematics teachers foster positive classroom atmosphere”, and “Excellent teachers design effective instruction emerged.

Triangulation of Themes by Research Questions

Within-case analysis was conducted followed by a cross-case analysis was conducted to develop and identify the themes found in the data collected from all participants. From the analysis, themes were identified, and the results were used to answer the guiding research questions. Participants' perspectives, artifact collection, and field notes were used to further support the themes and triangulate the various data points collected. The data collected from these sources were used to validate the theme identification and were then used to answer the guiding research questions.

Ethical Considerations

This study was guided by the ethical principles on social research set out by the university. The participants were informed about the study in great detail before asking for their consent to take part. Aims and objectives of the study, together with details about the data collection process were explained to the participants. The participants were informed that they could withdraw from the study at any time without questions being asked. All data collected was anonymised by replacing the participants' names with ascending code numbers in the order of the initial interviews. Appendix A provides the email that has been sent out to the participants before giving their definitive agreement to take part in the study.

The requirement regarding confidentiality of the student-respondents was observed to protect the privacy and rights of the respondents. The identification of the students was withheld so as not to reasonably place them into risk. Each respondent name was entered into data files.

Chapter 4

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter displays how the quantitative and qualitative data gathered were analyzed and interpreted by the researcher.

1. What are the characteristics of the selected outstanding mathematics teachers in the Schools Division of Valenzuela City as perceived by themselves, their principals, master teachers, head teachers, and students?

The participants' responses through a questionnaire were used to answer this question. The specific items in the questionnaire represent the two main characteristics (performance characteristics and personality characteristics).

Table 4 shows the entire performance characteristics as perceived by the outstanding mathematics teachers themselves, their principals, master teachers, head teachers, and students.

Table 4
Mean Scores of Performance Characteristics of
Outstanding Mathematics Teachers

Statements	Principals	Head Teachers	Master Teachers	Outstanding teachers	Students	Ave.
<i>Instructional Competence</i>						
1.Expert on the subject matter	5.00	5.00	5.00	5.00	4.89	4.97
2. Organizes good lectures/use of audio visual aids	4.83	4.50	4.50	4.50	4.45	4.55
6.Good command on clinical skills/teaches the practical useful points	5.00	4.83	4.83	5.00	4.62	4.85
7.Good planner and organizer of the course/curriculum	5.00	4.83	4.83	4.83	4.66	4.83
8.Helps in facilitation of students' Learning	4.83	4.5	4.83	4.83	4.60	4.71
9. Teaches at the student level.	4.83	4.67	4.50	4.83	4.34	4.63
10.Interacts with students	4.83	4.67	5.00	5.00	4.45	4.79
12.Motivates students	4.83	4.83	4.67	4.83	4.36	4.70
16.Develops good learning resource materials for students including study guides	4.83	4.67	4.83	4.67	4.49	4.69
18.Good examiner/makes /ask good questions relevant to the students' learning needs in exam	5.00	4.83	5.00	4.83	4.58	4.84
20. Sensitive to students' problems/needs	4.83	4.67	4.67	4.83	4.44	4.68
21.Ask for feedback from students/try to improve acc. to their needs	4.83	4.83	4.67	4.67	4.40	4.68
22.Monitors students' progress	5.00	4.83	4.83	5.00	4.60	4.85
23.Tell jokes/funny stories during lectures/session to amuse students to maintain their interest	5.00	5.00	4.50	4.67	4.41	4.71
<i>Personal Attributes</i>						
3.Understand/relate to students	4.67	4.50	4.67	4.50	4.23	4.51
4.Desires to promote students' learning	5.00	5.00	4.83	5.00	4.80	4.92
5.Understands role of teachers	5.00	5.00	5.00	5.00	4.82	4.96
11. Maintains his decorum as a teacher	5.00	4.83	4.50	4.50	4.18	4.60
13.Good guidance provider	5.00	4.83	4.67	5.00	4.70	4.84
14.Offers good mentoring	5.00	5.00	4.83	4.83	4.61	4.85
15.Make students feel comfortable	4.83	4.67	4.50	4.83	4.30	4.62
17.Available for consultation /advice	5.00	4.83	4.83	4.83	4.58	4.81
19.Good role model	5.00	5.00	5.00	5.00	4.69	4.93
24.Explains and shares personal Experiences	4.83	4.50	4.67	4.67	4.31	4.59
Average	4.92	4.78	4.76	4.83	4.52	4.76

Table 5 displays the complete personality characteristics as perceived by the outstanding mathematics teachers themselves, their principals, master teachers, head teachers, and students.

Table 5
Mean Scores of Personality Characteristics of
Outstanding Mathematics Teachers

Statement	Principals	Head Teachers	Master Teachers	Outstanding teachers	Students	Ave.
1. Respectful to students	4.83	4.67	5.00	4.83	4.81	4.82
2. Helpful	5.00	5.00	4.83	5.00	4.70	4.90
3. Good communication skills	4.83	4.83	4.83	4.67	4.66	4.76
4. Honest	5.00	5.00	5.00	5.00	4.80	4.96
5. Accessible	5.00	4.67	4.83	5.00	4.58	4.81
6. Tolerant/patient	4.83	4.50	4.83	4.83	4.56	4.71
7. Friendly	5.00	4.83	5.00	5.00	4.58	4.88
8. Good listener	5.00	4.83	4.83	5.00	4.52	4.83
9. Enthusiastic	4.83	5.00	4.67	5.00	4.57	4.81
10. Emotionally controlled/doesn't get angry easily	4.83	4.50	4.50	4.67	4.33	4.56
11. Non-judgmental	5.00	4.67	4.67	4.83	4.35	4.70
12. Open minded	5.00	5.00	5.00	5.00	4.54	4.90
13. Not strict/shows leniency	4.67	4.67	4.50	4.17	2.62	4.12
14. Dresses appropriately	5.00	4.83	4.83	4.83	4.82	4.86
15. Self-sacrificing	4.83	4.50	4.83	4.67	4.43	4.65
16. Good sense of humor	4.67	4.17	4.50	4.50	4.50	4.46
17. Gives good marks all students	4.50	4.67	4.67	4.50	4.44	4.55
Average	4.59	4.73	4.78	4.79	4.46	4.67

These two preceding tables are used as basis for the analysis discussed below.

1.1 Characteristics of outstanding teachers as perceived by outstanding mathematics teachers themselves

1.1.1 performance characteristics

It is reflected in the table that among the five groups of respondents, the outstanding teachers have the highest scores given to the teachers based on performance. This is indicated by the perfect score of five (5.0) rated on the seven items namely, expertise on the subject matter,

desire to promote student's learning, understanding the role of teachers, good command on clinical skills, interacts with students, good guidance provider, monitoring student's progress and good examiner. These scores comprise thirty three percent (33%) of the total items used in the performance rating. This only shows that the Outstanding mathematics teachers themselves agree that it takes a number of instructional and clinical skills before one can consider himself/herself outstanding.

1.1.2 personality characteristics

Three personality characteristics (honest, helpful and open, and friendly) presented through the questionnaire implicitly conveyed the Outstanding Teacher's partiality towards "Agreeableness" of teachers. As all of the Outstanding Teachers surveyed gave a perfect score to all of the items mentioned. Also, one of the outstanding teachers said it all in the following words "Being honest, helpful, open and friendly" defines an outstanding teacher. She or he should possess these characteristics "to foster a healthy and safe learning environment for the students." Moreover, based from the interview, the outstanding teachers expressed the importance of being able to display kindness, trust and warmth to students by being friendly to them. According to their statements, when the students feel that they are valued by their teachers not just good relationship will flourish but learning will surely take place.

1.2 Characteristics as perceived by their principals

1.2.1 performance characteristics

It can be gleaned from the table that Principal's perception on an outstanding teacher primarily focuses on the teacher's subject competence and professionalism. The principals all agreed that an outstanding teacher must have a mastery of content, specific knowledge and must be able to organize this knowledge to facilitate effective instructions. Equally important is

the classroom management expertise of the outstanding teachers. The principals ranked classroom management items the same as the subject matter expert. Items on the questionnaire such as being able to meet students for consultation, monitoring student's progress and organizing and planning the instruction are also on top of the principal's first list of characteristics of an outstanding teacher. It is important to note that the principal scored all the items very high ranging from 4.67 to 5.0. This only shows that as perceived by the principals, an outstanding teacher should manifest all items at a great extent.

1.2.2 personality characteristics

Being accessible was also considered as an ingredient of effective personality characteristic of an outstanding teacher as viewed by the principals. Highest rating (5.0) was assigned to this particular item signifying Principals' perception of an outstanding teacher. It means that the teacher should be able to address and accommodate students' needs. They are also expected to reach all types of learners. One Principal respondent emphasized, "An outstanding teacher devotes more time than the average teacher spends in attending to students' concerns. She is a teacher 24/7. She should make herself available to students whenever there's a need to."

1.3 Characteristics as perceived by their master teachers

1.3.1 performance characteristics

As to the master teachers, subject-matter expertise and being a good role model obtained the highest score of (5.0) among other items. Same with the principals' assessment, master teachers agree that the outstanding teachers must display all the characteristics included in the tool as the scores fall under the very high continuum ranging from 4.5 to 5.0.

1.3.2 personality characteristics

As to the lens of Master Teachers, “respecting students”, “being honest and open-minded” are in the front row of outstanding teachers’ personality characteristic. All of the Master Teacher respondents laid much emphasis on the teacher’s capacity to become flexible and accepting to student’s way of thinking. One Master Teacher said during the interview, “Though outstanding teacher is often considered as the authority of knowledge in the classroom, one should be open to student’s ideas and opinions. An excellent teacher knows how to acknowledge students’ contribution to class and their personal viewpoints.”

1.4 Characteristics of outstanding teachers as perceived by their head teachers

1.4.1 performance characteristics

As to the head teachers along with the master teachers, both have the same opinion as to what an outstanding teacher must have in terms of teaching performance. Subject-matter expertise and being a good role model obtained the highest score of (5.0) among other items. Same with the principals and master teachers’ assessment, head teachers agree that the outstanding teachers must display all the characteristics included in the tool as the scores fall under the very high continuum ranging from 4.5 to 5.0.

1.4.2 personality characteristics

On the other hand, it is interesting to note that head teachers also value the teacher’s enthusiasm aside from being honest and helpful. All of the head teacher respondents agreed that outstanding teachers should exemplify a high degree of positivity in approaching the teaching job. This finding highlights the importance of teachers’ attitude towards work. One of the head teachers explicitly narrated, “Enthusiastic teachers greatly influence their students’ perception of learning. Once the teacher exhibits positive atmosphere and high energy in the delivery of lesson, the students’ participation greatly increases.”

1.5 Characteristics of outstanding teachers as perceived by their students

1.5.1 performance characteristics

As to the students' rating, subject matter expertise obtained the highest rating among the items with the average score of 4.67 on the four items. The highest score under this cluster is item no. 1, which is 4.89 and the lowest is item no. 16, which is 4.49. They put more score to the teacher's desire to promote students' learning. Instructional expertise is the second area where the students give a high score with an average score of 4.66. They give an almost equal rate on the teacher's helpfulness in facilitating student learning (4.60) and mentoring (4.61). Professionalism received the fourth highest average score per cluster with 4.56. However, item 11, which is maintaining the teacher's decorum, obtained the lowest score of all items with 4.18. Lastly, the teacher being a diagnostic expert ranked lowest with the average score of 4.53 indicating that the students expect more on the teacher being a good examiner, asking feedback from students and in monitoring the students' progress.

It can be inferred from the students' rating that the respondents did not agree on the prevailing item or criteria of what they considered as the finest. This is evident from the diverse scores and the absence of a perfect score of five in all items. This only shows that students have varied preferences as to what are the top qualities of an outstanding teacher.

1.5.2 personality characteristics

On the other hand, a very glaring result of students' perception on outstanding teachers' personality characteristics is that, students prefer teachers who are firm. The item "not strict/shows leniency" got the lowest rating (2.62) among all of the items in the questionnaire. Majority of the student respondents expressed that they prefer teachers who are friendly but firm. One student shared his personal insight saying that "Si Ma'am _____ yung pinakagusto

namin, kasi lagi kami pinapaalalahanan kung ano yung dapat na gagawin naming. Di niya pinapalampas yung mga kalokohan namin. Yung iba kasi hinahayaan lang kami, kaya yung mga kaklase ko makukulit, pag ganon, mahirap mag-aral.”

To recap, Table 4 shows that the mean score of performance characteristics of outstanding Mathematics teachers as assessed by five groups of respondents is 4.76 or very high, which indicates an outstanding performance characteristic. The top three items in the performance category are expert on the subject, understands the role of a teacher and good role model.

Correspondingly, the most important attributes from the students’ perspectives are very similar to those chosen by faculty and other group of respondents. Among the performance items, the least endorsed ones explain and share personal experiences ($\bar{x}=4.59$) and understand/relate to students ($\bar{x}=4.51$).

Interestingly, the respondents reported that the attribute ‘sharing personal experiences’, is less important in defining an outstanding mathematics teacher, which is contrary to the findings of Singh (2013) that outstanding medical faculty shares personal experiences to students. The way the students and teachers relate to one another could be the underlying factors for this contrast. As cited by Miller and Miller (2004), many educators believe in story telling as an effective bridge between schooling and literacy. The enduring popularity of *"show and tell"* is a testament to the power of sharing personal experiences in the classroom but does not necessarily define an outstanding mathematics teacher.

Considering the items on the tool used by the researcher with the criteria used by Metrobank’s Search for Outstanding Teacher (SOT) and DepEd’s Search for Most Outstanding Teacher, the following are observed.

The statements that can be related to Teaching Competence like the expertise on the subject matter (Item no. 1) which obtained the highest score (4.97) and item 5 which is role of teachers (4.96) are consistent with DepEd's first criterion under Instructional Competence. This criterion in DepEd has the highest percentage allotted which is 40 percent. Moreover, Items 1, 2, 6, 7, 8, 9, 10, 12, 16, 18, 20, 21, 22 and 23 correspond also to the same criterion. These items are encapsulated in Metrobank's criteria under Instructional Competence and Teaching Effectiveness, which include high performance in evaluation, the use of instructional materials produced and used for the improvement of teaching, and the original, innovative teaching approaches, strategies and practices.

On the other hand, items 3, 4, 5, 11, 13, 14, 15, 17, 19 and 24 are also compatible to the criterion Personal Characteristics used by DepEd. Of these items, good role model (Item 19) obtained the highest score (4.93). Under the DepEd criteria, personal characteristics is composed of personality and potentials like the ability to present ideas, judgment, emotional stability, decisiveness and stress tolerance as observed by peers and superiors. The mentioned items are also part of the criteria for Personal Qualities and Character of Metrobank's SOT.

The above discussion shows that the characteristics of the selected outstanding mathematics teachers in the Schools Division of Valenzuela City as perceived by themselves, principals, master teachers, head teachers and students are congruent with the existing standards set by the Metrobank Foundation and the Department of Education.

On the other hand, Table 5 shows that the mean score of personality characteristics of outstanding mathematics teachers is 4.67, indicating that the degree of having the personality characteristics of outstanding mathematics teachers is very high. These statements with the highest means and that with the lowest mean among the personal characteristics are as follows:

- i. Item No.4:” Honest," ranks first as the sample agreed that this personality characteristic is very high ($\bar{x} = 4.96$).
- ii. Item Nos.2 and 12: “Helpful” and “Open minded” respectively, are the second as the sample agreed that these personality characteristics are very high ($\bar{x}=4.90$).
- iii. Item No.7: “Friendly," ranks third as the sample agreed that this personality characteristic is very high ($\bar{x}=4.88$).
- iv. Item No.13: “Not strict/shows leniency” is the last having the lowest mean of 4.12.

The results on personality characteristics support the findings of (Walker, 2010) which state that honesty and helpfulness are relevant characteristics of effective teachers that stem from professionalism. As mentioned under performance characteristics, statements that mentioned Personality Characteristics (table 5) are compatible under Personal Characteristics for DepEds search for Outstanding Classroom Teacher and Personal Qualities and Character under Metrobank’s SOT.

Summarizing, majority of the respondents view of outstanding teacher personality characteristics is comprised of being honest, helpful, open-minded and firm.

Table 6
Summary of the Means of the Two Main Characteristics of
Outstanding Mathematics Teachers

Statement	Principals	Head Teachers	Master Teachers	Outstanding Teachers	Students	Ave.
Performance Characteristics	4.92	4.78	4.76	4.83	4.52	4.76
Personality Characteristics	4.59	4.73	4.78	4.79	4.46	4.67
Average	4.76	4.76	4.77	4.81	4.49	4.71

Table 6 shows that the mean score of the two main characteristics of outstanding mathematics teachers is 4.71 or very high. Although the performance characteristics with 4.76 mean score obtained higher than the personality characteristics with 4.67, the two categories of characteristics of outstanding teachers reflect very high characteristics.

Based on the above result, majority of the respondents consider performance characteristics as indicator of an outstanding mathematics teacher over personality characteristics. However, the difference between the average mean score of the two main characteristics is very low. This means that the profile of an outstanding mathematics teacher is composed of both, performance characteristics and personality characteristics.

Also the result indicates that the outstanding teachers got the highest average mean score which is 4.81. This only shows that the outstanding mathematics teachers themselves are considering more indicators or characteristics as compared to other groups of respondents. On the one hand, the group of student respondents obtained the lowest average mean score of 4.49. This indicates that, compared to other groups of respondents, the students have slight differences as to their preferences of the characteristics of an outstanding mathematics teacher.

2. What are the pedagogical practices of outstanding mathematics teachers in Valenzuela City?

The outstanding mathematics teachers and the other respondents were asked to describe the pedagogical practices of outstanding mathematics teachers. The respondents described cognitive attributes in terms of content and pedagogical expertise. Highlighting the importance of a thorough understanding of content knowledge, many of the respondents explained how understanding of pedagogy also encourages the implementation of varied instructional approaches to meet the specific needs of students.

Outstanding Mathematics Teachers connect contents to students lives

Outstanding teacher 1 described himself as well versed in his content area, which allowed him to modernize the topics. He explained that he took time to determine the learning preferences of his students. *“I look at what type of students I am working with. It is different for all my classes. Are they better talking or moving? Are they better working with partners or in small groups?”* In determining relevancy, outstanding teacher 1 also stated that he connects the content to the students’ lives to create deeper meaning: *“Students need to be able to say, this is important too because, and then make a personal connection. I always try to make a real-world connection.”*

It is expected that the outstanding teachers have a wide range mastery of their trade. Prior to the delivery of the lesson, outstanding teachers undergo with an in-depth lesson planning as to what strategy, activity and exercises to be employed. Likewise, they even know what will be their role in a particular lesson and so as with the students to effectively and efficiently rollout the lesson. Same is true that the outstanding teachers do not just look upon

the lesson to be learned by they are, at the same time, driven by the goal pegged with the learning competency which the learners should achieve.

Outstanding teacher 3 identified her content strengths as “*Whatever she is teaching*” because she “*spends her time getting to know what she is teaching.*”

As outstanding teacher 3 said, “the necessary method in teaching is the acquisition of the following: (1) Method Acquisition; (2) Problem-solving Acquisition; and, (3) Basic Knowledge Acquisition. Moreover, there are two basic matters being talked of with much emphasis towards teaching – these are practicing basic knowledge and practicing basic skills.”

The outstanding teachers showed understanding of the essence of relevant concepts. For instance, Teacher 4 presented the definition of the “*Ratio of the Two Line Segment*” and made statements to these definition. He stated that value of the ratio is independent of the unit for measuring the length of the line segment, that when calculating the value, the length should be measured under the same unit and that the value of the ratio is a positive real value. All these signify that Teacher 4 understand important points of these definition.

One of the dimensions identified in Hattie’s (2003) study was that outstanding teachers “*identify essential representations of their subject*” (p. 5). With regard to the current study, all six teachers identified as outstanding, perceived they possessed high levels of content knowledge and the ability to differentiate instruction. Two of the administrators described how the teachers in their schools, who were identified as outstanding, had extremely high levels of subject matter expertise and described as “*very intelligent.*” Likewise, participants noted that teachers were subject matter experts, but could still present instruction in a creative and compelling manner.

Outstanding Mathematics Teachers provide meaningful experiences to students One

of the six outstanding teachers pointed out that math is essentially to be applied in the real-life situation. While it is true, there are math theories, which students really cannot apply in their life at least for that very day(s), it does not necessary mean that they will never be able to apply it for the rest of their life. Math is indeed an aid for a better life perspective. If majority of the learners will have a positive outlook at math as a subject and seriously work on it for a better understanding, for sure they will be creating a society with a great life perception and have a strong personality in handling various situations.

It was observed that the outstanding teacher encourages and sustains the interest of the learners in the subject matter by making content meaningful and relevant.

Outstanding teacher 5 connected content and pedagogical knowledge with knowing exactly where his students' skill levels are at and what interests them. He explained that in order to make meaningful connections to the content, he had to know what his students like. He spends time interviewing the students and then provides materials and resources to bridge the content with things that engage his students. For example, he stated, *"We used to look at students' levels in mathematics and make them math books at their level, versus finding books that students are interested in to engage them in the process."* He believes that connecting content to interest allows students to *"think about how you think."*

All stakeholders agreed that outstanding teachers engage their students in a variety of meaningful ways to encourage interactive learning. One principal reflected on how the teacher *"is extremely animated and captures the students' attention,"* while one head teacher described how another teacher even *"captured her attention with his humor"* when she was in the class.

Outstanding Mathematics Teachers differentiate instruction according to student's learning style and preference, needs and cognitive level

It was observed that the outstanding teachers place lessons suitable to the learner's needs and difficulties. Upon adopting several methods in facilitating the lesson, outstanding teachers will allow first the students to explore by themselves a lesson for them to discover accordingly and based from their understanding several situational problems. From there on, outstanding teachers will immerse themselves through guided questions leading the students to deeper concept of the lesson as to the essence of definition – its principle, operational and applicability. After which the students dug deeper understanding of it, the outstanding teachers will send them to an independent group work which will allow them to apply what they have learned and discover more of the lesson. The last thing to happen is a joint exploration on the part of the learners and teacher through output processing. This is to concretize the ideas, which were manifested by both parties. To achieve full understanding of math lessons, outstanding teacher 2 suggested that students should: regularly expose themselves in different exercises of their lessons for a better understanding; engross them in a day-to-day lesson engagement thru asking questions that would concretize the idea; and, find time to put the new knowledge in realization.

Outstanding teacher 2 described how he makes instructional decisions based on the benchmarks students need to reach. He assessed student ability levels and adjusted instruction to move students from one point to another. He explained that when he is teaching, if he realizes his students do not understand a particular point or need additional time, he asks himself “*So, what can I do to make sure they get that? What do I have to add in, or what can I do, or how can I fit more time for us to go over this or practice skill more?*”

He was always focused on “the long-term goal.” Individualizing instruction allowed outstanding teacher 2 to differentiate instruction. He explained, *“Individualized groups allow more time to work on things, allowing different students to ask for help, whether it is from me or from a peer, whatever is comfortable.”* Recognizing that individual students possessed different needs, outstanding teacher 2 allowed students to take academic risks by providing a safety net in which he was always willing to *“discuss their mistakes and show them ways to approach it in a better way.”*

Outstanding teacher 4 addressed content and pedagogy expertise through the lens of multiple learning styles. He explained how providing multiple modalities allows him to address the needs of each individual student. He described the process by saying, *“In almost all of my lessons, I try to offer a lot of exercises for students and a lot of concrete examples for practice. Then I try to always offer things they can do at home with parents that are willing to extend if they want, and I offer a lot of remediation.”*

Outstanding teacher 4 stated:

Math is definitely something I am very comfortable with and I feel like I have many very different experiences that I bring into each lesson. So I feel like I can teach any math topic three different ways.

Understanding individual student differences plays a major role in being a subject matter expert. Outstanding teacher 3 described how even though one might spend a great deal of time planning and preparing, students’ individual differences influenced how an excellent teacher delivers instruction. She stated,

When I come in my first day in the school, I feel like I am ready To go. Then I meet all of the students. So, I take all my ideals And how I would like everything to align, but then I’ve got to

figure the students into it and or they just do not like mathematics, how can I work it so that it fits with them?

In times of trouble where students find it hard to cope up with the lesson, the teacher tried to find her way to meet the needs of the learner by facilitating the lesson according to the level of competency of the students by drawing back the previous lesson. Some issues were pointed out by this teacher, “learning method, problem-solving method and the likes are very vital towards students learning.”

Outstanding teacher 3 described how a safe learning environment allowed her to meet the needs of all levels of learners, and that a tremendous amount of planning and anticipating required to fully differentiating instruction. She explained,

So, I spend a lot of time in the forefront building all of it and then throughout the school year, it is a constant process of changing everything and adjusting while making sure every student is meeting the standard. Moreover, I think I do a good job of meeting the needs of the students while still trying to work those standards in there.

“Knowing your students’ weaknesses and strength will enforce your lesson to its success”, that is how outstanding teacher 5 perceived teaching. He knows whom to call to recite/explain such task. Just like what happened in one of his classes, where he called one to present an output that will somehow help others who find the lesson hard. He practically does not call whom he knows cannot talk to discuss the lesson for he believed that the learner would certainly lose his self-esteem. Anticipation as to who can do and what are the possible mistakes on the part of the students were being capitalized in making a smooth flow of learning.

He also considered the different learning styles and different types of students he has in his classroom when determining what instructional approaches to use. Based on his students, he determines how to approach his lessons. He explained,

*I have a very active class this year, so for mathematics this year.
There was a lot of learning going on.*

Tailoring lessons to meet individual needs demonstrated pedagogical mastery and allowed students to master content skills.

All stakeholders agreed that the outstanding teachers are knowledgeable about their subject matter, they understand and implement research-based practices to meet the individualized needs of their students, they differentiate instruction, and they vary their instructional practices to ensure that all students have the tools they need to learn.

Outstanding Mathematics Teachers adapt themselves to varied teaching-learning situations

Outstanding teacher 3 discussed how teaching practices were constantly changing, so she was flexible enough to implement updates or changes to curriculum, and district requirements, all aspects of being a pedagogical expert. She shared how she spends a great amount of time learning and perfecting content area knowledge. Outstanding teacher 3 explained, *“Whatever content I am teaching, I always spend a ton of time getting to know the information. I don’t feel comfortable teaching students about things unless I know that I will be able to answer their questions. I should be able to adjust to different teaching-learning situations”*

These concepts were derived through his knowledge discovery and he made mentioned along with the post-observation conference that these perceptions are not taken from any books and manuals.

Outstanding teacher 5 described his content strength as being the area of mathematics because he *“participates in professional development and conferences to keep current in the research.”*

Outstanding teacher 6 used content standards and grade level expectations, along with what students were interested in, to bridge the gap between teaching and learning. He described how staying current with research and best practices allows him to be knowledgeable about all subject areas. He commented,

Outstanding, I feel like I am knowledgeable about teaching, especially the area of teaching mathematics because I am going for my master's, and I continue to keep myself current in that research. Like going to professional development, going to conferences, doing the research for my master's degree.

Outstanding teacher 6 mentioned that having a deep knowledge on technology and open mind in discovering new trends on it is a great advantage in teaching profession. Aside from the main goal of letting the students learn a lot from the day-to-day lessons, it will make the lives of the teacher easier inside the classroom as a mere facilitator. Outstanding teacher 6 employed technology in most of his teaching days like multimedia presentations and others. He made sure that his lessons are student-centered by carefully choosing and conceptualizing materials to be used. He made the students motivated through it. *“Knowing your students' wants and needs and put them together with technology, then you are in”*, he stated.

According to the respondents, the outstanding mathematics teachers had a sincere buy-in to the teaching and learning process and this was evidenced when “students' individual needs are being met.” They all noted how outstanding teachers possess a genuine understanding for the teaching and learning process. One administrator described the

outstanding mathematics teacher as one who *“uses technology and instruction better than anybody I’ve ever seen and he is always a step ahead and always willing to share as a team person or a person in the division.”*

Outstanding Mathematics Teachers foster positive classroom atmosphere

One outstanding teacher reiterated that student’s involvement in the learning process is quite vital in molding understanding among the learners and for her, it would be the one of the preeminent means for better understanding towards math. Further, one master teacher described a teacher’s room by saying, *“There’s just so much energy in there.”* Innovative strategies were used to gain the attention of students and motivate learning. Head teacher in one focus group discussed how a teacher used motivational tools like a *“homework tracker to encourage responsibility and organization.”* Every teacher, administrator, and head teacher addressed the idea of differentiation. One head teacher described how *“different levels of computation tests are used for different student groups”* and one principal described how a teacher meets the students *“right where they are at.”* The data collected, identified one theme on pedagogical practices, which was Outstanding Teachers Design Effective Instruction.

In this study, the respondents used terms, such as *“knowledgeable, subject matter expert, differentiated instruction, and varied instructional strategies,”* when they described pedagogical practices of outstanding teachers related to effective instruction. The respondents did not use educational terms associated with content and pedagogical practices, but described how the outstanding mathematics teachers were able to *“tailor the learning”* environment and teach students skills in a variety of ways. The Planning and Preparation domain of Danielson’s (2007) Framework for Teaching, describes a distinguished level of content knowledge when a *“Teacher displays extensive content knowledge, with evidence of continuing pursuit of such knowledge”*

(Component 1a). Grieve (2010) noted that teachers who appropriate instructional strategies, foster student learning. The respondents highlighted a multitude of instructional strategies used to differentiate instruction and meet the needs of individual learners. They made mention of high levels of instructional knowledge, and various approaches used by outstanding mathematics to teach various skill sets. A study conducted by Heck (2009) found that highly effective teachers affected student achievement, and one aspect of being a highly effective teacher is the use of effective teaching practices.

Outstanding Mathematics Teachers design effective instruction

All the outstanding teachers described designing, developing, and implementing instruction that aligns the activities and assessments with the standards. They also discussed how outstanding teachers possess a genuine understanding for the teaching and learning process. One administrator described the expertise of a teacher by stating she, *“Had it all curriculum and instructional wise.”* A teacher respondent explained how the outstanding mathematics teacher *“tailored the learning process and provided multiple opportunities for students to be successful.”*

The participants shared similar perspectives when describing the pedagogical practices of outstanding mathematics teachers. The majority of the participants described high levels of content and pedagogical knowledge. Teacher 2 referenced *“knowing where the students are and where they need to go”* when planning and preparing the learning scope and sequence. Teacher 3 stated, *“I spend a lot of time in the summer working on aligning my curriculum with the standards and the core content and that sort of thing.”* Teacher 1 also discussed how the integrity of planning and preparation was intact. *“It all rather comes together and it’s coherent. That was what I look for. Moreover, of course standards and I look at what type of students that I was*

working with. It was different for all of my classes. I try to gear them specifically for like my third hour or my fifth hour.”

Evidence of this theme was also identified in most the teacher lesson plans collected as the researcher noted standards being covered, multiple intelligences being addressed, and varied instructional strategies being used. Interview field notes included comments regarding the teachers’ “*understanding of what is needed at their grade level*” and “*classroom environments exhibiting grade level materials and opportunities for creativity.*”

It was observed that the outstanding teacher utilizes technology resources in planning, designing and delivery of the lesson.

High levels of content knowledge and in-depth understanding of best practices allow outstanding mathematics teachers to be flexible in their planning and preparation, instructional delivery, and differentiation to meet student needs.

Because they are subject matter experts, they are flexible and understand that teaching is not just a science or an art form, but both.

3. How do cultural, social and school contexts contribute to being an outstanding mathematics teacher?

In probing the six participants, their knowledge and beliefs behind relevant activities were investigated to fully understand how these contribute to being outstanding mathematics teachers. Results of the study revealed that their beliefs were manifested in their teaching and they could reflect on their lessons systematically.

3.1. Cultural Context

Result suggests that Outstanding Mathematics Teachers in Valenzuela value the

importance of constructing ideas based on understanding foundational knowledge. Statements such as “*Mathematics knowledge is the result of the student’s interpretation and organization of acquired information*”, “*Students nowadays are capable of analyzing their own decisions in terms of problem-solving activities*”, “*Mathematics is a creative experience*” are all indicative of constructivist nature of outstanding mathematics teacher.

Another emerging theme under the cultural context is that, Outstanding Mathematics Teachers of Valenzuela upholds the idea of Mathematics should be child-centered. As evidenced by the majority of statements of the respondents such as “*Learning Mathematics should be built upon students ‘experiences’*”, “*Learning Mathematics should be facilitated by the teachers*”, “*Provision of activities tailor-fitted to the needs and preferences of students is one of the major keys in attaining good performance in the subject*”, Outstanding Mathematics Teachers of Valenzuela consider student as the center of instruction as well as the curriculum.

3.1.1 Alignment of cultural beliefs in mathematics teaching with goals/objectives of mathematics education

Based from the experience of the outstanding teachers, it cannot deny the fact that cultural beliefs directly influence one’s teaching expertise growth and development. As to the outstanding teachers, they started their career having with them their different perception compared to their present. With much exposure and relentless effort in making themselves better, they got a bigger outlook, which hailed them as such. That “teaching expertise is being developed in a context that supports it” (Berliners, 2004) is a cultural belief that may explain the difference. In the interim, the six outstanding teachers are joining this scenario. Same is true that knowledge, beliefs, and practices are also influenced by both social and cultural contexts. However, there were instances that the outstanding teachers, at some points of their career, were

the battle against social and cultural constraints as they go with their work tour. The pedagogical technique of Filipino Math teachers has its root towards the tradition of Philippine Math education. As stated by Tobias (2006) in his work, reviewing prior knowledge to make a knowledge foundation for new knowledge; differentiating similar topics; and, making teaching outstanding process logical and coherent were the characteristics of mathematics teaching tradition and were summarized as the teachers stressed.

3.2. Social Context

The outstanding mathematics teachers, unlike the traditional ones, invest much time in preparing the lessons to make real or close to students' experiences. They try hard to relate the lesson into real world situations so as the students can get a good grasp of it. Though it is not totally free from the influence of social context, they worked hard to avoid it to the best of their ability. Chua (2009) stated that under the social influence, the opinion on viewing mathematics as an abstract rigorous subject has widely and deeply influenced mathematics education for years. He added that in this perspective, mathematics and students' real life have a long distance gap because mathematics is fundamentally abstract. Abstract thinking skills of the students will surely not be fully developed if the pedagogical practices will be limited to the bound of students' direct experience without employing abstract and reasoning experience.

Chua said by saying that working with open explanatories may not be applicable in terms fundamentals of mathematics which is being abstract. The tradition, which has been mentioned, is ideal to drive outstanding mathematics teacher to put on stress in sending their learners to experience process of abstracting and having them to generalize and make relevant conclusions after students' exploration.

Based from the results of the study, three emerging themes were formulated as regard

social context namely, dynamic curriculum, collaborative working environment and teachers as agent of transmission.

Teacher 1 clearly explained that *“Mathematics is the dynamic searching for patterns, establishing connections between learned concepts in which students can explore and re-invent ways on how to process received information”* Hence, the Outstanding mathematics Teacher of Valenzuela believe that the curriculum should permit changes as long as students produce expected outputs.

On the one hand, Teacher 4 described the teaching learning environment as safe and supportive. He stated, *“Mathematics learning is reinforced when it takes place in an environment that promotes students welfare, encourages participation among groups, and offers support to both the teacher and the students”*

Congruent with the other existing studies, Outstanding Teachers of Valenzuela consider themselves as agent of transmission. One of the teachers explained, *“Teachers should be able to provide instructional activities that will lead students understanding and solving problems. The role of Mathematics teacher is to transmit knowledge to students and be able to evaluate if the students were able to understand and master certain concepts.”*

3.2.1 Alignment of social beliefs in mathematics with curriculum in mathematics

The outstanding teacher stressed out three-point goal avenues of math teaching: 1. Mathematical thinking; 2. Mathematical application; and, mathematical independency. However, it a common knowledge that not everything will be retained in one’s mind, but what has been inculcated in their minds from these three-point goal avenues will pave the way in dealing real world scenarios with a better perspective. Carreon (2007) in corroboration with Chua (2009) included in his writings that though none of the outstanding teacher mention this, he found that

some very experienced Math teachers still held the perception that “mathematics itself is an abstract and coherent knowledge system”.

3.3. School Context

3.3.1 Teaching and learning environment

Type of assessment given nationally

Periodic examination and other forms of evaluation like unit tests and the likes serve not only to assess the students’ retention of classroom lessons and use them as bases for grades but also as the teachers’ performance gauge. Having this mechanism, teachers, especially outstanding teachers, are really dying hard for students to deliver more than the expected test result. On that note, outstanding teachers do not just teach the students the lesson, furthermore, they give a lot of tips and techniques on how to handle different questions and/or problems within a short span of time. This is done to allow students to become used in managing time during examination.

Moreover, having the outstanding teachers quite acquainted with the National Achievement Test (NAT), they have all the means to positively influence both the regular teachers and the learners towards a progressive NAT result. As stated before, it is a fact that outstanding teachers are expected to have a deep knowledge on research. Consequently, most of the interviewees believed that outstanding teachers should maximize their research skills in anticipating possible problems which the school/classes may encounter. This should start from the result of entrance exam and interview, and the data they would obtain could serve as their basis to come up with a tailor fit program, which in the end may influence the direction and tendency of the NAT result. As a teacher stated: He [outstanding mathematics teacher]

should never stop collecting and studying relevant information from NAT results. The direction and types of problems used in the NAT keep changing every year. An outstanding mathematics teacher should be capable of integrating NAT information with his teaching to train students' necessary skills that they apply in the NAT or other examinations. Master teacher 5 mentioned during the interview that outstanding teachers are undoubtedly great in giving various activities. It would be greater if they will conduct close exploration with the NAT materials of the previous years and have the students be familiar with trend questions by incorporating them in the daily lessons. The outstanding mathematics teacher compared problems used in the past three or four years based on examinees' feedback. So he/she would know the proportion and frequency of occurrence of a certain topic in the NAT. In addition, he studied the problem styles in NAT such as how many application problems are used in the NAT (Teacher 4).

As a teacher pointed out: teachers should learn to ask themselves the following questions when teaching content, What is the requirement of the National Achievement Test? To what level of difficulty should I teach? What content do I need to let students understand? An outstanding mathematics teacher knows better than a non-outstanding (Master Teacher 5). From

the documented interviews of this study, it was revealed that teachers have high regards to the performance of the students during examination. Accordingly, they all believe that they should help their students before the test for a better result. Likewise, according to them, Mathematics is an academic subject, which they have to learn for examination. It clears that this tradition might be the one or indeed the one, which influenced their beliefs about Mathematics. **3.3.2 Workload**

To reiterate what has been said before, it is emphatically stressed that what makes a teacher outstanding is not because he was chosen as such without any reason, and it is due to his various significant

expertise in the world of education. He/She should be well versed as to research conduction, excellent in academic teaching and superb mentoring power. As such, his/her workload should not only be confined on teaching but on the conduct of research and mentoring colleagues as well.

Nature of workload

From the interview, it was exposed that outstanding teacher is more primed than proficient teachers as to organizing a workshop. In view of that, an outstanding teacher should organize as such to reengineer the traditional teachers and create teachers like them. Best practices manifested by outstanding teachers should serve as the standard and guiding principle on the part of the non – outstanding teachers (Teacher 5).

Effect of workload on their knowledge

On the same breath, interviewees exposed that only the outstanding teachers can make theories out of their experience to get a more vivid picture of various situations relating their daily task/duty. Proficient teachers can only hypothesize and make some opinions from their experiences. This is quite shallow to base ones teaching principles. It is also stated that the interviewees looked that the skill of theorizing experiences is more important than the ability to formulate research problems, solve math problems and apply various teaching methods.

Moreover, as Teacher 4 stressed that the advantage of an outstanding teacher over a proficient teacher is that the experience of an outstanding teacher is vaster compared to the latter. It is simply because the outstanding teachers are normally curious to many things concerning their line of profession. They explore different matters and issues that would shed light to their inquiries. In other words, outstanding teachers really do not stop in searching for knowledge – they are seemingly hungry for more wisdom and even hungrier to that of the students. This

hunger of the outstanding teachers fuels their engine to drive for more concepts, which lead them to experiential theories that tend to open their eyes, minds and heart to different avenues leading to their students' needs.

As stated many times in preceding paragraphs, outstanding teachers are expected to function with bundles to offer; they should be good at teaching, with deep knowledge in doing researches and a generous mentor by unselfishly sharing their best practices. It was identified during the interview that in the Division of Valenzuela, research has the highest rate of importance in classifying outstanding teacher and this stood as the benchmark in comparing outstanding teacher from a proficient teacher.

Skills in Research

As heard from most of the participants/interviewees, the knowledge in conducting research is quite vital in hailing one as outstanding teacher. Yet, it should not stand as the sole basis of screening towards it. Based on the responses of the participants, being good at teaching, is one of the basis. Being good at teaching makes a teacher a proficient one. Moreover, to combine the two skills, good at teaching and well versed at research makes a teacher an outstanding one. As Berliner (2008) considered research skill in his work as a very important facilitative factor during teacher's professional development process. Without it, a teacher would not be able to reach the final stage of Berliner's teaching excellence development model – outstanding teacher. Research skill is one of the skills, which a teacher should obtain to bring the title of being outstanding teacher and should have a deep urge in doing it so.

3.4. Classroom context

3.4.1 Class size

As per DepEd (2012) records, the Philippine educational system, both in elementary and secondary registered more than 45 students per classroom, which is supposed to be the maximum. Likewise, it is a common knowledge among the six outstanding teachers that the issue of population within classroom limits gave them a sound influence in decision making and/or running the class as a whole. As once pointed out by Santiago (2004) that the large size of a classroom makes it difficult for a teacher to practice individualized teaching. The six outstanding teachers were all handling at least 50 students in a class. This issue made them realized that population can delay, if not to totally hinder, the academic progress of the students. They find it hard to monitor individual development and needs. While it is true, the six outstanding teachers did not allow the matter to swallow them alive by employing their own little ways in addressing variety of problems, which goes along with population, and these are eminently seen through their achievements. This matter is deeply supported by Cruz (2006) that when they determined teaching objectives, they stressed students' experience and exploration. In practice, even if the outstanding teachers are handling large class, they demonstrated the ability to encourage the students to work hands-on activities, discuss in small group and demonstrate their solutions publicly and so on. In general, their teaching is like, "both teachers led and students centered" but not as pointed out in literature as "teacher dominated" or "teacher centered".

Classroom setting

Fernandez (2005), manifested thru his work that the classroom setting was believed to provide the most influential environment for outstanding teachers. Usually, individual remediation was only considered as a supplement to the whole class instruction, which could be used to help students that were left behind to catch up. In the Philippines, classes are mainly

conducted with the whole class and the lesson progresses is under the control of teachers. Under this social and cultural situation, it is not difficult to understand why these are factors in being an outstanding teacher.

Set up in a regular mathematics class

Given the fact that Math is something most negatively anticipated by the learners, outstanding teachers' dilemma is that the lesson must be delivered in 40 minutes. As mentioned by outstanding teachers, in order to maximize time allotment, they usually give students small group discussion activity where they are to explore on their own. The only problem is that there are some learners who cannot cope up with it and in some cases; there are students with difficulty in dealing with group work. In view of this, outstanding teachers resort to conduct demonstrations that would help the learners to understand the mathematics concepts. In doing so, outstanding teachers practically exhibited their expertise in transmitting concept various ways among their student

Effect on the way they teach

Kuhs and Ball (1986) described outstanding teachers as those who are bound to believe the best way to learn mathematics is to expose students to self-driven exploration and independent learning and to develop thinking skills of students. Moreover, for these to materialize, teachers should sincerely encourage their learners to put themselves in the day-to-day activities actively and intellectually. This belief is relatively close to learner-focused model. Similarly, the students' knowledge development is simply dependent in the fulfillment of teachers' duty – being a mere facilitator. This will only happen if the teachers will send the learners to hands-on experiential activities and have them explore on their own.

The aforementioned issue that relates to the view of the emergent learners and

math thinking are also employed and incorporated in various studies (Carreon, 2007). This idea, in the same manner, has embarked in DepEd's (2012) view. Since math curriculum has paved its way to reforms, it has intensely emphasized on students' experience, participation, and exploration with focus on knowledge development process during teaching, and linking teaching content to real life.

3.4.2 Students characteristics

Characteristics of students that led to varied activities prepared.

The needs of the learners stood at the center as the outstanding teachers prepare the lesson. They indeed invest much time in deciding on what is to be employed as to activities and exercises.

Group work

One common characteristic is that if the teaching content is suitable, the outstanding teachers would ask students to work on some tasks with their classmates.

Conducting projects

Outstanding teachers are of course known for their teaching expertise, but it is and should not only the basis for being as such. As a trend, whether or not an outstanding is a master teacher (MT), he/she should act as one. A master teacher is the one who is guiding his/her colleagues in research projects like Action Research (AR) to address some of the significant observed classroom based problems and come up with an academic intervention/innovation to facilitate learning that would satisfy the needs of the learners. According to principal 2, an outstanding teacher should not only focus on his trade, he should also consider the importance of research by making himself abreast to the trends of it and most feasible topics to deal with. As teacher 3 pointed out those outstanding teachers should come up with projects that would drive progress in

their trade where society will get much benefit from it, particularly the stakeholder. Likewise, it is proper that the works of the outstanding teachers like research and the likes should be exposed and known to all. In other words, best practices shall be shared.

Effect on activities used in a classroom

Outstanding teachers are normally meticulous in terms of lesson execution, and as stated earlier, they really focus on what the students' need. They, most of the time, use materials other than books. It only shows that they do not believe in one-size fits all method. For instance, in one of the outstanding teachers' demonstration teaching, he intently provides an activity different from what the book prescribed by showing different sizes of picture and a Philippine Flag to introduce the idea of similarity. While the other one prepared different activities using different approaches, levels and several of difficulty and target skills aside from the activities presented in the book.

3.5. External Factors

The six outstanding mathematics teachers still felt the impact of former teachers as role models on their professional lives. They considered their most esteemed mathematics teachers in elementary and high schools and their mathematics professors in college. According to them, these teachers served as their inspiration because of being role models of personal attributes, values and excellent teaching. They described their former mathematics teachers as dynamic, motivating, patient, persistent, competent and warm and who believed in and nurtured students' capabilities and made mathematics a subject easy to understand and internalize. The six outstanding mathematics teachers stated that their former mathematics teachers positively served to challenge them to excel in their chosen career as mathematics teachers and this was acknowledged as another factor contributing to their being outstanding mathematics teachers.

4. Based on the study, what model of an outstanding mathematics teacher can be developed?

The model of an outstanding mathematics teacher that emerged in the study is composed of cultural, social, school, classroom and external factors. The model presents the dimensions and manifestations of teaching expertise in the local context. It explains the transformation into outstanding teachers. Teaching expertise in mathematics subjects is a continued quest for teaching excellence.

Cultural Context. One of the prevailing beliefs on Mathematics includes the notion that the curriculum is child-centered. Hence, an outstanding teacher places the child at the center of the teaching-learning process, and thus students are given opportunity to construct their own ideas based on well-established mathematical concepts through the provision of child-centered activities. These activities are designed to tailor-fit the needs and preferences of students.

Social Context. Collaboration among stakeholders is highly encouraged to produce outstanding mathematics teacher. An outstanding mathematics teacher is the one capable of establishing network through mentoring and sharing of best practices. Alongside with this, is the principle that curriculum in Mathematics is dynamic. In essence, outstanding teachers should be highly adaptable to changes especially in terms of their teaching methodologies and instructional practice. Moreover, outstanding mathematics teachers are influenced by the role ascribed to them by the society, that is, to be the agent of transmission. It is through their subject expertise that this particular role can be actualized. Outstanding mathematics teachers should also provide meaningful experiences to their students. It is through the student's appreciation of math and its functions that increases the chances of student's learning. Equally important is the teacher's skill in differentiating instruction. Outstanding teachers are able to

adapt, modify and accommodate student's preferences and needs.

School Context. Schools have a strong influence on the performance of teachers. The outstanding mathematics teachers are motivated to perform their best in teaching whose effectiveness is best reflected in the grades of their students as well as the students' performance in the National Achievement Test and the like. The outstanding teachers conducting researches that serve as tool in solving their classroom problems, sharing their expertise with fellow teachers and facilitating the teaching-process and other related activities by integrating technology all account for school factors associated to becoming an outstanding mathematics teacher.

Teacher-related Factors. Outstanding mathematics teachers are knowledgeable in mathematics, mathematics curriculum, students, and integration of mathematics to other subjects. To reiterate the perception of the respondents, they have the ability to present ideas, judgment, emotional stability, decisiveness and stress tolerance as observed by peers and superiors. Likewise, they are expert of their field. Moreover, it was seen that majority of the them view of outstanding teacher personality characteristics is comprised of being honest, helpful, open-minded and firm.

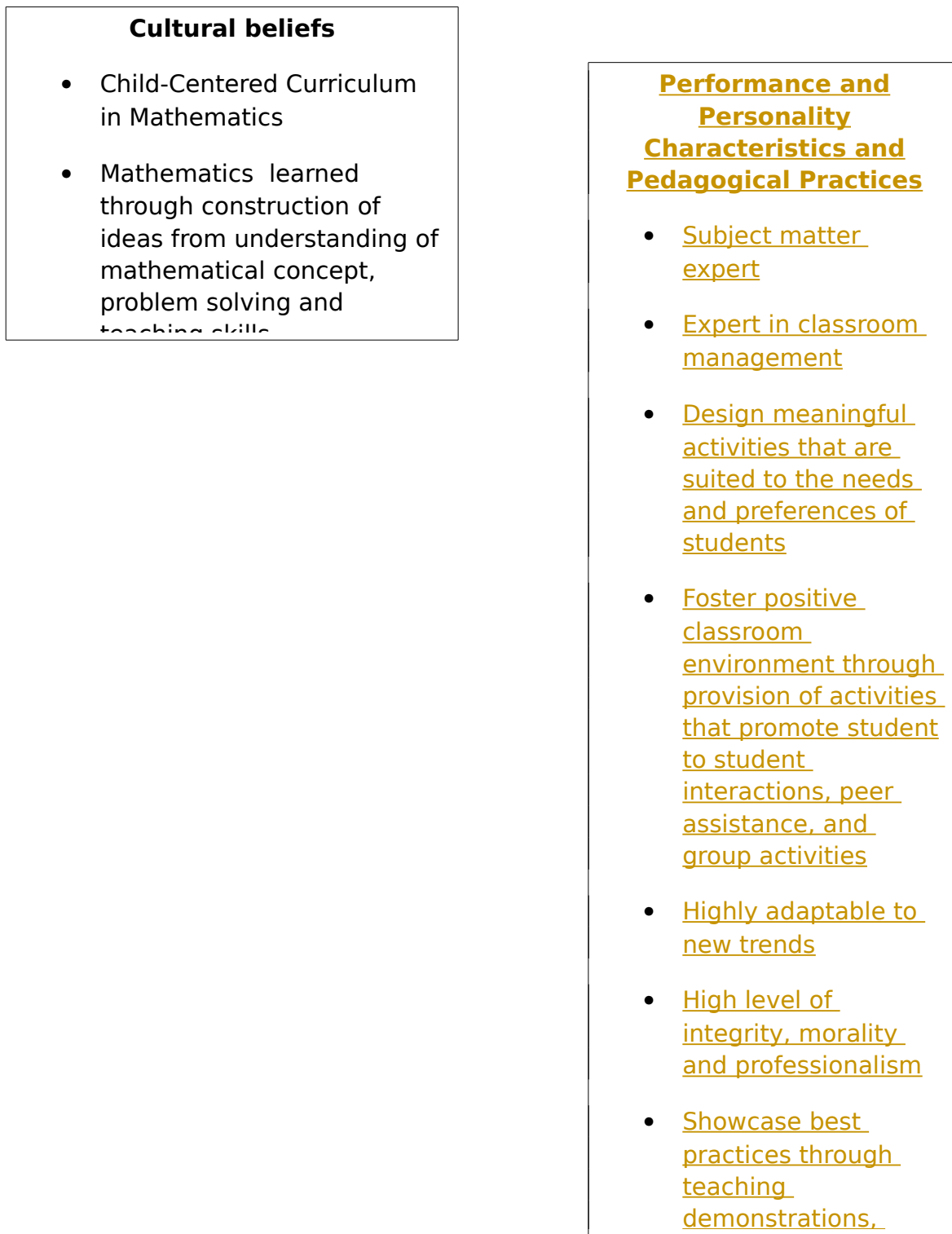
Teacher related factors include also the instructional competence of a mathematics teacher, knowledge about the National Achievement Test, theoretical knowledge and research skills.

External Factors. Behind the model of most outstanding mathematics teachers are the influences of the teacher role models. Their role models are either former teacher. Their role models served as their inspiration and influenced their personal and professional lives.

All of the stakeholders agree that teaching competence and personality and

performance characteristics are in the forefront of an outstanding teacher profile. However, one of the important aspects of the standards set for an outstanding teacher is the engagement to researches and publication. The initial power of being a teacher researcher illuminates as the outstanding teacher lives the classroom life beside the students and realize that they have much to teach. More than the teaching functions, the outstanding teacher should consider the possibility of contributing to the school system in general through researches. Student-centered researches benefit all the stakeholders since the ultimate goal of education is for the students to learn.

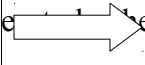
Fig 2. MODEL OF AN OUTSTANDING MATHEMATICS TEACHER IN VALENZUELA



Chapter 5
CONCLUSIONS AND RECOMMENDATIONS

The findings were reported and sociocultural factors were discussed in the previous chapters. This final chapter synthesizes the main findings of the study and then presents the contributions and implications of the study. Finally, the limitations were pointed out and some recommendations for further research were suggested.

<u>Social beliefs</u>	
• <u>Student learning environment allows collaboration among groups</u>	
• <u>Dynamic mathematics curriculum allowing students to explore and reinvent ways of learning</u>	
• <u>Teachers as agents of transmission</u>	
other factors	
• Exposure to large class size	
• Teaching is research-based	
• Exposure to mentoring colleagues	
• Grades of students used as teacher's performance gauge	
• Technology aids instruction	
• Provision of hands-on and small group activities	
• Influence of former	



pedagogy encourages the implementation of varied instructional approaches.

3. As to the cultural, social and school contexts, outstanding mathematics teacher has strong belief that the heart of the mathematics curriculum and instruction are the students. The curriculum being dynamic, the teacher being an agent of transmission, the students as constructivists and the classroom interaction as collaborative in nature are the main themes drawn from the study.

4. Teaching excellence in mathematics for basic education may be explained by a model consisting of cultural beliefs, social beliefs, school context, classroom context and external factors which greatly influence the outstanding teacher's performance and personality.

Conclusions

Based from findings, the following are the conclusions in this study

1. The performance and personality characteristics of outstanding mathematics teacher defines the structure of teaching as a moral enterprise. All the stakeholders value the high level of integrity, morality and professionalism of outstanding teacher holding on to a belief that teachers are capable of transmitting these values and skills to their students.
2. Outstanding mathematics teachers attribute their being outstanding to their pedagogical practices, which include designing effective and learner-centered instruction.
3. The social, cultural and school contexts identified in the study contribute to the teaching excellence of the outstanding mathematics teachers.
4. Performance and personality characteristics of outstanding teachers, as influenced by the cultural and the social beliefs, school and classroom contexts and external factors, contribute the emergence of a model of an outstanding mathematics teacher.

Recommendations

1. Faculty development programs may be designed in the light of the pedagogical practices and model of an outstanding teacher as identified in the study.

2. While outstanding mathematics teachers are still connected with the academe, their classroom teaching should be documented whether through ethnography or videotaping with written transcriptions. These records of excellent teaching should be preserved in learning resource centers for the use of teachers and be made available for resource sharing among schools.

3. A replication of the study may be undertaken in other levels. The results especially the tangible products of such studies (videotapes, etc.) will be invaluable resources for future studies. 4. Resulting Filipino models of excellence in teaching can be compared with the model of an outstanding mathematics teacher constructed in the present study. Similarities may be noted and these can expand the generalization of the model developed in the present study. Differences will delineate specific components and aspects of teaching excellence particular to a certain level. Both will extend the conceptual base of outstanding/ excellent teaching in Philippine schools.

5. Considering that contextual factors exert influence on teaching excellence, it is likely to find different findings in mathematics teachers' pedagogical practices of outstanding teachers in other areas. Therefore, if future studies can probe the pedagogical practices of outstanding mathematics teachers in other areas, it would provide information to construct a more complete picture of outstanding mathematics teachers in the Philippines.

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APPENDIX A

Letter of Introduction and Informed Consent Form

Study Title: A Model of Outstanding Mathematics Teacher

Researcher: Arneil D. Aro

Before agreeing to participate in this research, we strongly encourage you to read the following explanation of this study. This statement describes the purpose and procedures of the study. Also described is your right to withdraw from the study at any time.

Explanation of Procedures

This study is designed to examine the characteristics of outstanding mathematics teachers in Valenzuela City. Participation in the study involves completion of a survey that asks you basic questions about yourselves and the specific timing and procedures you may have undergone, and a face-to-face interview, which will last for approximately an hour. The interviews will be conducted by the researcher, audio-taped and later transcribed for the purpose of data analysis. The interview will be held at school's guidance office.

Risks and Discomforts

There are no risks or discomforts that are anticipated from your participation in the study. Potential risks or discomforts include possible emotional feelings of sadness when asked questions during the interview.

Benefits

The anticipated benefit of participation is the opportunity to discuss feelings, perceptions, and concerns related to the experience of outstanding mathematics teacher and to contribute to understanding of outstanding teacher.

Confidentiality

The information gathered during this study will remain confidential in secure premises during this project. Only the researcher will have access to the study data and information. There will not be any identifying names on the surveys or interview transcripts; they will be coded. Your names and any other identifying details will never be revealed in any publication of the results of this study. The tapes will be destroyed at the completion of the study. The results of the research will be published in the form of a research paper and may be published in a professional journal or presented at professional meetings. It may also be published in book form. The knowledge obtained from this study will be of great value in guiding professionals to be more effective in teaching mathematics.

Withdrawal without Prejudice

Participation in this study is voluntary; refusal to participate will involve no penalty. You are free to withdraw consent and discontinue participation in this project at any time without prejudice or penalty. You are also free to refuse to answer any question we might ask you.

Further Questions and Follow-Up

You are welcome to ask the researcher any questions that occur to you during the survey or interview. If you have further questions once the interview is completed, you are encouraged to contact the researcher using the contact information given. If, as a result of participating in this study you feel the need for further, longer-term support, you are welcome.

If you have other questions or concerns about the study please contact the researcher.

I, _____ (name; please print clearly), have read the above information.
I freely agree to participate in this study. I understand that I am free to refuse to answer any question and to withdraw from the study at any time. I understand that my responses will be kept anonymous.

Participant's Signature

Date

APPENDIX B

INTERVIEW GUIDE

OUTSTANDING MATHEMATICS TEACHER (FOR SCHOOL PRINCIPALS, MASTER TEACHERS AND HEAD TEACHERS)

Concept of the Study: This study generally aims to probe the characteristics of outstanding mathematics teachers in the Division of Valenzuela City and develop a model for outstanding mathematics teacher. (To fully avoid deception on the part of the respondents, the researcher shall conduct an orientation talk prior to this survey.)

Note: Rest assured that the information to be indicated shall be dealt with full confidentiality to ensure safety/interests and to avoid bias on the part of respondents

A: Background Information

- 1) Name, optional
- 2) Profession
- 3) Education experience and working experience

B: Questions:

- 1) How much is the percentage of “outstanding mathematics teachers” in the Division of Valenzuela City?
- 2) Why do you think so?
- 3) In your learning or working life, have you ever met a teacher that you think could be called as an outstanding mathematics teacher in the Division of Valenzuela City?
- 4) Why do you think he/she is an outstanding mathematics teacher?
- 5) In comparison with the other mathematics teachers, does he/she possess any unique characteristics?

- 6) Could you please describe him/her in details?
- 7) If you have not encountered such a teacher, what kind of teacher do you think can be called as “outstanding mathematics teacher”?
- 8) What are the differences and similarities between the “outstanding mathematics teacher” and the teachers at other development stages?
- 9) Now, if you were asked to give a definition to “outstanding mathematics teacher”, what definition will you give?
- 10) Could you please recommend several outstanding mathematics teachers to me?

APPENDIX C

Characteristics of Outstanding Teachers(*for Marilyn Soriano*) Questionnaire

The chart below contains characteristics of outstanding teacher in terms of his/her performance and personality. As you read each criterion, you evaluate ***Marilyn Soriano*** using it. Please indicate your correct answer by ticking (/) the appropriate space.

Legend : 5=strongly agree, 4=agree, 3=not sure, 2=disagree, and 1=strongly disagree.

	<i>Performance (items = 25)</i>	5	4	3	2	1
1	Expert on the subject /knowledgeable					
2	Organizes good lectures / use of audiovisual aids e.g. power point					
3	Understands / relates to students					
4	Desires to promote student's learning					
5	Understands role of teacher					
6	Good command on clinical skills / teaches the practical useful points					
7	Good planner and organizer of the course/ curriculum					
8	Helps in facilitation of students' learning					
9	Teaching at the student level					
10	Interact with students					
11	Maintain his decorum as a teacher					
12	Motivates students					
13	Good guidance provider					
14	Offers good mentoring					
15	Makes students feel comfortable					
16	Develops good learning resource materials for students including study guides (internet based or printed)					
17	Available for consultation / advice					
18	Good examiner / makes/ask good questions relevant to the students' learning needs in exam					
19	Good role model					
20	Sensitive to student's problems/needs					
21	Ask for feedback from students / try to improve according to their needs					
22	Monitors students' progress /interested					
23	Tell jokes / funny stories during lectures / session to amuse students to maintain their interest					

24	Explains and shares personal experiences					
25	<i>Personality</i>	5	4	3	2	1
1	Respectful to students					
2	Helpful					
3	Good communication skills					
4	Honest					
5	Accessible					
6	Tolerant / patient					
7	Friendly					
8	Good Listener					
9	Enthusiastic					
10	Emotionally controlled / doesn't get angry easily					
11	Non judgmental					
12	Open minded					
13	Not strict / Shows leniency					
14	Dresses appropriately					
15	Self-sacrificing					
16	Good sense of humor					
17	Gives good marks to all students					

Content Validity Index

	<i>Performance (items = 25)</i>	Exper t 1	Exper t 2	Exper t 3	Number in Agreeme nt
1	Expert on the subject /knowledgeable	X	X	X	3
2	Organizes good lectures / use of audiovisual aids e.g. power point	X	X	X	3
3	Understands / relates to students	-	X	X	2
4	Desires to promote student's learning	X	X	X	3
5	Understands role of teacher	X	-	X	2
6	Good command on clinical skills / teaches the practical useful points	X	X	X	3
7	Good planner and organizer of the course/ curriculum	-	X	X	2
8	Helps in facilitation of students' learning	X	X	X	3
9	Teaching at the student level	X	X	X	3
10	Interact with students	X	X	-	2
11	Maintain his decorum as a teacher	X	X	X	3
12	Motivates students	X	X	X	3
13	Good guidance provider	X	X	X	3
14	Offers good mentoring	X	X	X	3
15	Makes students feel comfortable	X	X	-	2
16	Develops good learning resource materials for students including study guides (internet based or printed)	X	X	X	3
17	Available for consultation / advice	X	X	X	3
18	Good examiner / makes/ask good questions relevant to the students' learning needs in exam	X	X	X	3

19	Good role model	X	X	X	3
20	Sensitive to student's problems/needs	X	X	-	2
21	Ask for feedback from students / try to improve according to their needs	X	X	X	3
22	Monitors students' progress /interested	X	X	X	3
23	Tell jokes / funny stories during lectures / session to amuse students to maintain their interest	X	X	X	3
24	Explains and shares personal experiences	X	X	X	3
25	Tops the ranking of school teachers	-	-	-	0
26	Earns masteral/doctoral degrees	-	-	-	0
<i>Personality</i>					
27	Respectful to students	X	X	X	3
28	Helpful	X	X	-	2
29	Good communication skills	X	X	X	3
30	Honest	X	X	X	3
31	Accessible	X	X	X	3
32	Tolerant / patient	X	X	X	3
33	Friendly	X	X	-	2
34	Good Listener	X	X	X	3
35	Enthusiastic	X	X	X	3
36	Emotionally controlled / doesn't get angry easily	X	X	X	3
37	Non judgmental	X	X	X	3
38	Open minded	X	X	X	3
39	Not strict / Shows leniency	X	X	X	3
40	Dresses appropriately	X	X	X	3
41	Self-sacrificing	X	X	X	3
42	Good sense of humor	X	X	-	2
43	Gives good marks to all students	X	X	X	3
44	Shy	-	-	-	0
45	Sophisticated	-	-	-	0

Mean CVI=.84

Mean Expert Proportion-.84

APPENDIX D

INTERVIEW GUIDE FOR SIX OUTSTANDING MATHEMATICS TEACHERS

(Teaching experience)

A. Background information

1. Background information of the observed class
2. Working load

B. Personal experience

1. Could you please talk about your learning experience? Mathematics learning experience?

If none? What is it in particular?

2. Could you tell me why you choose teaching as a profession?
3. Could you please talk about your training experience at pre-service stage?

Any special events influenced your teaching?

4. Could you tell me your teaching history?
5. Could you tell me what particular things you did or are still doing or will do to be a good teacher?
6. What characteristics do you have that made you an outstanding teacher?

7. What are your experiences in the selection process being an outstanding teacher?

APPENDIX E

INTERVIEW GUIDE FOR OUTSTANDING MATHEMATICS TEACHERS (BELIEFS)

Beliefs about Mathematics

1. What do you think mathematics is? Why you think so?
2. Normally, what kind of mathematics do you do?
3. What kind of mathematics do your students do? Inside/outside classroom

Beliefs about Mathematics Learning

4. Do you think all students are able to learn mathematics well? Why yes or not?
5. How you will explain students' difficulty in learning mathematics?
6. What are the best ways to learn mathematics for students?
7. What's your best ways to learn mathematics?
8. At junior secondary school level, what are the most important parts for students' mathematics learning? What kind of level do you expect your students to achieve in mathematics? Why you think so?
9. If one student has some difficulties in learning a certain concept or solving a problem, what you will do?

Beliefs about Mathematics Teaching

10. What are the objectives of the mathematics teaching at junior secondary school level? Why?
11. How do you know you teach a successful mathematics lesson?
12. Could you please describe a successful lesson you once taught?
13. What are the most effective ways to teach mathematics? Are these ways different from those ways to teach other subjects?

APPENDIX F

PRE-OBSERVATION INTERVIEW QUESTIONS FOR OUTSTANDING MATHEMATICS TEACHERS

1. Could you describe what you are going to teach in the lesson?
2. What are the objectives of this lesson? How do you determine them?
3. Could you tell me what prior knowledge which students need in achieving full comprehension of the topic?
4. Could you tell me what are the most important parts of this lesson? How do you know these parts are the most important?
5. What kind of teaching strategies will you use to facilitate students' comprehension? Why do you think this method is effective? Are there any other methods which you think are also effective? When and how did you learn these methods?
6. Could you tell me what are the most difficult parts of this lesson? (How do you know these parts are the most difficult?)

7. What kind of teaching strategies will you use to make students easily understand these difficult parts? Why do you think these methods are effective? Are there any other better methods? When and how did you learn these methods?
8. Do you have a plan for this lesson? Do you usually write a lesson plan? How much time do you spend in lesson planning? Do you refer to any other materials when you plan your lesson? What kind of materials? Why do you refer to these materials?

APPENDIX G

POST-OBSERVATION INTERVIEW QUESTIONS FOR MATHEMATICS TEACHERS, GENERAL QUESTIONS INCLUDED

1. How do you feel about this lesson? What parts you feel very successful? What parts should have been modified? Why? Do you usually reflect on your teaching? Could you please tell me your foci?
2. For the content in this lesson, could you please tell me what parts that most students have understood? Which parts that most students might still have difficulties in? Why?
3. If you will teach again this content to a similar class, what changes will you make to your plan? Why do you think these changes will make your teaching more effective? Why did you not use these in this lesson?
4. Could you tell me the errors and confusions that the students tend to have when learning this lesson? How do you know this? Do you remember the methods you used to deal with students' errors or confusions?

5. Did you follow the textbook content? Why? (Kindly elaborate the things which have or not have been followed.)
6. Did you employ exercises from other materials? Why? Why did you teach the lesson that way? Where did you learn that strategy?

APPENDIX H



Republic of the Philippines
 Department of Education
 National Capital Region
DIVISION OF CITY SCHOOLS- VALENZUELA
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2015 SEARCH FOR RESPONSIBLE PUBLIC SERVANTS

Outstanding Public School Teacher by Learning Area

The Search is by learning area: Mathematics, Filipino, English, Values Education, Araling Panlipunan, Science, TLE/EPP, MAPEH/MSEP, SPED, and ALS. The School PRAISE committee chairman may nominate one (1) per subject area to the District Supervisors/Officers-in-Charge of the district. The District PRAISE committee through its chairman shall then submit only one (1) teacher candidate per subject area on a total of their district screening/selection following this criteria to wit:

A. Qualifications:

- Active elementary/secondary school teacher with at least three (3) years teaching experience
- No pending administrative/criminal case
- Performance rating of at least Very Satisfactory for the last three years

B. Criteria:

Criteria	Points
1. Instructional Competence	40 points
a. Teaching Competence	- 20 pts
b. Outstanding Accomplishment	- 10 pts
c. Creativity and Innovations	- 10 pts
2. Professional Growth	40 points
a. Education	- 10 pts
b. Speakership	- 10 pts
c. Demonstration Teacher	- 10 pts
d. Trainings	- 5 pts
e. Publications	- 5 pts
3. Community Development	10 points
a. Outreach activity	- 5 pts
b. Networking/Linkages	- 5 pts
4. Personal Characteristics	10 points
a. Personality	- 5 pts
b. Potential	- 5 pts
TOTAL	100 points

(Supporting documents to be presented must be dated after the last appointment)

Outstanding Public School Head/Principal

The award is conferred to Public School Head for exceptional and extraordinary contribution to the field of education resulting to performance that had a division wide impact. The Education/District supervisors, VALPESA president and High School Teachers Association President may nominate one(1) Public School Head for the search.

Service at its best, Education platform enriched, Achievement without borders, Learning opportunities endless.

SEAL of Excellence

Qualifications:

- At least 3 years of continuous service as full pledged public elementary/secondary school principal
- Performance rating of Very Satisfactory for the last 3 years
- No pending administrative/criminal case

Note: Supporting documents to be presented must be dated & credited after last Appointment

Criteria**1. Managerial Competence – 40 pts**

- NAT MPS - 15 PTS.
- Level of SBM Practice (with Division Office Validation) - 25 pts.

2. Professional Competence – 40 pts

- Performance Ratings for the last 3 years - 10 pts.
- Research and creative outputs, re-entry projects after attendance to seminars, conferences and workshops - 5 pts.
- Trainings & workshops organized - 5 pts.
- Published supplementary materials, articles, references & other papers - 5 pts.
- Educational attainment/Professional advancement - 10 pts.
- Scholarship awarded in partnership with DepEd - 10 pts.
- Awards, distinction received for the last 3 years - 5 pts.

3. Community Partnership – 10 pts

Outreach program and Networking/Linkages (LSB, PSB, PTA excluded)

4. Personal Attributes – 10 pts

- Testimonies from peer and superior of the positive work ethics - 5
- Moral uprightness - 5 points

Outstanding Education/District Supervisor

The award is conferred to Education/District supervisor for exceptional and extraordinary contribution resulting to performance that had division impact.

Qualifications:

- At least 3 years of continuous service as full fledged public education/district supervisor
- Performance rating of Very Satisfactory for the last 3 years
- No pending administrative/criminal case

Note: Supporting documents to be presented must be dated & credited after last Appointment

Service at its best, Education platform enriched, Achievement without borders, Learning opportunities for all

SEAL of Excellence

APPENDIX I

(Enclosure No. 2 to Division Memorandum No.61 , s. 2013)

Search for Most Outstanding Classroom Teacher Most Outstanding Elementary/High School Classroom Teacher I, II, III

A. Qualifications:

1. Active elementary/secondary school teacher with at least three (3) years teaching experience
2. No pending administrative/criminal case
3. Performance rating of at least Very Satisfactory for the last three years

B. Criteria:

1. **Instructional Competence** 40 points
 - a. Teaching Competence - 20 pts
 - b. Outstanding Accomplishment - 10 pts
 - c. Creativity and Innovations - 10 pts
2. **Professional Growth** 40 points
 - a. Education - 10 pts
 - b. Speakership - 10 pts
 - c. Demonstration Teacher - 10 pts
 - d. Trainings - 5 pts
 - e. Publications - 5 pts
3. **Community Development** 10 points
 - a. Outreach activity - 5 pts
 - b. Networking/Linkages - 5 pts
4. **Personal Characteristics** 10 points
 - a. Personality - 5 pts
 - b. Potential - 5 pts

TOTAL 100 points

(Supporting documents to be presented must be dated after the latest appointment)

1. Instructional Competence - 40

a. Teaching Competence - 20 points

Average Numerical Rating for the last 3 years of PAST

Rating	Points	Rating	Points	Rating	Points	Rating	Points
10	20 pts	9.5	15 pts	9.0	10 pts	8.5	5 pts
9.9	19 pts	9.4	14 pts	8.9	9 pts	8.4	4 pts
9.8	18 pts	9.3	13 pts	8.8	8 pts	8.3	3 pts
9.7	17 pts	9.2	12 pts	8.7	7 pts	8.2	2 pts
9.6	16 pts	9.1	11 pts	8.6	6 pts	8.1	1 pt

b. Outstanding Accomplishment (For the Last 3 years Highest Level Obtained)- 10 points

Outstanding employee or coach or trainer of winning students in different competitions

District Level		Division Level		Regional Level		National Level	
1st	3 pts	1st	5 pts	1st	8 pts	1st	10 pts
2nd	2 pts	2nd	4 pts	2nd	7 pts	2nd	9 pts
3rd	1 pt	3rd	3 pts	3rd	6 pts	3rd	8 pts

b. Outstanding Accomplishment – 15 pts.

Outstanding employee as coach or trainer of winning students in different competitions

District Level		Division Level		Regional Level		National Level	
1 st	3	1 st	5	1 st	10	1 st	15
2 nd	2	2 nd	4	2 nd	8	2 nd	13
3 rd	1	3 rd	3	3 rd	5	3 rd	10

c. Creativity & Innovation – 15 pts.

Innovative & creative work plan, module or instructional material, properly documented and approved by immediate supervisors and attested by division or regional official.

Conceptualized	2
Started the implementation	3
Fully implemented in the school	5
Adopted in the district	10
Adopted in the division	15

2. Professional Growth

a. Education – 10 pts.

At least 18 MA Units	2 pts.
At least 27 MA Units	3 pts.
At least 36 MA Units	4 pts.
Completed Academic Requirements for Master's Degree	6 pts.
Master's Degree	8 pts.
Completed Academic Requirements for Doctoral Degree	9 pts.
Doctoral Degree	10 pts.

b. Consultant/Resource Speaker/Facilitator in Trainings/Seminars/Workshops – 5 pts.

School Level	0.5
District Level	1
Division Level	2
Regional Level	3
National Level	4
International Level	5

c. Demonstration Teacher – 5 pts.

School Level	0.5
District Level	1
Division Level	2
Regional Level	3
National Level	4
International Level	5

3. Community Development (For the Last 3 years) - 10

a. Outreach Programs - 5

Outreach programs/activities initiated / participated properly documented with narrative and pictorial reports attested by immediate superiors, division or regional officials

Level	No. of Times	Points
School	3	3
District	2	3
Division	1	5

b. Networking/Linkages (For the Last 3 years) - 5

Served as Instrument for sourcing of funds and other donations in kind for classroom and/or school facilities and/or activities properly documented with narrative and pictorial reports attested by immediate superiors, division or regional officials

Estimated Amount of Donations (cash or kind)	Points
P 50, 000.00 and above	5
P 31, 000.00 to P 49, 000.00	4
P 21, 000.00 to P 30, 000.00	3
P 11, 000.00 to P 20, 000.00	2
P 1, 000.00 to P 10, 000.00	1

4. Personal Characteristics - 10

a. Personality - 5

Appearance, Voice & Speech, Poise, Alertness, Self-confidence

b. Potential -

c. 5

Ability to present ideas, Judgment, Emotional Stability, Decisiveness, Stress Tolerance

SAMPLE RATING SHEET

	CRITERIA	Pts.	Teacher A	Teacher B	Teacher C	Teacher D	Teacher E
Instructional Competence 40 pts.	Teaching Competence	20					
	Outstanding Accomplishment	10					
	Creativity and Innovations	10					
Professional Growth 40 pts.	Education	10					
	Speakership	10					
	Demo Teacher	10					
	Trainings	5					
	Publications	5					
Community Devt. 10pts	Outreach	5					
	Networking	5					
Personal Char. 10pts	Personality	5					
	Potential	5					
TOTAL		100					

Search for Most Outstanding Master Teacher I and II

A. Qualification

1. Active elementary /secondary school teacher with at least (3) years teaching experience.
2. No pending administrative/criminal case
3. Performance rating of Very Satisfactory for the last three (3) years

B. Criteria

1. Instructional Competence	-	50 pts.
a. Teaching Competence	- 20 pts.	
b. Outstanding Accomplishment	- 15 pts.	
c. Creativity & Innovations	- 15 pts.	
2. Professional Growth	-	30 pts.
a. Education	- 10 pts.	
b. Speakership	- 5 pts.	
c. Demonstration Teaching	- 5 pts.	
d. Training	- 5 pts.	
e. Publication	- 5 pts.	
3. Community Development	-	10 pts.
a. Outreach Activity/Barangay & Other Agencies' activity	- 5 pts.	
b. Networking/Linkages	- 5 pts.	
4. Personal Characteristics	-	10 pts.
a. Personality	- 5 pts.	
b. Potential	- 5 pts.	
Total	-	100 pts.

Supporting documents to be presented must be dated & credited after latest appointment

1. Instructional Competence

- a. Teaching Competence – 25 pts.

Average Numerical Rating for the last 3 years of PAST

Rating	Points
10	20
9.9	19
9.8	18
9.7	17
9.6	16
9.5	15
9.4	14
9.3	13
9.2	12
9.1	11
9.0	10
8.9	9
8.8	8
8.7	7
8.6	6
8.5	5
8.4	4
8.3	3
8.2	2
8.1	1

b. Outstanding Accomplishment – 15 pts.

Outstanding employee as coach or trainer of winning students in different competitions

District Level		Division Level		Regional Level		National Level	
1 st	3	1 st	5	1 st	10	1 st	15
2 nd	2	2 nd	4	2 nd	8	2 nd	13
3 rd	1	3 rd	3	3 rd	5	3 rd	10

c. Creativity & Innovation – 15 pts.

Innovative & creative work plan, module or instructional material, properly documented and approved by immediate supervisors and attested by division or regional official.

Conceptualized	2
Started the implementation	3
Fully implemented in the school	5
Adopted in the district	10
Adopted in the division	15

2. Professional Growth

a. Education – 10 pts.

At least 18 MA Units	2 pts.
At least 27 MA Units	3 pts.
At least 36 MA Units	4 pts.
Completed Academic Requirements for Master's Degree	6 pts.
Master's Degree	8 pts.
Completed Academic Requirements for Doctoral Degree	9 pts.
Doctoral Degree	10 pts.

b. Consultant/Resource Speaker/Facilitator in Trainings/Seminars/Workshops – 5 pts.

School Level	0.5
District Level	1
Division Level	2
Regional Level	3
National Level	4
International Level	5

c. Demonstration Teacher – 5 pts.

School Level	0.5
District Level	1
Division Level	2
Regional Level	3
National Level	4
International Level	5

d. Trainings/Seminars/Workshops/Conferences attended – 5 pts.

School Level	0.5
District Level	1
Division Level	2
Regional Level	3
National Level	4
International Level	5

e. Publication/Authorship – 5 pts.

Articles published in a school organ/newsletter per article but not to exceed 4 points	1
Articles published in a journal/newspaper/magazine of wide circulation per article but not to exceed 4 points	2
Co-Authorship of a book	4
Sole authorship of a book	5

3. Community Development – 10 pts.

a. Outreach Programs

Outreach programs/activities initiated/participated properly documented with narrative and pictorial reports attested by immediate superiors, division or regional officials

Level	No. of Times	Points
School	3	3
District	2	3
Division	1	4
Regional	1	5

b. Networking/Linkages – 5 pts.

Served as instrument for sourcing of funds and other donations in kind for classroom and/or school facilities and/or activities properly documented with narrative and pictorial reports attested by immediate superiors, division or regional officials.

Estimated Amount of Donations (Cash or kind)	Points
P50,000 and above	5
P31,000 to 39,000	4
P21,000 to 30,000	3
P11,000 to P20,000	2
P1,000 to P10,000	1

4. Personal Attributes – 10 pts.

Testimonies from peer and superior of the positive work ethics, moral uprightness, etc.

APPENDIX J



GUIDELINES

0 OUT THE SEARCH

The Search bestows honor upon the teaching profession by according special recognition to teachers who manifest profound commitment to the development of youth through exemplary competence, remarkable dedication to their work and effective educational leadership. It singles out teachers who have made a significant contribution to national development by raising the quality of education through their passionate commitment to teaching, effective and creative teaching strategies, materials and devices and their admirable efforts to bring the school closer to the community and consequently, the community to the school, thereby finding models of excellence in the teaching profession.

The Metrobank Foundation, Inc. believes that recognizing the outstanding qualities, achievements and contributions of teachers to national development will inspire countless other teachers all over the country to achieve excellence in teaching.

Now on its 31st year, the Search is undertaken annually by the Metrobank Foundation in partnership with the Department of Education (DepEd) and the Commission on Higher Education (CHED). It is supported by school heads of public and private elementary, secondary and tertiary institutions in the country.

WHO ARE ELIGIBLE TO JOIN?

General Requirements: Nominees must

1. be Filipino citizen teaching in the elementary, secondary or tertiary levels, including alternative learning system, with full-time or permanent appointment and with full-load.
2. have been actively teaching in the Philippines for the last 10 years (inclusive of leaves not exceeding three years, provided the nominee is not on leave, i.e., actually teaching at the time of nomination). However, the nominee must not be on leave for more than two years immediately prior to nomination.
3. have valid PRC license (for nominees in the elementary and secondary levels only) or have the pertinent license for tertiary courses where a license is required in the exercise of the profession, e.g. Medical Doctors, Lawyers, Engineers, etc.
4. have average performance ratings of at least Very Satisfactory for the last 5 years, with no rating below Satisfactory. For those who have been on official/

study leave or on secondment, performance ratings for five years closest to the period of nomination should be provided.

5. have at least a Bachelor's degree (for both the elementary and secondary competitions) and at least a Master's degree for the higher education competition. Degree holders in law and medicine are considered to possess a Master's degree.

The following are also qualified to join, provided they meet specific requirements:

1. Kindergarten teachers, provided that the kindergarten level is part of the integrated curriculum or part of an elementary school system.
2. Technical-vocational teachers in the high school and college levels. Teachers teaching tech-voc courses in high school may be considered in the secondary competition, while those teaching 4-year technology courses in college may join in the higher education competition.
3. Deans, vice-deans, directors, chairpersons of departments, subject area coordinators, assistant principals, teacher-librarians, research or extension coordinators, head teachers, teachers-in-charge, guidance counselors, and others carrying similar administrative positions, provided they carry a teaching load of at least 50% of the total load required by the school for the school year.

Specifically for the Higher Education competition, the following are qualified:

4. College/university teachers with research or extension assignments and other administrative duties, provided they carry an actual teaching load of at least 50% of the total load/contact hours required by the school for the school year.
5. College/university teachers with a full teaching load/contact hours in the graduate school level during the nomination period.

WHO ARE NOT QUALIFIED?

1. Persons holding the following academic positions, either at the time of nomination or promoted on or before the SOT final judging, are automatically disqualified even if they have teaching loads: school presidents, chancellors, vice-chancellors, school owners, vice-presidents, assistant vice-presidents, supervisors, and principals.
2. Previous awardees and previous nominees who have been National Finalists twice and Regional Finalists thrice (regardless of the years they joined).
3. Spouses and first-degree relatives of officers and employees of the Metrobank Foundation.
4. Teachers, who have been suspended **or have been sanctioned** for violation of administrative policies, rules and regulations.

5. Teachers who have pending administrative, civil or criminal case.

WHO CAN NOMINATE?

6. Principals, Head Teachers or Presidents of colleges/universities or Chancellors of autonomous campuses, are the only ones authorized to nominate teachers to the Search.
7. Official nominees in the Elementary, Secondary and Higher Education competitions of satellite campuses of private colleges and universities and state universities and colleges (SUCs), which are not autonomous, may be endorsed by the Campus Directors or Executive Directors, but the Presidents are still the official nominators.
8. For DepEd schools without principals, the Teacher-in-Charge can nominate, but the Division Superintendent concerned must endorse the nomination.
9. If the nominee is the Head Teacher or Teacher-in-Charge himself/herself, any of the Division/District Supervisors can endorse the nomination to the Division Superintendents who are the official nominators.

CRITERIA FOR EVALUATION

1. Personal Qualities and Character

- A. Model of morality and integrity both in public and private life
- B. Good human relations in the school and in the community

2. Instructional Competence and Teaching Effectiveness

- A. Demonstrated competence in teaching, as evidenced by the high performance evaluation & rank obtained as a teacher/instructor/professor
- B. Instructional materials produced and used for the improvement of teaching in the last 10 years
- C. Research outputs in the last 10 years
- D. Original creative outputs in the last 10 years
- E. Original, innovative teaching approaches/strategies/practices in the last 10 years
- F. Co-curricular involvement in the last 10 years
- G. Educational attainment and professional advancement

3. Professional and Community Involvement

- A. Participation in training programs
- B. Leadership in professional organizations related to teaching
- C. Participation in community and civic movements
- D. Professional/community service awards

WHERE TO GET THE BASIC INFORMATION SHEET?

Joining the Search is easy! Candidates just need to accomplish a 2-page **Basic Information Sheet (BIS)** with no attachments required yet. This form is now available at the Metrobank Foundation, Inc., all Metrobank Branches, and the division/ regional offices of the Department of Education (DepEd) and the

Commission on Higher Education (CHED). This can also be accessed or downloaded from the MBFI website at www.mbfoundation.org.ph

PRIZES

Good News! Cash prize for each awardee has been increased to **P500,000**. The awardee will also receive a medal and a trophy, and the school, a plaque of recognition. National Finalists and Regional Finalists will receive **P20,000** and **P10,000** cash incentive, respectively, and certificates of recognition.

DepEd Divisions which produce at least 10 ELIGIBLE nominees will also receive corporate gifts as token of appreciation from the Foundation.

BREAKDOWN OF AWARDS

There will be ten (10) awards. The Final Board of Judges may elect not to give out all awards if the candidates fall short of the standards set by the Board. The decision of the Board of Judges is final. The Board reserves the right to withdraw any award at any time, when warranted.

THE SEARCH PROCESS

Nomination	The school selects its official nominee/s. □ Elementary schools are entitled to nominate 2 teachers, one each for the primary (Kinder-Grade 3) and intermediate (Grades 4-6) levels, while schools are entitled to nominate only one teacher each for the secondary and higher education competitions. Thus, tri-level schools can have a maximum of four (4) nominees. • <u>Satellite campuses of private colleges and universities and state universities and colleges (SUCs), whether autonomous or not, are entitled to nominate candidates per competition.</u> □ Candidates need to accomplish a 2-page Basic Information Sheet (BIS) to join the Search. □ The BIS must be officially endorsed and signed by the school head (e.g. University President or Chancellor for the higher education competition and the Principal for the elementary and secondary competitions).
Accomplishment of the 2-page Basic Information Sheet	The school's nominee/s accomplish/es the BIS, have this/these signed by the school head, and submit/s it to the Metrobank Foundation or nearest Metrobank Branch. □ The accomplished BIS should be submitted on or

	before January 27, 2015. BIS sent through courier must be postmarked on or before this date also. BIS may also be sent through e-mail at mbfi.sot@gmail.com on or before January 27, 2015. When qualified however, the nominee must still submit the duly-signed original sheet to the Metrobank Foundation or nearest Metrobank branch on or before this date also.
Evaluation of Basic Information Sheet by the Secretariat	The Search Secretariat determines the eligibility of nominees based on the accomplished BIS. The Secretariat evaluates the BIS based on the eligibility criteria. Eligible nominees will be notified and asked to accomplish and submit official nomination form.
Accomplishment of the Nomination Form	Eligible nominees accomplish the nomination form and submit to the Metrobank Foundation or nearest Metrobank Branch. The accomplished nomination form together with the other required attachments should be sent on or before February 20, 2015. Nomination form sent through courier must be postmarked on this date also. The nominee must submit the original copy of the form together with 1x1 colored photo. It is also advised that a copy of the nomination form be kept, for reference. The following are the required attachments: - recommendation letter of the school head; - certified true copy of the daily or weekly teaching schedule/ program for the current school year including the administrative duties and other assignments being handled by the nominee, if any - for elementary and high school levels, the Teacher's Program should include certification on the no. of hours per week; - for the higher education level, a certification on the total no. of unit loads for the whole academic year should be included; - certification of performance evaluation ratings obtained for the past 5 years (do not attach copies of the actual performance evaluation forms); - certification of regional / national / international award/s received by the nominee (those related only to awards for teachers); - certified true copy of valid PRC Teacher's

	License and Professional I.D. or pertinent license for tertiary courses where a professional license is required; f) short report on case/s filed against the nominee, if any As stated in the nomination form, the nominee must also express his or her commitment that should he/she win in the Search, he/she will stay and continue to teach in the Philippines for three years after winning.
Evaluation of nomination forms by the Secretariat	The Search Secretariat checks the completeness of the required attachments and identifies possible Automatic Provincial Finalists. The Secretariat evaluates the nomination forms and determines if the documents submitted are complete. The Secretariat recommends automatic Provincial Finalists, for confirmation by the Judges.

Evaluation of nomination forms by the Preliminary Boards of Judges (PBJ)	The PBJ for each competition determines the Provincial Finalists who will be asked to submit supporting documents. The PBJ evaluates the nomination forms based on agreed criteria. Based on a cut-off score set by the PBJ, the Judges determine the Provincial Finalists, who shall be asked to submit supporting documents. Winners of other searches conducted by reputable organizations for outstanding teachers at the regional / national / international levels are deemed Automatic Provincial Finalists, provided they meet the basic eligibility requirements of tenure, performance and teaching load, and passed levels of screening. The Judges will make final decision on whether or not the nominees will be considered Automatic Provincial Finalists. Awards to be considered are only those at the level a particular nominee is being nominated. Moreover, nominees must also go through the usual nomination process and submit the duly-accomplished nomination form and required attachments on or before the deadline. Past Regional Finalists and National Finalists of the Search, who meet the basic eligibility requirements and have shown sustained good moral standing in the community, are deemed Automatic Provincial Finalists.
Submission	Provincial Finalists submit supporting

of supporting documents	documents. ▢ Provincial Finalists should send only certified true copies of original documents. MBFI will not be responsible for original documents lost in transit or in the course of the Search process. ▢ Supporting documents should be submitted to the nearest Metrobank Branch or to the Metrobank Foundation Office on or before April 24, 2015. ▢ Failure to submit the supporting documents is ground for automatic disqualification.
Evaluation of supporting documents by the PBJ	The PBJ for each level determines the Regional Finalists. ▢ The PBJ for each competition evaluates the supporting documents based on agreed criteria. ▢ Regional Finalists are then determined, based on a cut-off score set by the PBJ.

Semi-Final Judging	The PBJ for each level selects the National Finalists. ▢ Regional Finalists are interviewed by the PBJ. ▢ This is followed by a teaching demonstration to determine each Regional Finalist's teaching effectiveness. ▢ National Finalists are then determined based on their performance during the semi-final judging and their documents.
Background Investigation	Conduct of Background Investigation to prospective National Finalists. ▢ A thorough background check on the character of each National Finalist will be done prior to the Final Judging. Confirmed derogatory information may be a ground for disqualification, subject to the decision of the concerned PBJ.
Final Judging	The Final Board of Judges selects the Winners for each competition. ▢ The Final Board of Judges conducts interviews of all National Finalists and determines the winners.
Proclamation of Winners and Recognition Program	The Winners are proclaimed and given due recognition through the following: ▢ Courtesy Call at the Senate ▢ Courtesy Call at the House of Representatives ▢ Courtesy Call at the Department of Education ▢ Winners' Forum and Media Day ▢ Awarding Ceremony as highlight of Metrobank's 53rd Anniversary Celebrations

IMPORTANT DATES TO REMEMBER

❖ January 27, 2015	Deadline for submission of Basic Information Sheet
❖ February 21, 2015	Deadline for submission of Nomination Form of Eligible Nominees
❖ April 24, 2015	Deadline for submission of Supporting Documents of Provincial Finalists
❖ June 10—12, 2015	Semi-Final Judging of Regional Finalists
❖ July 22—24, 2015	Final Judging of National Finalists
❖ September 1 - 5, 2015	Recognition Program (required for winners)

FOR MORE DETAILS:



Write or call the Metrobank Foundation Office, 4th Floor, Executive Offices, Metrobank Plaza, Sen. Gil Puyat Avenue, Makati City, Philippines 1200, with telephone nos. (02) 898-8898; telefax no. (02) 818-5656; 750-0837 or e-mail at mbfi.sot@gmail.com; or visit our website at www.mbfoundation.org.ph



www.facebook.com/ph/mbfi.sot

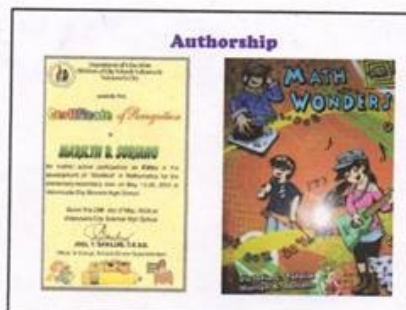
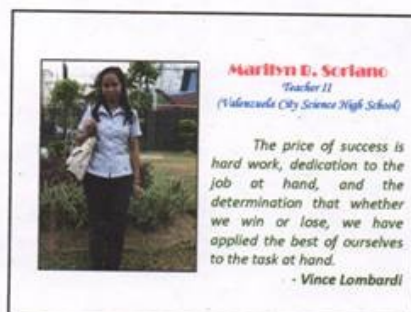
APPENDIX K

Summary of Outstanding Accomplishment of the Division of City Schools - Valenzuela

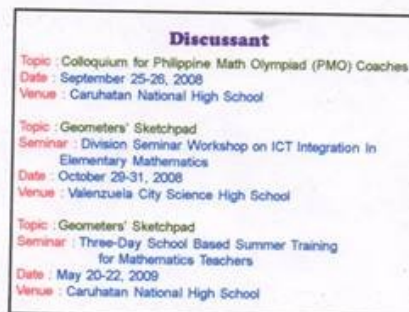
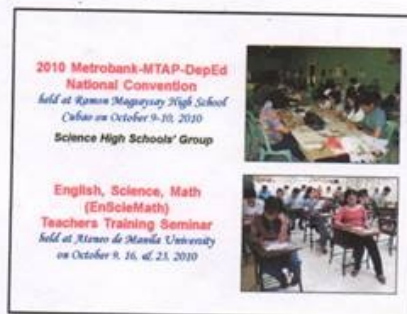
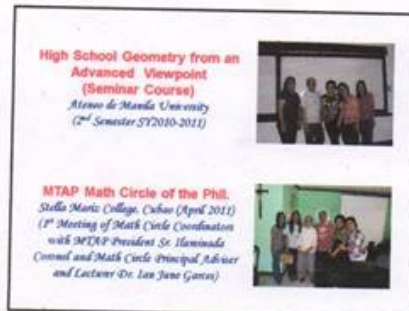
School	International Awards and Recognitions		National/Regional/Sec toral Awards and Recognitions	
Valenzuela City School of Mathematics and Science <i>(Formerly Valenzuela City Science</i>	1 st Place	1	1 st Place	12
	2 nd Place	3	2 nd place	11
	Participation	2	3 rd Place	12
			4 th Place	5
			5 th Place	4

<i>High School)</i>		6 th Place 3 7 th Place 1 8 th place 1 9 th Place 7 10 th place 6 Participation 2
Dalandanan National High School	1 st place 1 2 nd Place 3 Participation 2	1 st Place 19 2 nd Place 3 3 rd Place 4 4 th Place 5 6 th Place 1 7 th Place 2 8 th Place 1 9 th Place 1 10 th Place 2 Participation 1

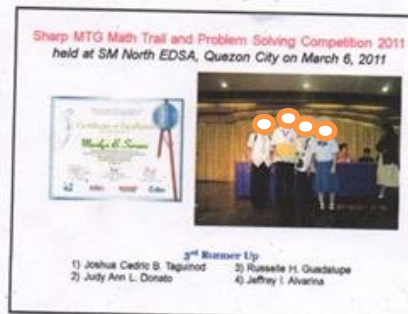
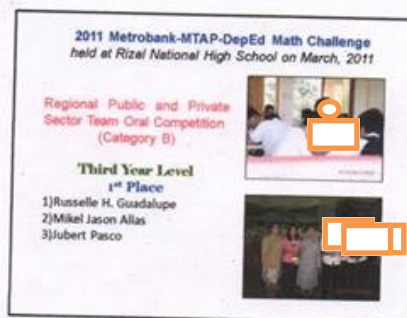
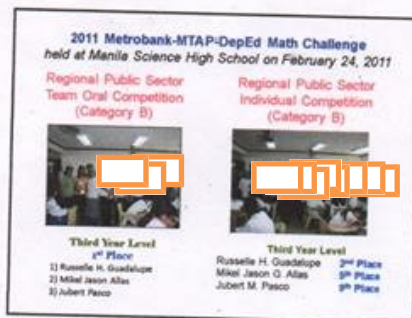
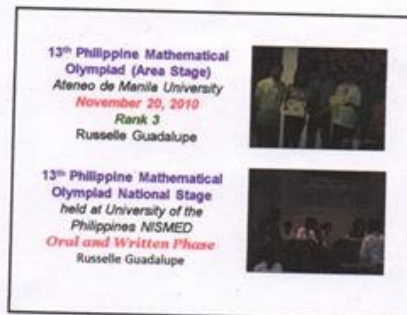
1/5/2016



1/5/2016



1/5/2016



1/5/2016

2010 Metrobank-MTAP-DepEd Math Challenge
held at Manila Science High School on January 30, 2010

Regional Public Sector (Category B)
Individual Competition
Third Year Level
Jonas Pira 4th Place
Eleazar Montemayor 10th Place

Regional Public and Private Sector (Category B)
Individual Competition
Third Year Level
Jonas Pira 9th Place

University of the East
Tagisan ng Talino sa Agham at Matematika 2010
Award : 2nd Place (with cash, certificate, & medals)
School Participants : Atoz Enriquez
: Lawrence Andaya
Date : February 20, 2010

University of Sto Tomas
Math Tournament 2010 (Pi-tagoras)
Award : 1st Place (with P 5 000, certificate, & medals)
School Participants : Russelle Guadalupe – Gold Medalist (Top Scorer)
: Mikel Jason Allas
Date : November 27, 2010

2009 Metrobank-MTAP-DepEd Math Challenge
held at Manila Science High School on February 20, 2009

Regional Public Sector (Category B)

Team Oral Competition
Third Year Level
3rd Place
1) Atoz Enriquez
2) Lawrence Andaya
3) Joel A. Molina



Individual Competition
Third Year Level
Atoz Enriquez 1st Place
Joel Molina 4th Place
Lawrence Andaya 3rd Place

2009 Metrobank-MTAP-DepEd Math Challenge
held at Rizal High School on March 19, 2009

Regional Public and Private Sector (Category B)

Team Oral Competition
Third Year Level
2nd Place
1) Atoz Enriquez
2) Lawrence Andaya
3) Joel A. Molina



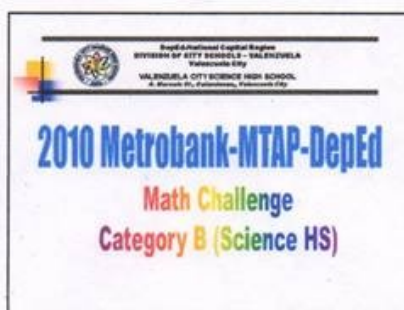
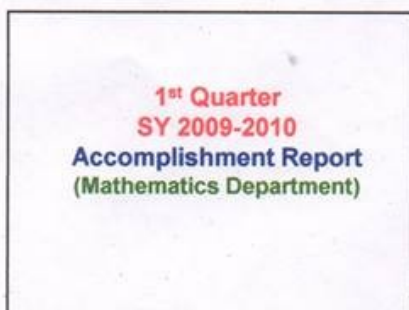
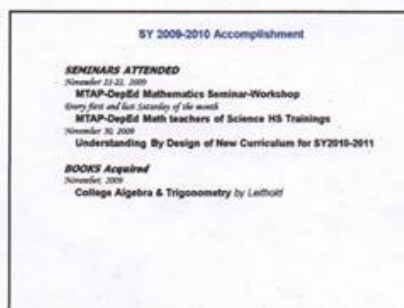
Individual Competition
Third Year Level
Atoz Enriquez 5th Place
Lawrence Andaya 9th Place
Joel Molina 10th Place

FEU 4th Nicanor Reyes Mind Challenge
Award : 3rd Place (with P 5 000, certificate, & trophy)
School Participants : Marineil Gomez (4th Year)
: Christian M. Laurio (3rd Year)
Date : November 20, 2007
Trainer : Marilyn Soriano

The greatest sign of success for a teacher is to be able to say, "The children are now working as if I did not exist."
- Maria Montessori

Thank you...

1/5/2016



1/5/2016



2010 Metrobank-MTAP-DepEd Math Challenge
Team Oral
Public Sector
(Category B)
Venue: Manila Science HQ
Date: February 16, 2010

1st Year (2nd Place)
Judy Ann C. Guevarra Joshua Joseph C. Guevarra Alexander P. Lario
Regional Participants
Trainer: Mr. Augusto B. Logrono



2010 Metrobank-MTAP-DepEd Math Challenge
Individual Competition
(Category B)
Venue: Manila Science HQ
Date: January 31, 2010
Awarding: Manila Science HQ

2nd Year
Public Sector Regional
1st Place 2nd Place
Renee Quinsaga Trainer: Mrs. Rebecca M. Difias



2010 Metrobank-MTAP-DepEd Math Challenge
Team Oral
Public Sector
(Category B)
Venue: Manila Science HQ
Date: February 16, 2010

2nd Year (3rd Place)
Renee Quinsaga Juleen Diaz Michael Alia
Regional Participants
Trainer: Mrs. Rebecca M. Difias



2010 Metrobank-MTAP-DepEd Math Challenge
Individual Competition
(Category B)
Venue: Manila Science HQ
Date: January 31, 2010

3rd Year
Public Sector Regional
1st Place 2nd Place
Jesse Diaz Elmer Montenegro 10th Place
National Participants in Team Oral
Trainer: Ms. Marilyn B. Soriano



2010 Metrobank-MTAP-DepEd Math Challenge
Individual Competition
(Category B)
Venue: Manila Science HQ
Date: January 31, 2010

4th Year
Public Sector Regional
2nd Place 3rd Place
Rico Sanchez Trainer: Mr. Silverio Aguilar



2010 Metrobank-MTAP-DepEd Math Challenge
Team Oral
Public Sector
(Category B)
Venue: Manila Science HQ
Date: February 16, 2010

4th Year (3rd Place)
Rico Sanchez Lawrence Andaya
Regional Participants
Trainer: Mr. Silverio Aguilar

1/5/2016

Order Mathematics Activities		
Math Fair 2010		
View: Gm. T. de León National RJ		
Date: January 28, 2010		
Math Galing		1 st Place
Alon Enriquez		
Teacher: Mrs. Jilberto Aguilar		
Math Galing		1 st Place
Alon Enriquez		
Teacher: Mrs. Jilberto Aguilar		
Math Galing		1 st Place
Alon Enriquez		
Teacher: Mrs. Jilberto Aguilar		
Math Galing		1 st Place
Alon Enriquez		
Teacher: Mrs. Jilberto Aguilar		
Math Galing		1 st Place
Alon Enriquez		
Teacher: Mrs. Jilberto Aguilar		
Math Galing		1 st Place
Alon Enriquez		
Teacher: Mrs. Jilberto Aguilar		



1/5/2016

ACCOMPLISHMENT REPORT

*Mathematics Department
(SY 2011 – 2012)*

*Trainings, Seminars,
Workshop*



*Math Circle 2011-2012
Training/Workshop
Day 1 (July 14, 2011)
Orientation with Dr. Ian June L. Garces*



*Math Circle
in Valenzuela City Science HS*



ValSci Math Circle



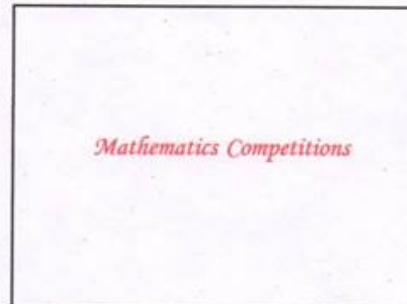
Culminating Activity in Ateneo de Manila University



*Mathematical Challenge for Filipino Kids Training Program
12 Saturday Sessions*



1/5/2016



1/5/2016

Metrobank-MTAP-DepEd Math Challenge Team Oral
Regional Public Sector – Cat B
 Date : February 26, 2012 Venue : Rizal High School



3rd Place
 (1st Year)
 John Dave Santos
 Jan Reggie dela Cruz
 Jade Kathleen Yu
 Mr. Augusto B. Logronio
 (Coach)

2nd Place
 (2nd Year)
 Joshua Cedric Taguison
 Angelo Christian Sevilla
 Divine-Nia Tan
 Mrs. Rebecca M. Binan
 (Coach)

Metrobank-MTAP-DepEd Math Challenge Team Oral
Regional Public Sector – Cat B
 Date : February 26, 2012 Venue : Rizal High School



3rd Place
 (3rd Year)
 Judy Ann Donato
 Alexander Santos
 Joshua Gonsan
 Mr. Silverio Agustin
 (Coach)

4th Place
 (4th Year)
 Roselle H. Guadalupe
 Mikel Jason DG. Allan
 Ms. Marilyn B. Soriano
 (Coach)

Metrobank-MTAP-DepEd Math Challenge Individual Contest
Regional Public Sector – Cat B
 Date : February 26, 2012 Venue : Rizal High School

1st Year

Place	Name
1 st	John Dave Santos
2 nd	Jan Reggie dela Cruz
3 rd	Jade Kathleen Yu
4 th	Azzalia Herrera
5 th	Francis Ian Marven
6 th	Bianca Janella Bastique
7 th	Clarissa Jasper Reyes

2nd Year

Place	Name
1 st	Joshua Cedric Taguison
2 nd	Angelo Christian Sevilla
3 rd	Christian Guinaballat
4 th	Edmar Clajay



Metrobank-MTAP-DepEd Math Challenge Individual Contest
 February 26, 2012 March 17, 2012
 Rizal High School Chiang Kai Shek College



Regional Public Sector – Cat B
1st Place
 Roselle H. Guadalupe
2nd Place
 Mikel Jason DG. Allan

Regional – Cat B
1st Place
 Roselle H. Guadalupe

MTAP-DepEd Math Trail
2012 NCR ELIMINATION



February 6 – SM San Lazaro
February 26 – SM North EDSA

Participants

Mikel Jason DG. Allan (4 th Year)
Judy Ann Donato (3 rd Year)
Joshua Cedric Taguison (2 nd Year)
Kathleen Jade Yu (1 st Year)

Mr. Timothy Acana
 (Coach)






1/5/2016

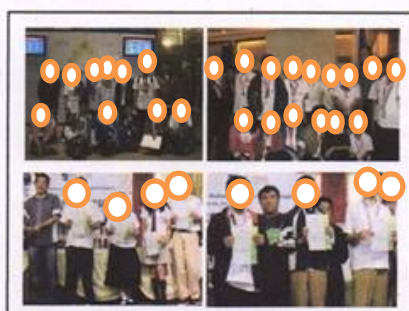



Top 15% Score

1) Joshua Cedric B. Yagisand	5) Judy Ana L. Donato
2) Angelo Christian L. Sevilla	6) Roselle H. Guadalupe
3) Joaziah C. Garcia	7) Mikel Jason DG. Allan
4) Alexander P. Sorino	

Alternate: Jade Kathleen Yu

These students are the participants for the "2012 MTG Mathematics Olympiad Summer Training Program" held in St. Francis of Assisi College, Las Pinas



*International
Mathematics Competitions*

1/5/2016



52nd International Mathematical Olympiad
 July 16 to 24, 2011
 Amsterdam, Netherlands

Participant (Philippine Team)
Russelle H. Guadalupe

Canadian Senior Mathematics Contest
 November 22, 2011
 Awarding : January 28, 2012
 Venue : SM North Edsa
Russelle H. Guadalupe
 (Champion) Silver Medalist

Raffles Invitational Mathematical Olympiad
 February 6 to 11, 2012
 Singapore
Russelle H. Guadalupe
 Bronze Medalist

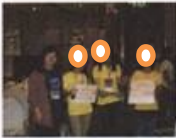


Indonesian International Mathematics Competition
 July 18 to 23, 2011
 Bali, Indonesia

2nd Runner-up Group
 Merit Award Team
 Merit Award Individual
Mikel Jason DG. Allas

2011 China Primary School Math Olympiad
 August 10 to 15, 2011
 Beijing, China

Certificate of Bronze Distinction
Bianca Janella Bantique
 Accompanying Person: Ms. Soriano




2nd round of International Mathematics Assessments for Schools (IMAS)
 February 11, 2012
 Philippine Cultural College - Manila

Qualifier
Garcia, Jezeriah
Taguinod, Joshua Cedric

Other Activities

1/5/2016





VALENZUELA CITY SCIENCE HIGH SCHOOL
A. Marcelo St., Dalandanan, Valenzuela City

2013 Metrobank-MTAP-DepEd Math Challenge (Sectoral Individual Category B)
San Francisco High School, Quezon City (February 2, 2013)

Quines, Carl Joshua T.	7th Place	Mr. Timothy Acana
Yu, Jade Kathleen F.	3rd Place	
Reyes, Iris Claire R.	5th Place	Mrs. Rebecca M. Biñas
Santos, John Dave L.	7th Place	
Dela Cruz, Jan Reggie T.	8th Place	
Taguinod, Joshua Cedric B.	3rd Place	
Tan, Divine Kia	4th Place	Mr. Augusto B. Logronio
Garcia, Jezariah C.	5th Place	
Sevillano, Angelo Christian L.	6th Place	
Sarino, Alexander P.	1st Place	
Gumaro, Joshua Joseph C.	3rd Place	Mr. Silverio Agustin
Donato, Judy Ann L.	7th Place	

2013 Metrobank-MTAP-DepEd Math Challenge (Regional Individual Category B)
San Francisco High School, Quezon City (February 2, 2013)

Taguinod, Joshua Cedric B.	7th Place	
Tan, Divine Kia	9th Place	Mr. Augusto B. Logronio
Garcia, Jezariah C.	10th Place	
Sarino, Alexander P.	8th Place	Mr. Silverio Agustin

2013 Metrobank-MTAP-DepEd Math Challenge (Sectoral Team Orals Category B)
Benigno Aquino High School, Makati City (February 16, 2013)

Quines, Carl Joshua T.		
Dizon, Sophia Dominique S.	3rd Place	Mr. Timothy Acana
Fabrique, Louie James R.		
Yu, Jade Kathleen F.	2nd Place	Mrs. Rebecca M. Biñas
Santos, John Dave L.		
Dela Cruz, Jan Reggie T.		
Taguinod, Joshua Cedric B.	3rd Place	Mr. Augusto B. Logronio
Garcia, Jezariah C.		
Sevillano, Angelo Christian L.		
Sarino, Alexander P.	1st Place	Mr. Silverio Agustin
Donato, Judy Ann L.		

*Young Excellence in Science (YES) Awardees,
Recognition given by DOST-SEI
Phivolcs Bldg., UP Diliman, Quezon City (February 12, 2013)*

Donato, Judy Ann L. Taguinod, Joshua Cedric B.	Taiwan Mathematics Competition (TAIMC)	Bronze Medal	Taipei, Taiwan	7/23-28/2012
Garcia, Jezariah C.	2012 International Young Mathematicians' Convention Olympiad	Silver Medal	Lucknow, Uttar Pradesh, New Delhi, India	12/1-4/2012
Sevillano, Angelo Christian L.	9 th China Southeast Mathematical Olympiad	Bronze Medal	Xiamen, Fujian, China	7/25 - 29/2012
Yu, Jade Kathleen F.	Asia International Math Olympiad 2012	Bronze Medal	Hong Kong	7/28 - 8/1/2012

*Australian Mathematics Competition
Slots from DOST-SEI
Grace Christian College*

Lorenzo, Axirazel DS.	Credit
Yu, Jade Kathleen F.	Distinction
Taguinod, Joshua Cedric B.	Distinction
Donato, Judy Ann L.	Credit

*PNU Math-Tagisan
Philippine Normal University, Taft Ave., Manila
January 23, 2013*

Donato, Judy Ann L.	Individual Cat.	2 nd Place	Mr. Augusto B. Logronio
---------------------	-----------------	-----------------------	-------------------------

*Division Mathematics Festival
V.P. Trinidad Memorial High School
Valenzuela City
February 26, 2013*

Ampong, Mharr Jhustinne DR.	Rubics Cube Challenge	1st Place
Mr. Augusto B. Logronio	Classroom Based Action Research	1st Place
Mr. Timothy Acana	Sudoku Contest (Teacher Category)	2nd Place





Republic of the Philippines
Department of Education - NCR
Division of City Schools – VALENZUELA CITY
DALANDANAN NATIONAL HIGH SCHOOL

25 G. Lazaro St., Dalandanan, Valenzuela City
Tel. Fax. : 445-66-52 / e-mail : dalandanan_national_high_school@yahoo.com



**ACCOMPLISHMENT REPORT
SCHOOL YEAR 2014 – 2015
MATHEMATICS DEPARTMENT**

**CONTESTS AND OTHER MATHEMATICS RELATED COMPETITIONS
2015 MTAP MATH CHALLENGE**

DIVISION LEVEL

GROUP CATEGORY:

Level	Place	Trainer
GRADE 7	First Place	Mrs. Elizabeth L. Llandelar
GRADE 8	Second Place	Mr. Setiel P. Go
GRADE 9	First Place	Mr. Bernard T. Lucenecio
FOURTH YEAR	First Place	Mr. Fidencio C. Carreon Jr.

DIVISION ORALS (CAMANAVA)

GROUP CATEGORY:

Level	Place	Trainer
GRADE 7	Eighth Place	Mrs. Elizabeth L. Llandelar
GRADE 8	Fourth Place	Mr. Setiel P. Go
GRADE 9	Fourth Place	Mr. Bernard T. Lucenecio
FOURTH YEAR	First Place	Mr. Fidencio C. Carreon Jr.

REGIONAL LEVEL**INDIVIDUAL CATEGORY:****FOURTH YEAR****First Place****Mr. Fidencio C. Carreon Jr.****GROUP CATEGORY:****FOURTH YEAR****Fifth Place****Mr. Fidencio C. Carreon Jr.****NATIONAL LEVEL****INDIVIDUAL CATEGORY:****FOURTH YEAR****Seventh Place****Mr. Fidencio C. Carreon Jr.**

Prepared by:

MA. ELENA A. BOBIS
Math Club Adviser**FIDENCIO C. CARREON JR**
Math Club Adviser**SERAFIN SD. RAYMUNDO II**
Head Teacher III

Noted:

MAXIMA G. CARLOS
Principal IV



Republic of the Philippines
Department of Education - NCR
Division of City Schools – VALENZUELA CITY
DALANDANAN NATIONAL HIGH SCHOOL

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**ACCOMPLISHMENT REPORT
SCHOOL YEAR 2012 – 2013
MATHEMATICS DEPARTMENT**

CONTESTS AND OTHER MATHEMATICS RELATED COMPETITIONS

2013 MTAP MATH CHALLENGE

DIVISION LEVEL

GROUP CATEGORY:

Level	Place	Trainer
GRADE 7	First Place	Mrs. Elizabeth L. Llandelar
SECOND YEAR	First Place	Mr. Serafin SD. Raymundo II
THIRD YEAR	First Place	Mr. Bernard T. Lucenecio
FOURTH YEAR	Third Place	Mr. Fidencio C. Carreon Jr.

DIVISION ORALS (CAMANAVA)

GROUP CATEGORY:

Level	Place	Trainer
SECOND YEAR	First Place	Mr. Serafin SD. Raymundo II
FOURTH YEAR	Third Place	Mr. Fidencio C. Carreon Jr.

SECTORAL COMPETITIONS (REGIONAL PUBLIC SCHOOL)

INDIVIDUAL CATEGORY:

REGIONAL LEVEL**INDIVIDUAL CATEGORY:**

SECOND YEAR	Third Place	Mr. Serafin SD. Raymundo II
-------------	-------------	-----------------------------

GROUP CATEGORY:

SECOND YEAR	Fourth Place	Mr. Serafin SD. Raymundo II
-------------	--------------	-----------------------------

INTERNATIONAL LEVEL

Ronelio A. Barasi,	member of the Philippine Team	Held in Hong Kong
--------------------	-------------------------------	-------------------

Silver Medalist, Asia Math Cup

Bronze Medalist, King of Mathematics

Bronze Medalist, Gifted Mathematics, Green World Cup

Ronelio A. Barasi

Recipient of YES award.

Serafin SD. Raymundo II

Recipient of Superintendent's Award

Prepared by:

ELIZABETH L. LLANDELAR
Math Club Adviser

SERAFIN SD. RAYMUNDO II
Head Teacher III

Noted:

MAXIMA G. CARLOS
Principal IV



Republic of the Philippines
Department of Education - NCR
Division of City Schools – VALENZUELA CITY
DALANDANAN NATIONAL HIGH SCHOOL

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**ACCOMPLISHMENT REPORT
SCHOOL YEAR 2013 – 2014
MATHEMATICS DEPARTMENT**

CONTESTS AND OTHER MATHEMATICS RELATED COMPETITIONS

2014 MTAP MATH CHALLENGE

DIVISION LEVEL

GROUP CATEGORY:

Level	Place	Trainer
GRADE 7	Second Place	Mrs. Elizabeth L. Llandelar
GRADE 8	First Place	Mr. Setiel P. Go
THIRD YEAR	First Place	Mr. Fidencio C. Carreon Jr.
FOURTH YEAR	First Place	Mr. Bernard T. Lucenecio

DIVISION ORALS (CAMANAVA)

GROUP CATEGORY:

Level	Place	Trainer
GRADE 7	Fifth Place	Mrs. Elizabeth L. Llandelar
GRADE 8	Third Place	Mr. Setiel P. Go
THIRD YEAR	First Place	Mr. Fidencio C. Carreon Jr.
FOURTH YEAR	Fourth Place	Mr. Bernard T. Lucenecio

SECTORAL COMPETITIONS (REGIONAL PUBLIC SCHOOL)

GROUP CATEGORY:

Grade 8	Fourth Place	Mr. Setiel P. Go
THIRD YEAR	Second Place	Mr. Fidencio C. Carreon Jr.

REGIONAL LEVEL

INDIVIDUAL CATEGORY:

Grade 8	Seventh Place	Mr. Setiel P. Go
THIRD YEAR	First Place	Mr. Fidencio C. Carreon Jr.
	Ninth Place	Mr. Fidencio C. Carreon JR

GROUP CATEGORY:

THIRD YEAR	Sixth Place	Mr. Fidencio C. Carreon Jr.
------------	-------------	-----------------------------

INTERNATIONAL LEVEL

Ronelio A. Barasi,	member of the Philippine Team	Held in Nevada, USA
--------------------	-------------------------------	---------------------

Prepared by:

MA. ELENA A. BOBIS
Math Club Adviser

FIDENCIO C. CARREON JR
Math Club Adviser

SERAFIN SD. RAYMUNDO II
Head Teacher III

Noted:

MAXIMA G. CARLOS
Principal IV

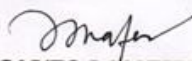
APPENDIX L

January 7, 2015

CERTIFICATION

This is to certify that the undersigned has reviewed and validated the questionnaire of **MR. ARNEIL D. ARO** for his master's thesis entitled "**A MODEL OF AN OUTSTANDING MATHEMATICS TEACHER**".

Certified by:

**MARGARITO B MATERUM, Ph D**

Assistant Schools Division Superintendent

Division of City Schools – Parañaque

Comments/Suggestion:

Please accommodate the corrections made for the following:

Appendix A-B, items 1 and 9

Appendix C, item 3

Appendix D, items 3 and 8

Appendix E, items 1, 5 and 8

Appendix F, items 1, 3, 5 and 6.

January 7, 2015

CERTIFICATION

This is to certify that the undersigned has reviewed and validated the questionnaire of **MR. ARNEIL D. ARO** for his master's thesis entitled "**A MODEL OF AN OUTSTANDING MATHEMATICS TEACHER**".

Certified by:


JAMESON H TAN, Ed D

Research Coordinator

Pamantasan ng Lungsod ng Valenzuela

Comments/Suggestion:

APPENDIX M



BIGNAY NATIONAL HIGH SCHOOL
Gitna St., Bignay, Valenzuela City

Instructional Supervision Form3A / CB-PAST Form 3A

Name: _____ Position: _____ Date: _____

SCHOOL: _____

District: _____

Teacher Observation Guide for Instructional Competence

Legend:

0-Not Observed (NO) **1**-Below Basic (BB) **2**-Basic (B) **3**- Proficient (P) **4**-Highly Proficient (HP)

Circle the number that describes best your observation of the teacher. Start here...

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
A	Diversity of Learners					
1	Sets lesson objectives within the experiences and capabilities of the learners	0	1	2	3	4
2	Utilizes varied techniques and strategies suited to different kinds of learners	0	1	2	3	4
3	Shows fairness in dealing with learners	0	1	2	3	4
4	Places lessons appropriate to the needs and difficulties of learners	0	1	2	3	4
5	Provides appropriate intervention activities for learners at risk	0	1	2	3	4

Total Score: _____ Average: _____ Description: _____

Narrative Description:

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
B	Curriculum Content and Pedagogy					
	B.1 Teacher behavior in Actual teaching					
1	Teaches accurate and updated content using appropriate approaches and strategies.	0	1	2	3	4
2	Aligns lesson objectives, teaching methods, learning objectives and instructional materials	0	1	2	3	4
3	Encourages learners to use higher order thinking skills in asking questions	0	1	2	3	4

4	Encourages and sustains learners' interest in the subject matter by making content meaningful and relevant	0	1	2	3	4
5	Establishes routines and procedures to maximize use of time and instructional materials.	0	1	2	3	4
6	Integrates language, literacy, skills and values in teaching.	0	1	2	3	4
7	Presents lesson logically in a developmental manner	0	1	2	3	4
8	Utilizes technology resources in planning, designing and delivery of the lesson	0	1	2	3	4
9	Creates situations that encourages learners to use higher order thinking skills	0	1	2	3	4

Total Score: _____ **Average:** _____ **Description:** _____

Narrative Description:

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
B	Content and Pedagogy					
	B.2 Learners' Behavior in the Classroom					
1	Answers in own words at a desired cognitive level	0	1	2	3	4
2	Participates actively in the learning tasks with some levels of independence	0	1	2	3	4
3	Asks questions relevant to the lesson	0	1	2	3	4
4	Sustains interest in the lesson/ activity	0	1	2	3	4
5	Follows routines and procedure to maximize instructional time	0	1	2	3	4
6	Shows appropriate behavior of individualism, cooperation, competition in classroom interactions	0	1	2	3	4
7	Imbibes and values learning from the teacher and from the classroom	0	1	2	3	4
8	Demonstrates in various ways, learning achieved in the activities	0	1	2	3	4

Total Score: _____ **Average:** _____ **Description:** _____

Narrative Description:

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
C	Planning, Assessing , Reporting Learners' Outcomes					

1	Provides timely, appropriate reinforcement/feedback to learners' behavior	0	1	2	3	4
2	Use appropriate formative, summative tests congruent to the lesson	0	1	2	3	4
3	Uses non-traditional authentic assessment techniques when needed	0	1	2	3	4
4	Keeps accurate records of learners' performance level	0	1	2	3	4
5	Gives assignment as reinforcement or enrichment of the lesson	0	1	2	3	4
6	Provide opportunity for learners to demonstrate their learning	0	1	2	3	4

Total Score: _____**Average:** _____**Description:****Narrative Description:**

Comments to the Teacher:

Agreements of the Teacher and Observer:

(Teacher's Name and Signature)_____
(Observer's Name and Signature)
Head Teacher/Principal/Supervisor

*Signatures indicate that observations have been clarified by both parties.

Gms/2010

Instructional Supervision Form3B / CB-PAST Form 3B

Teacher Observation Guide for Home, School and Community Involvement

Legend:

0-Not Observed (NO) **1**-Below Basic (BB) **2**-Basic (B) **3**- Proficient (P) **4**-Highly Proficient (HP)

Circle the number that describes best your observation of the teacher. Start here...

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
D	Learning Environment	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
1	Maintains a safe and orderly classroom					
2	Engages learners in different learning activities for higher learning					
3	Handles behavior problems quickly and with due respect to children's rights					
4	Creates situation that develops a positive attitude among learners towards their subjects and teachers					
5	Provides gender sensitive opportunities for learning					

Total Score: _____ **Average:** _____ **Description:** _____

Narrative Description: _____

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
E	School, Home & Community Linkages					
1	Involves the community in sharing accountability for learners' achievement	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
2	Uses varied and available community resources (human, materials) to support learning	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
3	Uses community as laboratory for teaching and learning	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
4	Shares with the community information on school events and achievements	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
5	Encourage learners to apply classroom learning at home and in community	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
6	Informs learners, parents and stakeholders regarding school policies and procedures	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>

Total Score: _____ **Average:** _____

Description: _____

Narrative Description:

Comments to the Teacher:

Agreements of the Teacher and Observer:

 (Teacher's Name and Signature)

 (Observer's Name and Signature)
 Head Teacher/Principal/Supervisor

*Signatures indicate that observations have been clarified by both parties.

Gms/2010

Instructional Supervision Form3C / CB-PAST Form 3C

Teacher Observation Guide for Personal, Social Growth and Professional Development

Legend:

0-Not Observed **1**-Below Basic **2**-Basic (**B**) **3**- Proficient **4**-Highly Proficient
(NO) **(BB)** **(P)** **(HP)**

Circle the number that describes best your observation of the teacher. Start here...

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
F	Social Regard for Learning					
1	Abides by and implements school policies and procedures	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
2	Observes punctuality in accomplishing tasks and requirements	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
3	Observes punctuality in class attendance and other occasions	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
4	Maintains appropriate appearance and decorum at all times	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
5	Demonstrate appropriate behavior in dealing with students, superiors and stakeholder	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>

Total Score: _____ **Average:** _____ **Description:** _____

Narrative Description:

	Performance Behavior	Observation Rating				
		N O	BB	B	P	HP
G.	Personal, Social growth and Professional Development					
1	Maintains stature and behavior that upholds the dignity of teaching	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
2	Manifests personal qualities like enthusiasm, flexibility, caring attitude and others	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
3	Demonstrates a personal philosophy of teaching in the classroom	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
4	Updates oneself with the recent developments in education	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
5	Improves teaching performance based on feedback from mentor, students, peers, superiors	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
6	Accepts accountability for learning outcomes	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
7	Reflects on ones quality of teaching vis-à-vis learning outcomes	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
8	Uses self-assessment (TSNA) to enhance strengths and correct ones weaknesses	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
9	Participates actively in professional organizations	<u>0</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
10	Abides by the Code of Ethics for Professional Teachers					

Total Score: _____ **Average:** _____ **Description:** _____

Narrative Description:

Comments to the Teacher:

Agreements of the Teacher and Observer:

(Teacher's Name and Signature)

(Observer's Name and Signature)
Head Teacher/Principal/Supervisor

*Signatures indicate that observations have been clarified by both parties.

Gms/2010

CB-PAST Form 3 Summary of Ratings and Template

(For Formative Appraisal and Instructional Supervision)

Name: _____ **Position:** _____ **Date:** _____**SCHOOL:** _____**District:** _____

Criteria	Assigned Weight in CB-PAST (disregarded in the Formative Appraisal)	No. of Items	Score	Mean (Score ÷ no. of items)	Description of the TBI	Recommended Supervisory Approach
I. Instructional Competence						
A. Diversity of Learners	10%	4				
B. Curriculum Content and Pedagogy	30%	17				
B.1 Teacher Behavior		9				
B.2 Learner Behavior		8				
C. Planning, Assessing and Reporting	20%	6				
TOTAL	60%	27				
II. Home, School & Community Involvement						
D. Learning Environment	10%	5				
E. Community Linkages	10%	6				
TOTAL	20%	11				
III. Personal Growth & Professional Development						
F. Social Regard for Learning	10%	5				
G. Personal, Social and Professional Development	10%	10				
TOTAL	20%	15				
Grand Total	100%					
Teacher Formative Appraisal Rating: _____ :						
Description for Overall Teacher Observation Rating for Formative Appraisal:						

Teacher Behavior Index (TBI) for Formative analysis3.51 - 4.00- **Highly Proficient.**

- ✓ Teacher behaviors consistently exceed expectations. Displays AT ALL TIME, a consistency high level of performance related skills, abilities, attributes initiatives and productivity. Self-direction of the teacher is evident. **Non-Directive and collaborative approaches to supervision are recommended.**

2.51 - 3.50- **Proficient.**

- ✓ Teacher behaviors often exceed expectations. Displays a high level of competency related skills, abilities, initiatives and productivity, exceeding requirements in

many indicators. **Non-Directive and collaborative approaches to supervision are recommended.**

1.51 - 2.50 **Basic**

- ✓ Teacher behaviors meet basic expectations based on standards. Display basic level of work and performance outputs as required outcomes or expectations of the job. **Collaborative and directive approaches to supervision are recommended**

Below - 1.50- **Below Basic**

- ✓ Teacher behaviors on the job and performance outputs frequently fall below standard. Work outputs consistently fail to meet required outcomes which need repetition. The teacher urgently needs immediate instructional support. **Intensive directive supervision approach is recommended**

I hereby acknowledge the observations done by my instructional supervisor and I will appreciate all the support that will be extended to improve my instructional competence.

Teacher(name and signature)

Date: _____

As an instructional supervisor, I am willing to extend instructional support to this teacher based on the results of the Observation and his/her expressed need.

Instructional Supervisor(name and signature)

Date: _____

NOTED:

APPENDIX N

Dep Ed-VALENZUELA
(RECORDS)
RECEIVED

JAN 21 2016

CODE: DE-3410
Sign: [Signature] Time: 3:30



Republic of the Philippines
Department of Education
National Capital Region
DIVISION OF CITY SCHOOLS - VALENZUELA
Pio Valenzuela St., Marulas
Valenzuela City
divisionofvalenzuela@yahoo.com
telefax: no. (02) 292-32-47



January 21, 2016

ARNEIL D. ARO

Principal III
Bignay National High School
Valenzuela City

Dear Mr. Aro:

In response to your letter-request dated January 14, 2016, this Office grants permission to you to administer your instrument, **re:** "A Model of an Outstanding Mathematics Teacher" to the secondary school principals, head teachers, master teacher, outstanding Mathematics teacher and students of Valenzuela City School of Mathematics and Science, Dalandanan National High School and Malinta National High School, in the Division, in connection with your master's degree, on conditions that:

1. the conduct of the research will not interrupt the regular procedure of the schools, with the teaching duties of the teachers and will not disrupt regular classes;
2. necessary arrangement will be made with the school heads concerned;
3. no school materials and equipment will be used for the purpose; and
4. the Office shall be furnished a copy of the findings and recommendations of the research.

MELITON F. ZURBANO
Officer-In-Charge

Office of the Schools Division Superintendent

Incl: As stated
SGOD/cjd

APPENDIX O

PROFILE OF EXPERTS

Expert	Educational Attainment	Accomplishments
Expert A	Doctor of Education , major in Educational Leadership, National Teachers College, Manila, 2013	Graduate School Faculty NTC , Manila 2013 to present University Research Director Pamantasan ng Lungsod ng Valenzuela
Expert B	Doctor of Philosophy , major in Educational Management Philippine Normal University, Manila	Language Critic Our Lady of Fatima University Graduate School 2010-Present Professor II Our Lady of Fatima University Graduate School, Valenzuela City 2010-Present
Expert C	Doctor of Education , major in Educational Leadership National Teachers College	Dean, College of Education Bulacan State University 2016-Present Graduate School Professor Bulacan State University 2010-Present Educational Researcher Bulacan State University 2010-Present

MR. ARNEIL DEFENSOR ARO

#27 Ibaba Street, Bignay, Valenzuela City

Tel.No.: **4428264**

Mobile No.: **09275229769**

e-mail:ad_aro2005@yahoo.com



Achievements

- Passer, Career Executive Validation
- Passer, Career Executive Assessment Center
- Passer , Career Executive Service Written Examinations
- Outstanding Principal for five (5) consecutive years (2011-2016)
- Awardee – Director's Award
- Consistent Recipient – Superintendent's Award
- Passer – Aspirants for Principalship Examination
- Speaker/Lecturer in various seminars and trainings related to education and management
- Organizer/Facilitator of different training programs
- Public Affairs Director of Valenzuela Philippine Stake (Diocese)
- Voluntary Services in CES Seminary and Institute Program
- 2012 Chapter Awardee of Philippine Normal University
- CUM LAUDE, Bachelor of Science in Elementary and Secondary School, Philippine Normal University, 1990
- VALEDICTORIAN, Sagay National High School, 1986
- Consistent Academic Scholar
- Consistent Student Leader

Experiences

Principal III

Bignay National High School

Division of City-Schools – Valenzuela

January 30, 2014 – to date

Stake (Diocese) Public Affairs Director

Valenzuela Philippines Stake (Diocese)

August 2013 to May 2016

Principal III

Caruhatan National High School

Division of City School – Valenzuela

November 4, 2015 – January 29, 2014

Principal II

Valenzuela City Science High School
Division of City School – Valenzuela
February 8, 2008 – November 3, 2011

T Teacher II

Sitero Francisco Memorial National High School
Division of City School – Valenzuela
October 1, 2004 – February 3, 2008

Instructor I

Carlos Hilado Memorial state College
Talisay City, Negros Occidental
June 9, 1995 – May 31, 2001

Teacher I

Sagay National high School
Division of Negros Occidental
February 8, 1993 – June 8, 1995

Full Time Missionary

Philippines Naga Mission
The Church of Jesus Christ of Latter-Day Saints
June 4, 1990 – June 24, 1992

Education**MASTER OF ARTS IN EDUCATION, Major in Mathematics**

MASTER OF ARTS IN EDUCATION, Major in Educational Management Expanded
Tertiary Education Equivalency and Accreditation Program Philippine Normal
University (Final Oral)

MASTER OF ARTS IN EDUCATION, Major in Educational Management
Philippine Normal University - Manila (9 units)

MASTER OF ARTS IN EDUCATION, Major in Mathematics
West Visayas State University ,Iloilo City
Completed Academic Requirements **(CAR)**

BACHELOR OF SCIENCE IN ELEMENTARY AND SECONDARY EDUCATION

Philippine Normal University, Cadiz City

**Civil Service
Eligibility**

- November 24, 2016 **CES ELIGIBILITY**
- October 28, 2016 **CES Board Interview** **PASSED**
- **CES-Validation** **PASSED**
- February 22, 2015 **CES Assessment Center** **PASSED**
- June 2, 2013 – **CES Written Examination** **(80.84)**
- **Qualifying Examinations for Aspirants for Principalship (117.75)**
- October 25, 1992 – **PBET** **(77.18)**
- PD 907 – **Honor Graduate**

**Awards and
Recognitions**

Award	Date Awarded	Awarding Institution
1. Director's Award "Achievement in the International contest in the 8 th International Exhibition for Young Inventors 2012"	August 16, 2012	Department of Education National Capital Region
2. Superintendent's Award "Achievements in Science Fair in the Division and Regional Level"	March 22, 2013	Department of Education Division of City Schools -Valenzuela
3. Superintendent's Award "Exceptional Support Provided to Journalism"	March 27, 2013	Department of Education Division of City Schools -Valenzuela
4. Superintendent's	Dec. 15,	Department of

Award "Rank 1 in the National Achievement Test"	2012	Education Division of City Schools -Valenzuela
5. Superintendent's Award "Achievements in the International contest in Mathematics of students of VALSCI"	Mar ch 28 , 2012	Department of Education Division of City Schools – Valenzuela
6. Superintendent's Award "Best Implementor - Canteen"	March 27, 2012	Department of Education Division of City Schools -Valenzuela
7. Superintendent's Award "Winning Principal in Science Fair"	March 29 , 2012	Department of Education Division of City Schools – Valenzuela
8. Superintendent's Award "2011 Metrobank – MTAP DEPED MATH CHALLENGE"	March 31 , 2012	Department of Education Division of City Schools – Valenzuela
9. Superintendent's Award "Support to BSP-Valenzuela City Council youth development programs"	July 14, 2011	Department of Education Division of City Schools -Valenzuela
10. Superintendent's Award "Winning Principal First Place in the Regional Annual Reading Proficiency Contest"	April 1, 2011	Department of Education Division of City Schools -Valenzuela
11. Superintendent's Award "Rank 1 in the NAT SY 2009-2010"	Feb 17, 2011	Department of Education Division of City Schools -Valenzuela
12. Superintendent's Award "Winning Principal in Regional and National Science Competitions and Science Inventions in the 7 th EIYI in Hanoi, Vietnam"	April 1, 2011	Department of Education Division of City Schools -Valenzuela

13. Superintendent's Award "Winning Principal – First Place winner in Regional Pop Quiz SY 2010-2011"	March 31, 2011	Department of Education Division of City Schools -Valenzuela
14. Superintendent's Award "Leadership in meritorious achievements in Science and Technology"	March 26, 2010	Department of Education Division of City Schools – Valenzuela
15. Superintendent's Award "2010 Metrobank – MTAP DEPED Challenge"	March 26, 2010	Department of Education Division of City Schools – Valenzuela
16. Superintendent's Award "The Most Effective School in Mathematics"	March 26, 2010	Department of Education Division of City Schools – Valenzuela
17. Superintendent's Award "First Place – in the Search for the Most Effective School in Mathematics"	March 30, 2009	Department of Education Division of City Schools -Valenzuela
18. Superintendent's Award "Winning Principal – different contest in Mathematics"	March 30, 2009	Department of Education Division of City Schools – Valenzuela
19. Superintendent's Award "Valenzuela's title as Champion Division in the 2008 in Regional English Proficiency Contest"	March 27, 2008	Department of Education Division of City Schools – Valenzuela
20. Certificate of Recognition "Outstanding leadership as Principal of BNHS the Champion in the 2015 National Nestle Campus Dance Contest"	December 11, 2015	Nestle Philippines Department of Education
21. Katibayan ng Pagkilala	August 31, 2009	PA on Culture, Office of the President
22. Certificate of Recognition	October 31, 2008	Department of Education Division of City Schools –

“Contribution as Discussant on the Topic “ Presenting a Powerful Presentation”		Valenzuela
23. Certificate of Recognition and Appreciation “Rank 1 in the NAT for Second Year”	July 9, 2009	Department of Education Division of City Schools – Valenzuela
24. Plaque of Recognition “ 4 years unwavering support in <i>AngGaling ng Teacher Ko!</i> ”	Dec. 8, 2010	Department of Education Division of City Schools – Valenzuela
25. Certificate of Recognition “Discussant in the Division Seminar Workshop on ICT Integration in Elementary Mathematics”	Oct. 29, 2010	Department of Education Division of City Schools – Valenzuela
26. Certificate of Recognition “Program Consultant:Buwan ng Wika 2008”	August 28, 2008	Department of Education Division of City Schools – Valenzuela
27. Certificate of Recognition “Officiating Official during the Division Athletic Meet 2011”	Oct. 25, 2011	Department of Education Division of City Schools – Valenzuela
28. Certificate of Recognition “Officiating Official during the Division Athletic Meet 2009”	March 30, 2009	Department of Education Division of City Schools – Valenzuela
29. Certificate of Recognition “Resource Speaker of the 2008 School Based Management, Summer Training for Teachers”	May 29, 2008	Department of Education Division of City Schools – Valenzuela
30. Certificate of Recognition “Resource Speaker: Teaching The Net Generation”	Oct. 14, 2008	Department of Education Division of City Schools – Valenzuela
31. Certificate of Recognition “Principal Area Consultant”	May 29, 2009	Department of Education Division of City Schools –

		Valenzuela
32. Certificate of Recognition "Technical Planning Member: Division Math Festival '09"	January 30, 2009	Department of Education Division of City Schools – Valenzuela
33. GawadPagkilala "Buwan ng Wika 2010"	Sept. 1, 2010	Department of Education Division of City Schools – Valenzuela
34. Certificate of Recognition "Rank 1 in 2012 NAT Y4 in NCR in Science"	Sept. 15, 2012	Department of Education Division of City Schools – Valenzuela
35. Certificate of Recognition "Principal Consultant: 2009 PansangaynaPaligsahansaPinak amainamnaGawangPananaliksik sa Filipino"	March 13, 2009	Department of Education Division of City Schools – Valenzuela
36. Certificate of Recognition "Service Bureau"	April 1, 2001	Department of Education Division of City Schools – Valenzuela
37. Gawad ng Pagkilala "PansangaynaPaligsahansaBuw an ng Wika '08"	August 28, 2008	Department of Education Division of City Schools – Valenzuela
38. Certificate of Recognition "Discussant: Division Roll-Out of the NCBTS-TSNA and IPPD"	August 14, 2009	Department of Education Division of City Schools – Valenzuela
39. Certificate of Recognition "TaunangAngGaling ng Teacher Ko!"	December 9, 2011	Department of Education Division of City Schools – Valenzuela
40. Certificate of Recognition "Winning Principal-2 nd Place in the 2008 Division Search for the Best High School Library"	March 27, 2008	Department of Education Division of City Schools – Valenzuela
41. Certificate of Recognition	March	Department of

"First Place in the Division English Reading Proficiency Contest"	28,2008	Education Division of City Schools – Valenzuela
42. Certificate of Recognition "Facilitator: Three-Day School-Based Management Summer Training for Math Teachers"	May 22, 2009	Department of Education Division of City Schools – Valenzuela