





## Curricular Perspectives of Selected Mathematics Teachers: A Descriptive Cross-Sectional Non-Experimental Research

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To cite this article:

Reyes, J. D., Cabrera, G. A. & Ocampo, N. D. (2021). Curricular perspectives of selected mathematics teachers: A descriptive cross-sectional non-experimental research. *Eurasian Journal of Teacher Education*, 2(3), 159-175.

Received: 08.14.2021

Accepted: 10.08.2021

### Abstract

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This study focused on the mathematics curricular perspectives of the selected mathematics teachers in terms of: on the purpose of mathematics, on the teaching of mathematics, on the learning of mathematics, on the content of mathematics, and on the assessment of mathematics using a descriptive cross-sectional research design. The respondents of this study were the 150 selected teachers from junior high school involving their gender and highest educational attainment to determine if it has a connection as pertain to their mathematics curricular perspectives. As a result, mathematics teachers on the purpose of mathematics, most of them were learner-centered ideologists, on the teaching of mathematics, they were learner-centered ideologists, on the learning of mathematics, the modal was social efficiency ideologist, on the content of mathematics, most of them were social reconstruction ideologists, and on the assessment of mathematics, they were scholar academic ideologists. This research suggests that the findings of this study may be used as a reference in crafting and developing curriculum intended for mathematics teacher education.

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*Keywords:* Curriculum ideologies, curricular perspectives, curriculum research

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Article Type:

Research Article

Acknowledge:

The researchers wish to extend their sincerest gratitude and appreciation to all the teacher-respondents for their patience in answering the survey questionnaire. To all the principals and school heads for their trust given to us. And above all, to the Almighty God, for the love, strength, and wisdom that He gave to the authors in order to fulfill their goals.

Ethics Declaration:

The article was prepared in accordance with all ethical rules. All the teacher-respondents were withheld and instead represented through pseudonyms to hide their identity. A letter of invitation and consent form was provided during the conduct of data collection. The decision of the respondents not to participate were had been respected and all the collected information and data throughout the process of the study were treated with utmost confidentiality.

# Matematik Öğretmenlerinin Müfredat Perspektifleri: Tanımlayıcı Kesitsel Deneysel Olmayan Bir Araştırma

## Öz

Bu çalışma, matematiğin amacı, matematiğin öğretimi ve öğrenimi, matematiğin içeriği ve matematiğin betimsel bir yöntemle değerlendirilmesi açısından matematik öğretmenlerinin matematik müfredatı perspektiflerine yönelik değerlendirmelerini incelemeyi amaçlamıştır. Araştırma deneysel olmayan araştırma desenlerinden kesitsel araştırma modelinde tasarlanmıştır. Araştırmaya, matematik müfredat perspektifleriyle ilgili bir bağlantısı olup olmadığını belirlemek için, ortaokullarda görev yapan 150 matematik öğretmeni katılmıştır. Araştırmanın verileri, öğretmenlerin müfredata yönelik bakış açılarını belirlemek için Schiro (1978) tarafından geliştirilen bir anket aracılığıyla toplanmıştır. Sonuç olarak matematik öğretmenleri matematiğin amacına yönelik, çoğunluğu öğrenen merkezli olduğunu düşündüğü, matematiğin öğrenimi konusunda ise modal sosyal verimlilik ideologu, içerik konusunda ise matematiğin çoğu, sosyal yeniden yapılanma ideologlarıydı ve matematiğin değerlendirilmesinde, akademisyen akademik ideologlardı. Bu çalışmanın bulgularının matematik öğretmenliği eğitimine yönelik müfredat hazırlama ve geliştirmede bir referans olarak kullanılabileceğini düşündürmektedir.

*Keywords:* Öğretim programı ideolojileri, öğretim programına yönelik değerlendirme, öğretim programı araştırmaları

## Introduction

Curriculum policies are considered controversial as well as the process, which represents policies that embodied specific values and purpose containing educational expression. This includes curriculum ideologies, which defined as a philosophy that influences teacher's way for explicit reasons that affect the epistemic beliefs inside the curriculum. In addition, changes also affect the education that made other people to argue about the current time having a broad social changes affecting the views and theories in curriculum. This curriculum has been a driving force in cultural and political view of society (Reyes, et al, 2019; Vars, 1991).

In the education system today, teachers were required to have in-depth knowledge of what their students' need. Therefore, teachers need to know and understand what exactly needs to be taught to their students. This means that they need to be competent enough to give their students the knowledge and understanding skills they need to acquire according to their core curriculum not only to fulfill their educational needs but also to help them learn and discover their skills and talents (Schiro, 1992). Hence, teachers' participation in curriculum development is very important for successful teaching and learning. Their involvement in curriculum development as part of external process of the school's curriculum are important in adapting and improving different teaching and learning materials (Vygotsky, 1978).

In Curriculum development, teaching and learning are complex activities evolving from social and cultural context. Duru and Korkmaz (2010) mentioned that educational ideologies have an impact on individuals' beliefs. The learner, teacher, and subject coordination in curriculum deliberations should be emphasized to develop better educational curriculum.

In order to identify the most important standards that educators can follow when creating a school curriculum, it is necessary to determine about national standards in both academic courses and in the field of study chosen such as fine and practical arts. Because every country has a different educational system, study must consider teachers positions about the development of curriculum. This requires about the teachers' roles and teachers' curricular perspectives (Slethaug, 2007).

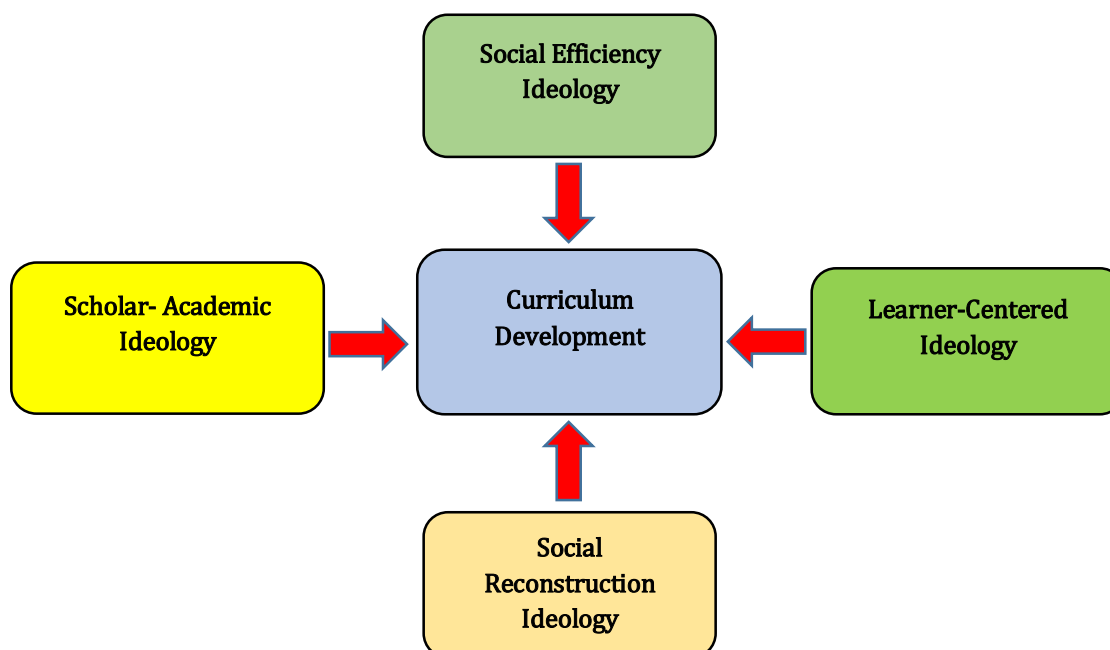
The aim of this study was to determine the profile of the respondents in terms of: gender, years in service, and highest educational attainment. And to answer the specific questions such as: (1) How may the mathematics curricular perspectives of the respondents be describe in terms of: (a) on the purpose of mathematics, (b) on the teaching of mathematics, (c) on the learning of mathematics, (d) on the content of mathematics, (e) on the assessment of mathematics?; and, (2) How may the connection of the profile of the respondents and their mathematics curricular perspectives be describe in terms of: (a) on the purpose of mathematics, (b) on the teaching of mathematics, (c) on the learning of mathematics, (d) on the content of mathematics,(e) on the assessment of mathematics?

### Conceptual Framework

There are various perspectives for this educational expression, which we can call curriculum ideologies. Curriculum ideologies are defined as personal beliefs about what educational institutions should teach (Slethaug, 2007). Curriculum ideologies are divided into four different categories namely: scholar academic ideology, social efficiency ideology, learner-centered ideology, and social reconstruction ideology. Each of these ideologies reflect different epistemological beliefs regarding purpose of mathematics, teaching of mathematics, learning of mathematics, content of mathematics, and assessment of mathematics in general.

**Figure 1.**

*Conceptual framework*



### *Scholar – Academic Ideology*

The principal sort of educational belief system is the Scholar Academic (SA) philosophy. This philosophy aims to integrate abilities that are essential with human being, which includes application, analyzing, and synthesizing onto the knowledge and truths. This philosophy believes that knowledge and wisdom can affect the society and its misconceptions.

This philosophy's perspective is centered on academic disciplines that are connected with the society rather than those curriculums that are knowledge and intellect based. The main goal of this is to widen our knowledge and capacity because there are a lot of researches that made and new truth and facts are being presented.

Such researches provides idea on how to help the learners to be mindful about their community, society, and culture. This idea focuses on the academic discipline that allows learner

to think, analyze, and systematize about the society so teacher should be mindful when he presented wrong ideas from the existing knowledge of a student, which can be harmful and can be different from the truth and child's perspectives.

The main focus of this idea is to create a curriculum that can show the importance and relevance of their discipline. The teacher and curriculum developers encourage the learner to be part of them. Of course they are encouraging them to start from the bottom of the pyramid coming to the middle and lastly to the peak of the pyramid so in that case the extension of discipline can be successful. And the learner will continue the legacy by examining and finding truths and relevance to our society and community where we live (Cotti & Schiro, 2004; Reyes, 2019b).

### ***Social-Efficiency Ideology***

The main concern about social efficiency ideology is a rationale of scientific instrumentalism and affirmed that educators need to ripen the school curriculum that affiliated in scientific manner that shall compasses the needs of the society. The primordial turning point here is to have an innovative curriculum that meets determined needs. Furthermore, educators striving the most credible and adept methodologies of imparting acquired literacy to the learners with the aspiration of yielding educated people that redeems the objective of the ripen curriculum and those who needs to fulfill for the demands of the society.

Social efficiency stated that the teachers are the one who will decide what the students are supposed to learn, on how will they supposed to learn it, and what will be their assignments and books they need to read. It is also necessary that teachers will control everything in the classroom. Social efficiency is an ideology that can allow the school and educators to have control of everything in what their students do. It is also said that it is characterized by the power, control, and efficiency.

Social efficiency considered that the main point of learning is to achieve the social needs of the society. Educators who often use this kind of ideology see the school's curriculum as an instrument that helps the students to prepare on how to be a contributing member of the society, hence, school is a setting where the students are taught to prepare for meeting social needs.

Social efficiency focuses on the teachers by helping the students to develop their skills for societal needs. The student is also viewed as potential member of the society with required capabilities to do everything taught in the classroom. Social efficiency proponents believe that a learner can overcome the challenges in his life with the help and support of educators. It was also shown in research on curriculum flexibility that learners can adapt well in life once they acquired the intended skills for it. This is one of the important assumptions that supports social efficiency ideology that learners who learn and develop from rough circumstances might encounter hardships in the near future. Moreover, research shows that learners have the ability to develop strengths and skills that are required in dealing social problems (Cotti & Schiro, 2004; Reyes, 2019c).

Vygotsky (1978) concluded that social interaction and a positive learning environment are affecting the student's learning. Related to the ideology of social efficiency, Vygotsky (1978) came up with the idea that an environment that allows talking and sharing about problems they have to ace in learning is what the students need. Vygotsky discussed that the theory of Zone of Proximal development explains the biggest part of learners to obtain knowledge about a certain experience. He said the lower zone portrays what a child can do without the help of others, and the upper zone portrays what a child cannot do with only himself or what the child can do with the help of others.

On the other hand, Wallace and Priestley (2011) ascertained that students are able to acquire knowledge well and enhanced pedantic amenability to apprehend when they have an active participation with each other in fructuous environment or others called it as learning by doing. The method in facilitating students is having a rich environment that can support the

learner to elevate their knowledge and skills in a higher level, because non-supportive environment can't do that.

Teachers are assigned to guide and facilitate the learners to what they need to do and how will they do it in order to explore and deepen their knowledge and skills. Vygotsky (1978) believes that educators have a curriculum that can provide materials and methods for the teachers therefore, they can use it to guide the learners on what they are being taught. By doing these things, teachers will understand the level of thinking of the learners on finding ways to have a broad learning in a greater way.

Based on the study of Rudasill and Rimm-kaufman (2009) social efficiency advocates believe that the ability of learner to build a harmonious relationship with their instructors can help them compete academically. It also proves that social efficiency is not only beneficial to their academics but also in their own social life. It can lead them to stand out in their academic excellence. This relationship also builds the support that the student can get from the curriculum. It is fair and do not vary based on their social background and status.

The main point of social efficiency ideology is logical instrumentalism wherein, it attests that educational programs ought to be developed in a logical way, which educational modules advancement ought to be an instrument for satisfying the desires of a client or the person engaged. Also, the primary point of schooling is to engage with the prerequisites of society according to the social efficiency ideology. They vision this as an important tool to let the learners contribute as a participant of society and make them realize and support the thought that schools are places that helps you prepare for the future (Rudasill & Rimm-kaufman, 2009; Reyes, 2019d)

### ***Learner-Centered Ideology***

According to learner-centered philosophy, a capabilities approach to instruction considers how the person in his or her setting can lead a life that she or he has reason to esteem. The learning is student centered where teachers discuss less and serve as a guide for the students to learn. It is letting the student express and voice out their talent and skills in a certain task. This is to encourage students that they can do whatever the teacher ask them to do. And the task of the teachers is to connect academic lesson to the personal lives of every student.

In school curriculum should enhance the students to explore or to wide their knowledge by giving them activities or assessments. Let them to become independently, think deeply and be creatively. It can help the students to enhance their skills and knowledge through discovery new ideas, construct their own meaning and use their imagination. In other words, it is learning by doing.

Schiro (2008) mentioned that schools should be places where the learner relishes to obtain understanding and to nurture their innate potential. Traditional curriculums arise to lead the way of the learners on how to solve difficulty but a new application based on individual growth is essential. The ideology of learner centeredness must start off to enhance learners' potential and to lessen the unnecessary negligence of not assisting learners find their firmness (Ignacio & Reyes, 2017; Lave & Wenger, 1991).

The idea is perceptible in day-to-day life that can use to appreciate the individual worth. Every human is unique; they have different skills and capability. He stated that education is treated like something that can help the students to boost their capabilities and skills. School curriculum should be focus on every individual's passion and ability. Encouraging the students to expand or to explore their innate capabilities for much better improvement and gaining more knowledge. The teacher will be the facilitator in the class while the students will be the creator.

In the learner centered ideology the relationship between learners and teachers is being enhanced and developed. In this ideology, learning is continuous and fairish, which also indicates that critical skills may be developed. On the other hand, the teachers should focus on the learner's performance instead of spoon-feeding the learners. The learners should learn by their own and the teachers are only the facilitators where they are only guiding their students along their

journey. The teachers should not discuss the entire lesson instead, he must let students to understand and master the lesson by their own. Though the teacher is a skilled, and has a lot of experience, the curriculum must be student centered (Machemer & Crawford, 2007).

Learner centered ideology indicates that classroom affects the teaching and learning process. Even though, educators play a big part in learning, the environment should be safe and has an adequate space for students and for the educators. The conducive classroom will also be a big part of developing the natural capabilities, talents, and knowledge (Machemer & Crawford, 2007).

As learner centered ideology stated, facilitators should enhance more the curriculum of the learners that intensify their active participation in a way that it is interconnected with the lesson and have plenty of optimal development of what they want to accomplish and how to undertake it (Oliver & Lippman, 2007).

Indeed, great learning environment helps students improve their general presentation. Subsequently, learning condition and student's general presentation has association; great learning condition additionally implies great execution of students. Lave and Wenger (1991) emphasized that educators must know this relationship and teachers ought to motivate learners to respect the environment is one of the reasons of a good academic performance. At the end of the day, a good learning condition is comprises of instructors, learners and learning environment.

The purpose of learner-centered ideology is to motivate the students to join in different activities and also to develop their capabilities and to make sure that they are developing beyond their current capabilities and also to their mental capabilities. The main point of this prospect is to apply their learning and to foster their critical thinking and social skills by joining in physical activities. Learner centered ideology goal is to help the students to be engaged in self-directed and cooperative learning activities. Students learn from their own discoveries and shaped by their environment. Hence, in the learner-centered ideology, the focus is on how to ensure that students will make discoveries in their environment (Lave & Wenger, 1991).

Today in our generation, technology has been taken education to the next level of learning using computers, tablets, smart board settings the problem of the traditional is non-current technologies are being fully utilized and integrated into school curriculum as learner (Weiss, 2007, Reyes, 2021a). In order to foster favorable learning environment, the school should adapt new learning environment so that they will be successful. The goal of this is to ensure that students setting create a more enjoyable place of socialization for students. In learner centered ideology teacher should share their experiences to contribute in the learning experiences of the students.

### ***Social Reconstruction Ideology***

Social Reconstruction Ideology as the last category of curriculum ideology represents teachers and schools as the agent of change and transformation in social perspectives. This kind of ideology among educators, through the medium of curriculum, assume that the society is fragile and believing that learners should be educate to understand and develop the nature and vision of a better society.

A teacher, which is a social reconstruction ideologist, believes that education is the way to change and facilitate the construction of a new and more relevant society that is equity among its members. They are very much aware about the problems and injustices in the society and are conscious about inequities such as race, gender, and even economic status.

Social Reconstructionist teachers assume that our current society is unhealthy and its survival is threatened. And they believe that education can be used as a weapon to prevent the society from destroying and as a weapon to resolve conflicts and problems along the lines of the better vision and perspectives. They believe that cultural knowledge and truth are factors that shape people's social experiences and perspectives.

The aim of social Reconstructionist is to eliminate those undesirable from the desirable cultural aspects and substitute them with social values that are acceptable to attain the materials, spiritual, and intellectual wants on their maximum satisfaction (Schiro, 1978).

### Method

The method that was used in this study was a descriptive cross-sectional method of research. Descriptive non- experimental research was used to get the curricular perspectives of the selected number of mathematics teachers in a sample division which, at the same time, a cross-sectional research since the data needed in the study were gathered at one point in time.

### Participants

This study was conducted in the Division of Pampanga, Philippines for the year 2019-2020. The respondents of this study were the 150 selected teachers from junior high school. The range of their teaching experiences were involved in the study (50 respondent for 0 to 5 years teaching experiences, 50 respondents for 6 to 10 years, and 50 respondents for 11 years and above). Also their gender (male or female) and highest educational attainment (college graduate, with master's degree units, master's degree graduate, with doctoral units, and doctoral graduate) of the respondents were involve in the study to determine if it has also a connection as pertain to their mathematics curricular perspectives.

### Instrument

The primary instrument that was used in the study was a joint collaborative effort of all the doctor of philosophy in mathematics education in Philippine Normal University. Data were collected by means of a survey which was developed by Schiro in 1978 to explore teachers' curriculum ideologies. The survey consists of 22 items to reveal ideological perspectives. Each of these items is related with one particular concept. The concepts are (a) on the purpose of mathematics, (b) on the teaching of mathematics, (c) on the learning of mathematics, (d) on the content of mathematics, (e) on the assessment of mathematics. For each one among these concepts, respondents are expected to rank four statements, each statement representing one of the four different ideological perspectives (scholar academic, social reconstruction, learner-centered, social efficiency). A 4 points scale (1- the statement that you believe most and 4- the statement that you least believe) was used for ranking the statements.

The following procedures were done to come up with the necessary data needed in this study: the researcher had asked permission from the Principal of each school to conduct his research; the researcher explained the purposes of the study and ensured the confidentiality of the responses, discussed briefly to the respondents how to answer the questionnaires and assisted them with their questions; after collecting all the necessary data, the researcher analyzed and tabulated the data based on the objectives of the study. Confidentiality was maintained throughout the procedures by utilizing pseudonyms (e.g. respondent 1, respondent 2 ... respondent 9) to de-identify the data.

### Results

Table 1 shows the profile of the respondents in terms of gender, years in the service, and highest educational attainment.

**Table 1.**

*Profile of the respondents in terms of gender, years in the service, and highest educational attainment.*

Gender	Frequency	Percentage
Male	67	44.67
Female	83	53.33
Years in the Service		

<i>0 to 5 years</i>	50	33.33
<i>6 to 10 years</i>	50	33.33
<i>11 years and above</i>	50	33.33
<b>Highest Educational Attainment</b>		
<i>College Graduate</i>	42	28
<i>with Master's Degree Units</i>	74	49.33
<i>Master's Degree Graduate</i>	21	14
<i>with Doctoral Units</i>	12	8
<i>Doctoral Graduates</i>	1	0.67

It was shown that among the 150 respondents, the female outnumbered the male respondents. All of them are equal in terms of the years in the service of teaching since, the researcher used a systematized random sampling method for the purpose of the study. Finally, 74 or 49.33 % have units in the master's degree.

**Table 2.**

*Mathematics curricular perspectives of the respondents in terms on the purpose of mathematics*

<b>Ideologies</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Rank</b>
Scholar Academic	33	22.00	3
Social Efficiency	17	11.33	4
Learner-Centered	60	40.00	1
Social Reconstruction	40	26.67	2

Table 2 illustrates the distribution of perspectives of 150 teachers about on the purpose of mathematics. Among the 150 teachers, the most believed curricular ideology was found to be learner-centered (rank 1). On the other hand, social efficiency (rank 4) was the least believed ideology regarding on the purpose of mathematics.

**Table 3.**

*Mathematics curricular perspectives of the respondents in terms on the teaching of mathematics*

<b>Ideologies</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Rank</b>
Scholar Academic	27	18.00	4
Social Efficiency	30	20.00	3
Learner-Centered	49	32.67	1
Social Reconstruction	44	29.33	2

Table 3 illustrates the distribution of perspectives of 150 teachers about on the teaching of mathematics. Among the 15 teachers, the most believed curricular ideology was found to be learner-centered (rank 1). On the other hand, scholar academic (rank 4) was the least believed ideology regarding on the teaching of mathematics.

**Table 4.**

*Mathematics curricular perspectives of the respondents in terms on the learning of mathematics*

<b>Ideologies</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Rank</b>
Scholar Academic	24	16.00	4
Social Efficiency	50	33.33	1
Learner-Centered	37	24.67	3
Social Reconstruction	39	26.00	2



Table 4 illustrates the distribution of perspectives of 150 teachers about on the learning of mathematics. Among the 150 teachers, the most believed curricular ideology was found to be social efficiency (rank 1). On the other hand, scholar academic (rank 4) was the least believed ideology regarding on the learning of mathematics.

**Table 5.**

*Mathematics curricular perspectives of the respondents in terms on the content of mathematics*

<b>Ideologies</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Rank</b>
Scholar Academic	33	22.00	3
Social Efficiency	18	12.00	4
Learner-Centered	40	26.67	2
Social Reconstruction	59	39.33	1

Table 5 illustrates the distribution of perspectives of 150 teachers about on the content of mathematics. Among the 150 teachers, the most believed curricular ideology was found to be social reconstruction (rank 1). On the other hand, social efficiency (rank 4) was the least believed ideology regarding on the content of mathematics.

**Table 6.**

*Mathematics curricular perspectives of the respondents in terms on the assessment of mathematics*

<b>Ideologies</b>	<b>Frequency</b>	<b>Percentage</b>	<b>Rank</b>
Scholar Academic	48	32.00	1
Social Efficiency	27	18.00	4
Learner-Centered	34	22.67	3
Social Reconstruction	41	27.33	2

Table 6 illustrates the distribution of perspectives of 150 teachers about on the assessment of mathematics. Among the 150 teachers, the most believed curricular ideology was found to be scholar academic (rank 1). On the other hand, social efficiency (rank 4) was the least believed ideology regarding on the assessment of mathematics.

**Table 7.**

*Mathematics curricular perspectives of the respondents in terms on the purpose of mathematics as to their profile*

	<b>Scholar Academic</b>	<b>Social Efficiency</b>	<b>Learner-Centered</b>	<b>Social Reconstruction</b>
<b>Gender</b>				
<i>Male</i>	Rank 4	Rank 1	Rank 3	Rank 2
<i>Female</i>	Rank 3	Rank 4	Rank 1	Rank 2
<b>Years in the Service</b>				
<i>0 to 5 years</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>6 to 10 years</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>11 years and above</i>	Rank 4	Rank 1	Rank 3	Rank 2
<b>Highest Educational Attainment</b>				
<i>College Graduate</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>with Master's Degree Units</i>	Rank 4	Rank 2	Rank 3	Rank 1
<i>Master's Degree Graduate</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>with Doctoral Units</i>	Rank 2	Rank 4	Rank 1	Rank 3
<i>Doctoral Graduates</i>	Rank 3	Rank 4	Rank 2	Rank 1

Table 7 illustrates the distribution of perspectives of 150 teachers about on the purpose of mathematics as to their profile. In terms of gender, male teachers were mostly social –efficiency ideologists, while female were learner-centered ideologists. In terms of years in the service, teachers with 0 to 5 years of teaching experience were mostly social reconstruction ideologists, those with 6 to 10 years in the service were learner-centered ideologists, and those teachers with 11 years and above in the teaching were social efficiency ideologists. Finally, in terms of educational attainment, those college graduate, with master’s degree units, and doctoral degree were mostly social reconstruction ideologists while, those teachers with master’s degree and with doctoral units were mostly learner-centered ideologists.

**Table 8.**

*Mathematics curricular perspectives of the respondents in terms on the teaching of mathematics as to their profile*

	<b>Scholar Academic</b>	<b>Social Efficiency</b>	<b>Learner-Centered</b>	<b>Social Reconstruction</b>
<b>Gender</b>				
<i>Male</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>Female</i>	Rank 4	Rank 3	Rank 2	Rank 1
<b>Years in the Service</b>				
<i>0 to 5 years</i>	Rank 3	Rank 4	Rank 2	Rank 1
<i>6 to 10 years</i>	Rank 2	Rank 4	Rank 1	Rank 3
<i>11 years and above</i>	Rank 4	Rank 3	Rank 2	Rank 1
<b>Highest Educational Attainment</b>				
<i>College Graduate</i>	Rank 2	Rank 4	Rank 1	Rank 3
<i>with Master's Degree Units</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>Master's Degree Graduate</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>with Doctoral Units</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>Doctoral Graduates</i>	Rank 3	Rank 4	Rank 1	Rank 2

Table 8 illustrates the distribution of perspectives of 150 teachers about on the teaching of mathematics as to their profile. In terms of gender, male teachers were mostly learner-centered ideologists, while female were mostly social-reconstruction ideologists. In terms of years in the service, both teachers with 0 to 5 years and 11 years and above of teaching experience were mostly social reconstruction ideologists, and those with 6 to 10 years in the service were learner-centered ideologists. Finally, in terms of educational attainment, those college graduate, with master’s degree units, and doctoral degree were mostly learner-centered ideologists while, those teachers with master’s degree and with doctoral units were mostly social reconstruction ideologists.

**Table 9.**

*Mathematics curricular perspectives of the respondents in terms on the learning of mathematics as to their profile*

	<b>Scholar Academic</b>	<b>Social Efficiency</b>	<b>Learner-Centered</b>	<b>Social Reconstruction</b>
<b>Gender</b>				
<i>Male</i>	Rank 3	Rank 4	Rank 2	Rank 1
<i>Female</i>	Rank 2	Rank 4	Rank 1	Rank 3
<b>Years in the Service</b>				
<i>0 to 5 years</i>	Rank 3	Rank 4	Rank 2	Rank 1
<i>6 to 10 years</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>11 years and above</i>	Rank 4	Rank 3	Rank 2	Rank 1
<b>Highest Educational Attainment</b>				
<i>College Graduate</i>	Rank 3	Rank 4	Rank 2	Rank 1

<i>with Master's Degree Units</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>Master's Degree Graduate</i>	Rank 2	Rank 4	Rank 1	Rank 3
<i>with Doctoral Units</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>Doctoral Graduates</i>	Rank 3	Rank 4	Rank 1	Rank 2

Table 9 illustrates the distribution of perspectives of 150 teachers about on the learning of mathematics as to their profile. In terms of gender, male teachers were mostly social reconstruction ideologists, while female were mostly learner-centered ideologists. In terms of years in the service, all teachers were mostly social reconstruction ideologists. Finally, in terms of educational attainment, those college graduate, with master's degree units, and with doctoral degree units were mostly social reconstruction ideologists while, those teachers with master's degree and with doctoral degree were mostly learner-centered ideologists.

**Table 10.**

*Mathematics curricular perspectives of the respondents in terms on the content of mathematics as to their profile*

<b>Gender</b>	<b>Scholar Academic</b>	<b>Social Efficiency</b>	<b>Learner-Centered</b>	<b>Social Reconstruction</b>
<i>Male</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>Female</i>	Rank 3	Rank 4	Rank 1	Rank 2
<b>Years in the Service</b>				
<i>0 to 5 years</i>	Rank 4	Rank 2	Rank 3	Rank 1
<i>6 to 10 years</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>11 years and above</i>	Rank 2	Rank 4	Rank 1	Rank 3
<b>Highest Educational Attainment</b>				
<i>College Graduate</i>	Rank 4	Rank 1	Rank 3	Rank 2
<i>with Master's Degree Units</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>Master's Degree Graduate</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>with Doctoral Units</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>Doctoral Graduates</i>	Rank 4	Rank 1	Rank 3	Rank 2

Table 10 illustrates the distribution of perspectives of 150 teachers about on the content of mathematics as to their profile. In terms of gender, male teachers were mostly social reconstruction ideologists, while female were learner-centered ideologists. In terms of years in the service, teachers with 0 to 5 years of teaching experience were mostly social reconstruction ideologists and both teachers with 6 to 10 years in the service and teachers with 11 years and above in the teaching were learner-centered ideologists. Finally, in terms of educational attainment, those college graduate and doctoral degree graduate were mostly social efficiency ideologists, those teachers with master's degree units and with doctoral units were mostly learner-centered ideologists, and those master's degree holder were mostly social reconstruction ideologist.

**Table 11.**

*Mathematics curricular perspectives of the respondents in terms on the assessment of mathematics as to their profile*

<b>Gender</b>	<b>Scholar Academic</b>	<b>Social Efficiency</b>	<b>Learner-Centered</b>	<b>Social Reconstruction</b>
<i>Male</i>	Rank 2	Rank 4	Rank 1	Rank 3
<i>Female</i>	Rank 3	Rank 4	Rank 1	Rank 2
<b>Years in the Service</b>				
<i>0 to 5 years</i>	Rank 4	Rank 3	Rank 2	Rank 1

<i>6 to 10 years</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>11 years and above</i>	Rank 3	Rank 4	Rank 1	Rank 2
<b>Highest Educational Attainment</b>				
<i>College Graduate</i>	Rank 3	Rank 4	Rank 1	Rank 2
<i>with Master's Degree Units</i>	Rank 4	Rank 3	Rank 2	Rank 1
<i>Master's Degree Graduate</i>	Rank 3	Rank 4	Rank 2	Rank 1
<i>with Doctoral Units</i>	Rank 2	Rank 4	Rank 1	Rank 3
<i>Doctoral Graduates</i>	Rank 4	Rank 3	Rank 2	Rank 1

Table 11 illustrates the distribution of perspectives of 150 teachers about on the assessment of mathematics as to their profile. In terms of gender both male and female teachers were learner-centered ideologists. In terms of years in the service, teachers with 0 to 5 years of teaching experience and 6 to 10 teachers' experiences were mostly social reconstruction ideologists and teachers with 11 years and above in the service were learner-centered ideologists. Finally, in terms of educational attainment, those college graduate and with doctoral degree units were mostly learner-centered ideologists and those teachers with master's degree units, master's degree holder and doctoral graduates were mostly social reconstruction ideologists.

### Discussion

Curriculum ideologies are important for both policy makers and educators to shape educational decisions. Because education change very fast and it is necessary that these type of studies emerged to investigate and to revisit ideas.

Based on the *purpose of mathematics, most of them were learner-centered ideologists*, which means that most of them believe that the primary purpose of mathematics is to develop a well-rounded individual, that the end goal of mathematics education is the unfolding of the innate capabilities of an individual, and that mathematics education promotes collaboration than competition.

Based on the *teaching of mathematics, most of them were learner-centered ideologists*, which means that most of them believe that mathematics should be taught in a way mathematical experiences focused on the needs and interests of the students, that mathematics should be taught using real world context and concrete materials to promote children's construction of meanings, and that mathematics should be taught using variety of instructional methods to promote construction or discover of mathematical meaning.

Based on the *learning of mathematics, most of them were social efficiency ideologists*, which means that most of them believe that learners should focus on practical mathematics, that mathematics is learned using computer and technologies, and that learners are assessed by knowing the importance of mathematics in their environment.

Based on the *content of mathematics, most of them were social reconstruction ideologists*, which means that most of them believe that mathematics offers a chance for students to provide reasoning about each step they employ as they solve daily life problems, that mathematics helps students to change their vision on how they solve society's problems, and that mathematics prepares students' thinking to become visible in relation to his environment.

Based on the *assessment of mathematics, most of them were scholar academic ideologists*, which means that most of them believe that mathematics objectively measure what extent of knowledge that students know about the topics, that teachers give homework and assignment as an individual work to determine how well can the students present his knowledge of the subject matter, that the process on how to implement class participation is through calling students one by one and have them recite the essential parts of the lesson and have it graded based on how far they remembered it all, that the types of projects given were albums or compilations of their

works in which organization of documents were observed, and that integration of values should be given credit through students who is very attentive and behave inside the classroom.

In the end, the researchers found out the following: emphasizes learning of content; but not learning to learn, does not encourage meta-cognitive processes; (reflection on, deriving meaning, non-procedural problem solving); a restricted range or higher order thinking skills is developed of which many are 21st century skills. Teachers recommend that the curriculum should place emphasis on student evidence of understanding and skills development rather than accumulation of content based on those findings. The recommendations for mathematics are the following: ensure pace of delivery that allows for the development of student understanding and skill rather than mere content coverage; make sure that the usage of technology in mathematics and be in tune with the 21st century demand; have a discipline base across and within each grade with topics developed in sophistication each year where it is relevant, without discontinuity; and demonstrate the potential to emphasize how mathematical and scientific problems relate to real world, which increase their relevance.

The new common core standards requires teachers to make effective ways for transitions that would make students, learners, and even teachers themselves to stay out of their comfort zones. The learning spaces are information and understanding, basic aptitudes, mentalities and qualities. The academic approaches that the educator should utilize are constructivist, which is essentially a hypothesis base on perception and logical examination about how individuals learn. It says that individuals develop their own comprehension and information.

We live in a time of extraordinary and fast moving change. Technologies and modernization is emerging and settling new knowledge and discoveries. There is a need to fully understand and master mathematics, as it is part of the everyday life. In this changing world, those who fully mastered and understand mathematics will have plenty opportunities and options for shaping their futures.

Learning is a combined function of person together with his environment. Also, the result of learning to individual is truly unique. On the other hand, it is the job of educators to carefully create context, mediums, and learning environment, which will stimulate growth, and progress as students can fully understand themselves and their roles as individuals.

### Conclusion

Based on the results and discussion, mathematics teachers on the purpose of mathematics, most of them were learner-centered ideologists, on the teaching of mathematics, most of them were learner-centered ideologists, on the learning of mathematics, most of them were social efficiency ideologists, on the content of mathematics, most of them were social reconstruction ideologists, and on the assessment of mathematics, most of them were scholar academic ideologists. As to the profile of the respondents in terms of gender, years in the service, and highest educational attainment shows connection in mathematics curriculum perspective based on purpose, teaching, learning, content, and assessment of mathematics were mostly learner-centered ideologists and social reconstruction ideologist. These findings may be added to the empirical research as a source for higher education in crafting and developing curriculum intended for mathematics teacher education.

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“No potential competing interest was reported by the authors.” All responsibility belongs to the researchers. All parties were involved in the research of their own free will.

## Geniş Özet

### Giriş

Günümüz eğitim sisteminde öğretmenlerin öğrencilerinin neye ihtiyacı olduğu konusunda derinlemesine bilgi sahibi olmaları gerekir. Bu nedenle öğretmenlerin öğrencilerine tam olarak ne öğretilmesi gerektiğini bilmeleri ve anlamaları önemlidir. Bu durum öğretmenlerin öğrencilerine sadece eğitim ihtiyaçlarını karşılamak için değil, aynı zamanda onların öğrenmelerini, becerilerini ve yeteneklerini keşfetmelerine yardımcı olmak için, öğretim programlarına göre öğrencilerin edinmeleri gereken bilgi ve becerilerini kazandıracak kadar, yetkin olmaları gerektiği anlamına gelir (Schiro, 1992). Bu nedenle, öğretmenlerin program geliştirmeye katılımı başarılı bir öğretim ve öğrenme için oldukça önemlidir. Öğretmenlerin okul müfredatının dış sürecinin bir parçası olarak müfredat geliştirmeye katılımları, farklı öğretim ve öğrenme materyallerini uyarlayıp geliştirmede önemlidir (Vygotsky, 1978).

Bu çalışmanın amacı, çalışmaya katılan öğretmenlerin matematik öğretim programına yönelik bakış açılarının bazı demografik özelliklerine göre farklılıklarını belirlemektir. Bu amaca yönelik aşağıdaki araştırma sorularına yanıt aranmıştır:

(1) Çalışmaya katılan matematik öğretmenlerinin matematik öğretim programına yönelik bakış açıları,

- (a) matematiğin amacı,
  - (b) matematiğin öğretimi,
  - (c) matematiğin öğrenimi,
  - (d) matematiğin içeriği,
  - (e) matematiğin değerlendirilmesi,
- bakımından nasıldır?

(2) Çalışmaya katılan matematik öğretmenlerinin profilleri ile matematik öğretim programına bakış açıları arasındaki ilişki,

- (a) matematiğin amacı,
  - (b) matematiğin öğretimi,
  - (c) öğrenme üzerine matematiğin içeriği,
  - (d) matematiğin içeriği,
  - (e) matematiğin değerlendirilmesi hakkında
- değerlendirmeleri nasıldır?

### Yöntem

Bu çalışmada deneysel olmayan araştırma desenlerinden tanımlayıcı kesitsel araştırma yöntemi kullanılmıştır. Araştırmada ihtiyaç duyulan veriler tek seferde toplandığından, aynı zamanda kesitsel bir araştırma olan bir örnekleme seçilen sayıda matematik

öğretmenin müfredata bakış açılarını elde etmek için tanımlayıcı deneysel olmayan araştırma kullanılmıştır.

Bu çalışma, 2019-2020 eğitim öğretim yılında Filipinler, Pampanga Bölümü'nde yapılmıştır. Araştırmanın katılımcıları ortaokuldan seçilen 150 öğretmendir. Öğretmenlik deneyimlerinin aralığı 0 ila 5 yıl öğretmenlik deneyimleri için 50 katılımcı, 6 ila 10 yıl için 50 katılımcı ve 11 yıl ve üzeri için 50 katılımcıdır. Ayrıca araştırmaya katılanların cinsiyetleri (erkek veya kadın) ve en yüksek eğitim düzeyi (üniversite mezunu, yüksek lisans birimi ile yüksek lisans mezunu, doktora birimi mezunu ve doktora mezunu) olarak da matematik öğretim programına yönelik bakış açıları ile ilişkisi olup olmadığını belirlemek için çalışmaya dahil edilmiştir.

Çalışmada kullanılan birincil araç, Filipin Normal Üniversitesi'ndeki matematik eğitiminde tüm felsefe doktorlarının ortak bir işbirliğiyle hazırlandı. Veriler, öğretmenlerin müfredat ideolojilerini keşfetmek için 1978 yılında Schiro tarafından geliştirilen bir anket aracılığıyla toplanmıştır. Anket ideolojik bakış açılarını ortaya çıkarmaya yönelik 22 maddeden oluşmaktadır. Bu öğelerin her biri belirli bir kavramla ilgilidir. Kavramlar (a) matematiğin amacına, (b) matematiğin öğretimine, (c) matematiğin öğrenilmesine, (d) matematiğin içeriğine, (e) matematiğin değerlendirilmesine ilişkindir. Bu kavramlardan her biri için, yanıtlayıcılardan, her biri dört farklı ideolojik perspektiften birini temsil eden (akademik, sosyal yeniden yapılanma, öğrenen merkezli, sosyal verimlilik) dört ifadeyi sıralamaları beklenir. İfadelerin sıralanmasında 4'lü likert tipin bir form (1- en çok inandığınız ifade ve 4- en az inandığınız ifade) kullanılmıştır.

## **Tartışma**

Eğitimdeki hızlı değişim öğretim programına yönelik fikirleri yeniden gözden geçirmek için bu tür araştırmaları gerekli kılmaktadır. Çünkü öğretim programına yönelik bakış açılarının incelenmesi, eğitim kararlarını şekillendirmek için hem politika yapıcılar hem de eğitimciler için oldukça önemlidir.

Matematiğin amaçlarına yönelik değerlendirmeleri ele alındığında matematik öğretmenlerinin çoğunun matematiğin birincil amacının çok yönlü bir birey geliştirmek olduğuna, matematik eğitiminin nihai amacının bir bireyin doğuştan gelen yeteneklerini ortaya çıkarmak olduğuna ve matematik eğitiminin rekabetten çok işbirliğini teşvik ettiğine inandıkları belirlenmiştir.

Matematik öğretimine yönelik değerlendirmeleri ele alındığında öğretmenlerin çoğunun matematiğin öğrencilerin ihtiyaç ve ilgilerine odaklanması gerektiğini düşündüğü belirlenmiştir. Matematiğin çocukların kavramsal anlamalarını sağlamak için gerçek dünya bağlamı ve somut materyaller kullanılarak öğretilmesi gerektiğini düşündükleri tespit edilmiştir. Öğretmenler matematiksel anlamın inşasını veya keşfedilmesini teşvik etmek için öğretim yöntemlerinin çeşitlendirilerek kullanılması gerektiğini ifade etmiştir.

Matematiğin öğrenilmesine yönelik değerlendirmelerine bakıldığında öğretmenlerin çoğu öğrencilerin pratik matematiğe odaklanması gerektiğini vurgulamıştır. Öğretmenler matematiğin bilgisayar ve teknolojiler kullanılarak öğrenildiğinde ve öğrencilerin çevrelerinde mevcut olan matematiği görerek öğrendiğinde anlamlı öğrenmeyi sağlayabileceklerine inanmaktadır.

Matematiğin değerlendirmesine yönelik düşünceleri ele alındığında öğretmenlerin çoğu matematiğin öğrencilere günlük yaşam problemlerini çözerken uyguladıkları her



adım hakkında akıl yürütme fırsatı sunduğunu belirtmiştir. Öğretmenler matematiğin öğrencilerin toplumun problemlerini nasıl çözeceklerine dair vizyonlarını değiştirmelerine yardımcı olduğuna ve matematiğin öğrencileri hayata hazırladığına inandıkları tespit edilmiştir.

Araştırma sonucu gösterdi ki; öğretmenler, müfredatın, bu bulgulara dayalı içerik birikiminden ziyade, öğrencilerin anlama ve beceri geliştirme kanıtlarına vurgu yapması gerektiğini tavsiye etmektedir. Öğretmenlerin matematik için tavsiyeleri şunlardır: sadece içerik kapsamı yerine öğrencinin anlama ve becerisinin geliştirilmesine izin veren sunum hızının sağlanması; matematikte teknoloji kullanımının 21. yüzyıl talebine uygun olması; matematiksel ve bilimsel problemlerin gerçek dünyayla nasıl ilişkili olduğunun vurgulanması.

Çalışmaya katılanların cinsiyet, hizmet yılı ve en yüksek eğitim düzeyine göre amaç, öğretme, öğrenme, içerik ve matematiğin değerlendirilmesine dayalı matematik müfredatı perspektifinde çoğunlukla öğrenen merkezli bakış açısına sahip oldukları görülmektedir. Bu bulgular, matematik öğretmenliği eğitimine yönelik müfredat hazırlama ve geliştirmede yüksek öğretim için bir kaynak olarak ampirik araştırmaya eklenebilir.