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Examining Mathematics Teachers' Use of Curriculum and Textbook

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ABSTRACT

The aim of this study is to determine how mathematics teachers interpret curriculum and textbooks and to what extent / how they use these materials. For this purpose, case study design was used and 45 mathematics teachers constituted the study group of the study. The data obtained through the structured interview form developed by the researcher to determine teachers' use of textbooks and curricula were analyzed deductively. According to the findings obtained from the analysis, it was seen that teachers working in both secondary and high school levels did not like the textbooks sufficiently and did not prefer to use them in their lessons. The reasons for this are that the textbooks contain various errors, are not interesting, are not suitable for student level; Even if the curriculums are updated, they are still dense and have uneven distribution of the content according to class levels. Teachers prefer to use supplementary resources as well as textbooks. On the other hand, there are also teachers who express positive opinion about the textbook and curriculum. One of the interesting findings of the study is that teachers' perceptions of curriculum are generally acquisition-oriented.

Keywords:
Curriculum, textbook, mathematics

1. Introduction

"…*teachers make a difference*" (Wright, Horn, & Sanders, 1997, s.57)

While the term "curriculum" is used as the program in which the content of a particular course is drawn in our country, it is used as the resources used by teachers in addition to the content of the course by the researchers and teachers in other countries (Stein, Remillard, & Smith, 2007). Oliva (2009) argues that the curriculum and the teaching are part of a cyclic process, that they are closely related to each other and that they cannot be isolated from each other even though they can be studied and studied as two different terms. Therefore, it will not be wrong to discuss and interpret the textbooks and the curriculum as an important part of the teaching process. Teachers implement the program materials with a specific interpretation or adaptation (Brown, 2009). Components such as teachers' knowledge, skills, past experiences and beliefs affect teachers' interpretation and usage levels of the program (Ball & Cohen, 1996; Brown, 2009; Peterson, Fennema, Carpenter, & Loef, 1989; Stein, Remillard, & Smith, 2007). Therefore, it is very difficult to reflect the curriculum in the classroom environment as prepared by the program developers. Stein, Remillard and Smith (2007) depict the stage from the preparation of the program to the reflection of students' learning, as shown in Figure 1 (p.322).

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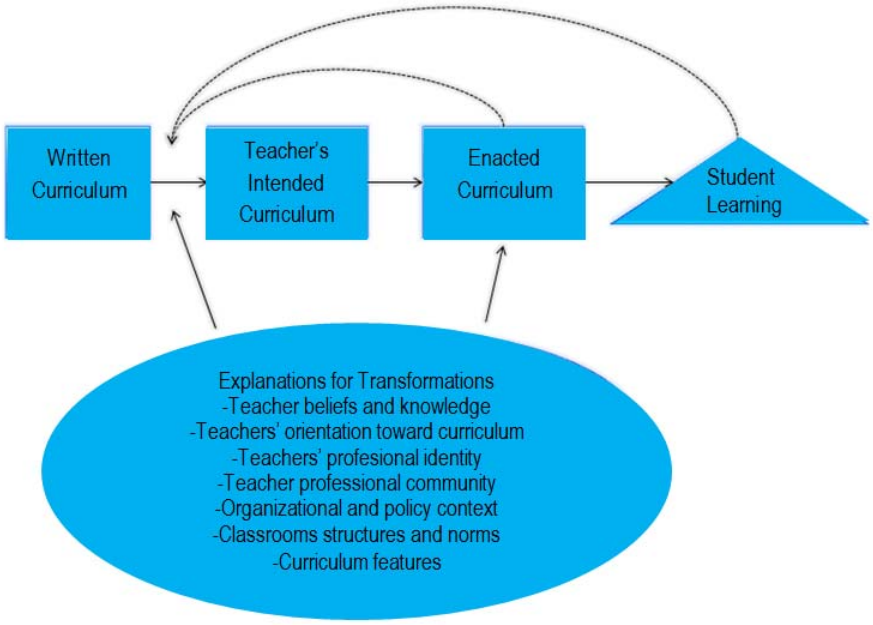

Figure 1. The temporal phases of curriculum implementation

While the official or planned program is the program created by the policies and reflected in the textbooks; the intended program is the program which is designed by teachers for the instruction; the implemented program is the program which includes whatever done by the teachers in the classroom activities. These stages, from planning to implementation of the program, are affected by various variables, while the program implemented in the classroom provides learning to the extent that it is reflected to the students. The reflection of the student learning and the applied program to the teacher also affects how the program will be implemented the next time (Stein, Remillard, & Smith, 2007).

Although research on teachers' use of curriculum and materials has increased in recent years, it cannot be said to be sufficient (Lloyd, Remillard, & Herbel-Eisenmann, 2009). In both local and foreign literature, there are researches conducted frequently to examine how teachers who are the implementers of the programs interpret, evaluate and implement the programs and materials. Most of the studies carried out in the local literature are related to the evaluation of the curriculum (Budak, 2011; Çiftci ve Tatar, 2015; Konur ve Atlıhan, 2012; Uludağ, 2012) and books (Arslan ve Özpınar, 2009; Işık, 2008; Tutak ve Güder, 2012; Yüksel, 2010) according to the teacher opinions; while the studies conducted on how and to what extent teachers use mathematics textbook (Altun, Arslan ve Yazgan, 2004; Işık, 2008) and curriulum in the classrooms are rare. On the other hand, prominent studies in the foreign literature indicate how often and at what level teachers use program-related materials (Ben-Peretz, 1990; Brown, 2002; Brown & Edelson, 2003; Lloyd, 1999; Manouchehri & Goodman, 1998; Remillard, 2000, 2005; Sosniak & Stodolsky, 1993; Wiley, 2001).

Shulman (1986), who treats curriculum knowledge as an important component of teachers' teaching knowledge, asserts that the actual program is the program that teachers experience in the classroom rather than the published texts and documents (Shulman, 1990). Similarly, Ben-Peretz (1990) draws attention to the relationships between teacher-curriculum and program materials; he suggests that teachers' program interpretation levels have the potential to be implemented beyond the objectives of the curriculum and materials, as it is an important component that could result in the use of curriculum that differ from program developers' intentions. Wiggins and McTighe (2005), who state that teachers are "designers", argue that the main act of teaching is to process the curriculum as a craftsman and to create learning experiences to achieve certain goals. Parallel to these views, Brown and Edelson (2003) grounding on the idea of teaching as design focused on the interaction between individuals and tools and listed three important processes related to teaching as design (p.1):

Curriculum materials play an important role in the realization and prevention of teachers' actions.

Teachers interpret and use such phenomena differently depending on their experiences, intentions and abilities.

Teaching as design is not an entirely conscious choice but an inevitable reality.

In order to make this point of view more understandable, Brown (2002, 2009), who focuses on the relationship between teachers' personal characteristics and teaching materials, has proposed the Design Capacity for Enactment Framework (Figure 2).

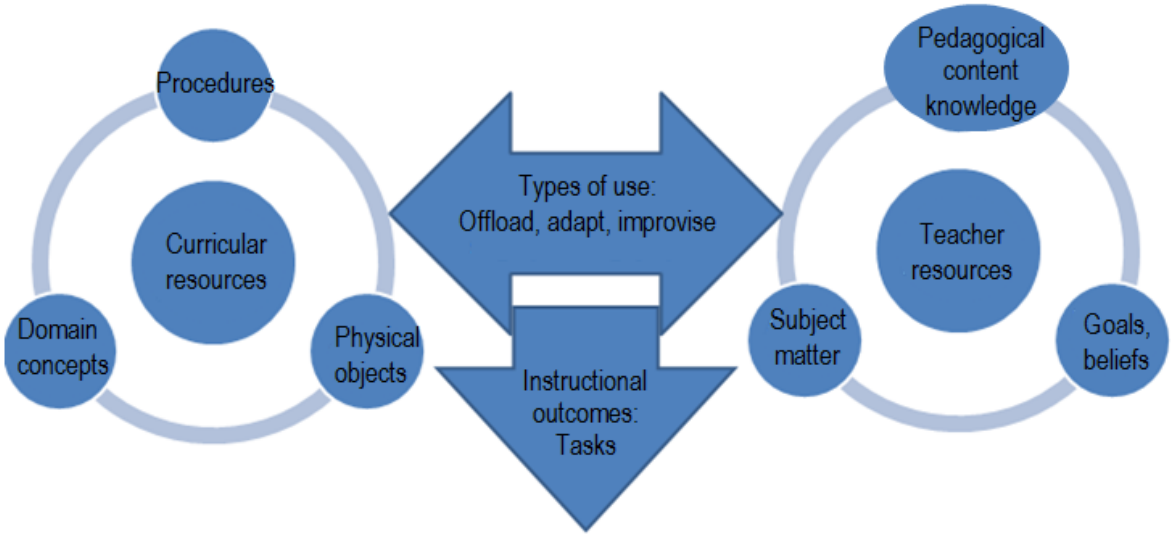

Figure 2. Design Capacity for Enactment Framework

In Figure 2, the left side represents the characteristics of the curriculum and materials, the right side represents the characteristics and capacities of the teachers, and the central part represents the way teachers use the materials related to the program in designing the teaching and the interaction between them. The framework reveals different types of interactions that occur as teachers adapt, embrace or improvise with program resources (Brown, 2009).

There are various studies examining the teachers' use of curriculum materials in different categories (eg. Freeman, Belli, Porter, Floden, Schmidt & Schwille, 1983; Lambdin & Preston, 1995; Remillard & Bryans, 2004).In a review of teachers' use of the program and materials, Remillard (2005) revealed four types of program use. *Teachers who use the program by following or subverting it* treat the texts in the program as a starting point and then determine the degree to which they will follow or convert. This point of view is close to the positivist approach and assumes that the degree of harmony between teachers in the written and applied program may be high. Deviation from the written program reflects teachers' tendency to traditional pedagogical approaches and mathematical representations. They are more reluctant to follow pedagogical recommendations. *Teachers who adopt to use the program by drawing on it*, first recognize their class, then transfer the texts to their teaching and use the structured program. Although program materials are useful for teachers, they do not have the power to shape individuals' actions. One-to-one harmony between written plans and in-class actions of *teachers who interpret and use the program* is impossible. Teachers approach the program using their own beliefs and experiences and form their own meaning. They interpret the intentions of the authors when using the materials in the curriculum. The teachers' interpretations of the reforms and use of books quite differ from each other. *Teachers who participate with the program* collaborate with the materials, and the materials and teachers interact dynamically. Both the teacher and the materials both actively participate in the teaching process.

Although various groupings have been made by various researchers regarding the use of teachers' curricula and textbooks, it will not be realistic to argue that teachers should be included in any of these groupings. While teachers may not be fully involved in any of these categories, it is also possible for teachers to be included in different categories at different times, for different purposes (Brown, 2009; Lambdin & Preston, 1995). Since the curriculum defines the limits of the classroom practices of teachers (Wertsch, 1998), it will

not be wrong to assume that both the curriculum and the textbooks which are the reflection of the program affect the classroom teaching of teachers. Considering that curriculum-related materials were created by curriculum developers and policy makers to influence / realize teaching, it can be concluded that it is very important to demonstrate how teachers implement the content and philosophy contained in these materials, and how and to what extent they reflect on classroom teaching (Brown, 2009). Therefore, the aim of this study is to determine how mathematics teachers interpret curriculum and textbooks and to what extent / how they use these materials.

2. Method

2.1. Design

Within the scope of the research, since the teachers' opinions about the curriculum and textbook usage will be taken and an existing situation will be revealed, case study design from the qualitative research method has been adopted.

2.2. Participants

The study group consisted of 45 mathematics teachers who were determined by convenience sampling method. The participants were almost equal in terms of gender and educational level. Demographic data of the participants are presented in Table 1.

Table 1. Demographic characteristics of participants

		Frequency (*n*)	**Percentage (*f*)**
Gender	Male	25	56
	Female	20	44
Education Level	Secondary School	23	51
	High School	22	49
Experience	0-4	18	40
	5-9	11	25
	10-14	5	10
	15+	11	25
Total		45	100

2.3. Data Collection Tools

In addition to the structured interview form prepared by the researchers consisted of six open-ended questions in addition to demographic questions and was used as a data collection tool in the research. Three of the six questions were directed towards teachers' use of textbooks and their views on books; two are directed to the use of the curriculum and their thoughts on the curriculum. The last open-ended question asks what they want to add (if any) about the use of textbooks and curricula. Participants expressed their views using the form via e-mail addresses or social media.

2.4. Data Analysis

The answers obtained from the participants were analyzed deductively under the themes determined for each question. Pseudonyms were used for the participants and quotations from the participants' own statements were used when presenting the analysis results. The pseudonyms used were determined by the Gender-Education level-Experience trio. For example, "MH-12 shows that the participant is a male, a high school math teacher, and has 12 years of experience.

3. Findings

The findings obtained from the analysis of the data of the participants' responses were presented under the themes identified for each question. The themes identified in this context are the opinions about the textbooks, the use of textbooks, the use of supplementary resources, the opinions about the curriculum and the use of the curriculum. The opinions of the teachers are presented in the related section under these themes. Since the curricula and textbooks differ in secondary and high school levels and in order to evaluate homogeneous materials in the same type, the findings are presented separately for secondary and high school levels.

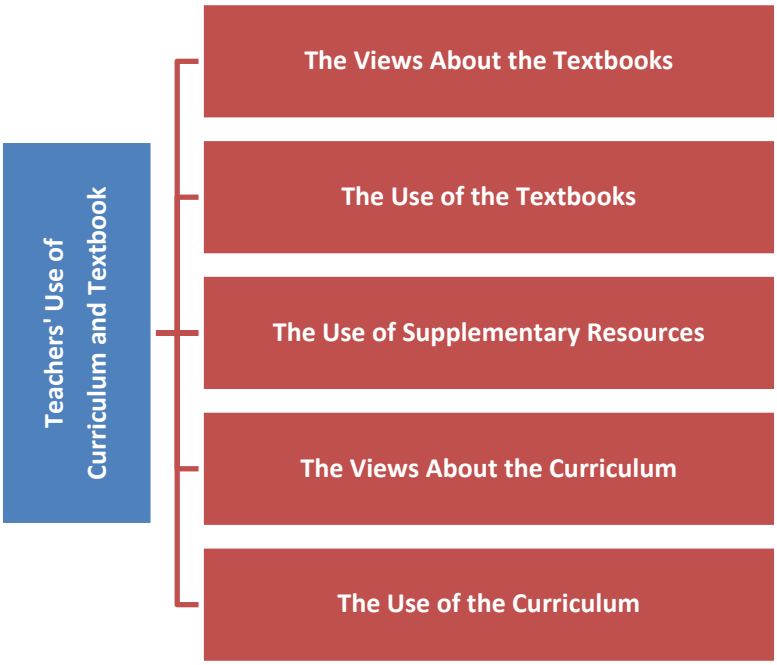

Figure 3. Design Capacity for Enactment Framework

These themes have been elaborated below.

3.1. The Views About the Textbooks

Secondary school mathematics teachers stated that they did not like the textbooks and that the books contained various problems. According to the teachers, the introduction examples are inadequate, the books are not age-appropriate and difficult for the students, the order of the questions is not appropriate, they do not fully meet the acquisitions, there are spelling mistakes, the content is inadequate, there are incorrect calculations or operations, they do not take into account the preliminary knowledge of the students, the activities are not interesting, there are few examples, they are not compatible with the exam system (for the eighth grade), some subjects are superficial, the number of exercise questions is insufficient, books are prepared sloppy, samples should be diversified. On the other hand, there are few teachers who find the textbooks interesting and think that they can be developed although they are sufficient. While the number of examples in the books published by the Ministry of Education is high, the books by private publishers include les number of examples.

The teacher who criticized the activities in the textbooks stating that the books were prepared without taking the students' prior knowledge into account, expressed this view as follows:

> "It is full of unnecessary activities. The issue must be arranged for understanding. Even most the of students lack basic knowledge in many schools in Turkey, the activities in the textbooks have been prepared assuming that the students know everything."(KO-2)

EO-11, who did not find the books interesting and claimed that the books include incorrect questions, added that those who prepared the books did not take into consideration the suggestions he made and encountered the same mistakes in the books in the following year. That's why he did not prefer using these books.

The teacher, who evaluated the eighth grade textbook as exam-oriented, stated that the book did not agree with the system, and another teacher who criticized the eighth grade textbook in another aspect stated that:

> "Inadequate, incomplete, few samples, not suitable for the examination system. The system requires plenty of tests for a test like entrance exam, but the book lacks them"(EO-4)

> "I think that the narratives and examples in the book of the eight grade are more difficult than the ones desired by the curriculum"(KO-2)

On the other hand, KO-5, who uses the textbooks as an auxiliary resource, states that the activities contribute to the course and use the attention sections included in the book when starting a new topic.

It is seen that high school teachers also criticize textbooks in a similar way to middle school teachers and they do not like it very much. Teachers think that the textbooks are not compatible with the curriculum, that the questions are good while the explanations and exercises are insufficient, that they are not useful and suitable for the students' knowledge levels, that the number of questions is insufficient, that the typesetting is not done well, that they are superficially prepared and incorrect information is included, that the number of real life problems is low, that they seem to be prepared by competent people, that they are not attention grabbing, and that the books are useless, wasted, unnecessary, and boring. While some teachers stated that they never looked at the book and did not use it, the number of teachers who used the book as a reference and found it sufficient was limited to only a few.

It is seen that teachers have a tendency to make suggestions while presenting their opinions on textbooks. In addition to suggestions such as writing more carefully for less number of mistakes(EL-8) and supporting the textbooks with exercise books (EL-22), the two teachers' remarkable suggestions regarding the physical characteristics of the book and the inconsistency of the content are as follows:

> "The typesetting should be revised to be simplified and saved from the strenuous intense appearance. The end of the topics should include a greater number of quiz and classic-style questions. The density of the subject should be organized according to the types of high school [as vocational or science high schools] and books should be created in 2 or 3 categories."(EL-3)

> "Some of the questions in the textbook (especially chapter evaluation questions) require information that has not been mentioned in the chapter or may not be compatible with the grade level. For this reason, I think that the textbooks should go through a more effective correction process."(EL-13)

In addition to the view of KL-5, who finds the book "very superficial" and thinks that it gives "inaccurate information when trying to concretize abstract information", EL-7 who thinks that the book is not catchy expresses his thoughts as follows:

> "Textbooks prepared according to curriculum can be boring for teachers and students. Specifically, the number of examples may not be as sufficient and interesting as those of private publications."(EL-7)

On the other hand, there are also teachers who use textbooks as reference (EL-13), find the books really sufficient (EL-20), and think that the books are well prepared (EL-8).

3.2. The Use of the Textbooks

Although a few secondary school teachers use textbooks for every lesson, there are also those who do not use textbooks at all. While there were teachers who stated that they used textbooks "sometimes" and "rarely,, there were also teachers who change the frequency of textbook usage according to class level. It is observed that the opinions of the teachers who use books different frequency levels at different grade levels contradict each other. Two teacher's explanations regarding this situation are as follows:

> "I use the 8th grade textbook and workbook [every week] [for the central examination] at the end of each acquisition. I use the Grade 7 textbook every week at the end of each acquisition. Since the number and quality of the questions are better than other grade levels, we use the 5th and 6th grade books once a month; I use them at the end of the unit. Because they are not enough to measure the knowledge according to curriculum and the number questions which the students will solve are less."(KO-3)

> "I follow the textbook in 6th grade, constantly. To let the students see both the explanation and the solution of the questions. I also give homework from the book. But for the 8th grade, I use the textbook once every 2-3 weeks, I give homework from the workbook, but the questions are bad to be honest. I'm giving homework because they have to use the course and workbook, or I won't even use it for homework."(EO-12)

There are also teachers who state that textbook usage has changed according to the subject. One of the teachers, EO-6, does not use textbooks for all subjects because it is not as effective in almost all subjects.

When the textbook usage aims of secondary school teachers are examined, it is noteworthy that teachers use the textbooks to determine the content of the course, the acquisitions included, the order of subjects, the changes in the curriculum. KO-A uses textbooks for an "overview of the topic" and KO-2 who uses "how the chapter is handled in the book and what it contains". EO-4 explains the intended use of the textbook as follows:

> "I take a look at the textbooks to follow the curriculum and acquisitions for each course. I get help from different sources for examples. "

In addition, teachers state that they examine books to look at how the content is presented in the textbooks, how the subject is narrated, what activities are handled, the different question types, and they use the textbook for end-of-unit evaluation questions, assignments and exercises. EO-11 states that although it is not always possible to have every activity carried out, he benefit from the sample exercises given in the book to use in the lesson. Although KO-9 and KO-5 stated that they use questions in the course by examining the question types in textbooks, they added that they thought that the textbooks were not sufficient and therefore needed additional resources.

Similar to secondary school teachers, textbook usage patterns of high school teachers changes among the scales of every lesson, once a week, rarely and not at all. EL-15, one of the teachers who use different books at different grade levels, states that while she does not use textbooks in senior classes, she chooses to follow books in the intermediate classes at the beginning of the year but later turns to different sources.

High school teachers state that they use textbooks to determine the boundaries and content of subjects, to support the lesson, to examine activities, to identify curriculum and acquisitions, and to control the changes in curricula. Therefore, the use of textbook by middle and high school mathematics teachers seem to be similar. EL-11 describes his intended use of textbook as "usually to determine the boundaries and content of the subject to be explained", while EL-8 states that he prefers to use the textbooks to see the content for the guidance but uses his own notes during the lesson. EL-6, on the other hand, explains how he uses the textbook in addition to his criticism of the textbooks as follows:

> "Sometimes textbooks do not have subject integrity; they blow hot and cold. Sometimes the samples are very inadequate. In such cases, I use the course content that I prepared myself, and at other times I use the book by adding and subtracting a few things."

Some teachers state that they never use the textbooks and that they use additional resources. Some teachers state that they prefer to use the textbooks only in the classes other than the senior ones. KL-A uses the following expressions, explaining the reasons:

> "I rarely use it in the lower grades. Since there are wrong questions to confuse the students, I prepare the questions myself.

3.3. The Use of Supplementary Resources

Only one of the secondary school mathematics teachers stated that she did not use supplementary resources and all the other teachers need auxiliary resources for various reasons and that they use resources other than textbooks. Increasing the diversity of questions is one of the main reasons for teachers' use of supplementary resources. KO-3 stated that he uses additional resources to see different question styles, while EO-4 stated that he used auxiliary resources to become familiar with different exercise questions by complaining about limited number of problems or exercises in textbooks. The teachers also complained about the insufficient number of quality questions in the textbooks (KO-4), the teachers prefer to use supplementary resources

since the narratives of these sources are more simple and concise, the number of questions is high(KO-2) and more appropriate for the students (KO-4).

It is seen that teachers mostly use supplementary resources especially in the eighth grade level because of the central exam, and these resources are test-oriented books that contain many questions. It is understood from the following statements that teachers try to make an instruction for the exam by eliminating the dilemma between activity-based teaching and preparing students for the exam:

> "Yeah. I use it every day in all classes. Because the question styles in the supplementary books are more suitable for the students who will take the scholarship and central exam. The textbooks are activity based but exam-style and exam questions are not."(KO-2)

High school teachers stated that besides the private resources, they use the notes and worksheets they created with their own experiences as supplementary resources in the lessons. When using their own resources, it is seen that the teachers stated that they make adaptation according to the curriculum and the level of student in that academic period.

> "I use sources I have prepared myself. I remove things incompatible with the program. I make adjustments according to the students' level."(EL-15)

> "I use supplementary resources. However, I do not have students buy any book, magazine, and so on. The supplementary resources I use consist of lecture notes and a pool of questions I have created since the time I started teaching. I use the questions I have created from the questions that are appropriate to the level and condition of the class I will teach. I do this at all grade levels each year, creating lecture notes and questions that I think will be appropriate for them. The textbooks of the MoNE assume that the same book will be sufficient for every student regardless of the type or area of school. The number and variety of questions is not enough in the books."(EL-13)

Similar to secondary school teachers, it is seen that high school teachers tend to use supplementary resources that contain plenty of questions and tests in order to prepare students especially for the central exams. Teachers also state that they use supplementary resources for the purpose of completing the shortcomings in textbooks(KL-5) and more difficult questions are required in successful classes (EL-22) or suitable content is required for lower-level students(EL-6). In addition, teachers make students buy books having property of notebook or smart notebooks compatible with the smartboard materials to save time. The supplementary resources also have diversified and quality examples, are more suitable for the smartboards, are user-friendly.

3.4. The Views about the Curriculum

Even though the secondary school teachers find the curriculum useful and appropriate to the student level, they think that there is a need for improvement in aspects such as some examples can be presented instead of just instructions (KO-A).

In addition, there are teachers who think that some subjects are too "scythed"(KO-A). A teacher expresses her criticism as follows:

> "I don't think it's true that the curriculum is constantly changing. Gradually, both injustice occurs and the level is gradually alleviated, causing generations to grow on simpler grounds in terms of knowledge. Even the student we call the best [in terms of achievement] seems to be in good shape among the unsuccessful ones."(KO-4)

In the curriculum, the existing system is criticized as incompatible with the central exam(EO-4 and KO-7) and the programs are criticized as follows:

> "There are details that are not suitable for the mental development of the students and that we do not use in daily life. In addition to the basic things a secondary school graduate should know, there are many unnecessary subjects." KO-2)

> "I think that it has profound content and this intensity is too much for the student and the teacher. Especially in terms of the distribution of topics there is a gap between classes. There is little relevance in the transition between subjects, and some of the qualifications required for a subject

include concepts that have not been taught to students beforehand. For example, to address the sets during the instruction of probability."(EO-4)

In addition to these criticisms, there are also criticisms that "fifth grade content is very shallow" (KO-2) and especially at 7th grade level the program is quite intense (KO-2). There are also criticisms that the removal of certain subjects resulted in being left unsupported for some of the subjects (EO-12). However, it is also stated that there is sufficient time for the subjects and that the issues are simplified.

Among high school mathematics teachers, there are conflicting views on the curriculum. In addition to teachers who find the simplification of the program to be very appropriate and even think that it needs to be further simplified, there are teachers who argue that the program is over-simplified and that the issues are disorganized and unordered. In addition to the disorganization of the program, it is underlined that there is congestion at some grade levels, and it is suggested that mathematics instruction should be done at different number of course hours and different content in different high school types (EL-3). There were teachers who thought that the curriculum was not applicable, were constantly evacuated and did not welcome the everlasting changes in curriculum, although they think that the program was well prepared (EL-15).

3.5. The Use of the Curriculum

Secondary school mathematics teachers state that they use the curriculum in various degrees of frequency. There are also teachers who examine the program at the beginning of the year and say that they follow the achievements during the year from the book, and when they need it, they say that they examine the acquisitions that should be included in each course. In addition to the teachers who think that the teachers need to use the curriculum frequently in terms of order and parallelism of the subjects (KO-4) and that to remember the acquisitions for time arrangement (EO-14), the program should be followed every week. He expresses his opinion as follows:

> "I use it to draw a roadmap on every subject. Even though I didn't create a draft on paper, I have in my mind a teaching draft on that subject."

It is seen that secondary school teachers mostly try to follow the program and often use it to see which "gains" are included in the courses they will take. Although not clearly separated from the use of "acquisition-oriented curriculum, the most comprehensive answer given by teachers to the use of curriculum is as follows:

> "In terms of the boundaries of the subject, I don't depend too much on textbooks. I apply to the curriculum for the basic skills to be acquired in the subjects, important points and associations related to the subject and in-class activities." (KO-5)

Similar to the secondary school teachers, high school teachers say that they use the curriculum to see the limits of the subjects and "to adapt the system" (KL-26). In this regard, EL-16 expresses the idea as follows:

> "It is very important that we know what we are aiming for. There is the answer to the question, 'What should we teach and what not?'"

Although high school teachers often stated that they use the curriculum frequently, there are also teachers who state that they do not look at the curriculum at all or that they only use it when they plan the annual plan in September. Some teachers stated that they examined the curriculum in order to see what has changed in the curriculum compared to the previous year.

4. Conclusion

In this study, which aims to determine the views of mathematics teachers about the curriculum and textbooks and their usage levels, it is concluded that both middle and high school teachers do not like the textbooks sufficiently and prefer not to use them in their courses.

In particular, secondary school teachers stated that the contents of the book were not suitable for the age level of the students and were intense for the students. In addition, there are spelling and processing errors in the books. The fact that similar discourses were made by high school teachers led to the interpretation that

textbooks were prepared in a short time and presented to teachers. Although some criticisms such as the fact that there are typesetting errors, insufficient number of samples, and lack of interest in the books are acceptable, the fact that the faulty information is included in the books and that the books are not compatible with the curriculum can be considered as the most important mistakes that affect the education and the degree of implementation of the written program. As a matter of fact, one of the participating teachers stated that the textbooks gave the impression that they were not prepared by "competent people". Işık (2008) states that in addition to visual design and language and expression, scientific content is also an important component of textbooks and textbooks have an important effect on teachers who begin their profession. The findings of the present study that the textbooks are difficult according to the students' level coincide with the findings obtained by Arslan and Özdemir (2009). As a matter of fact, in the mentioned study, it was concluded that the content presented in the textbooks sometimes went above and below the student level.

It has been observed that the frequency of teachers' use of textbooks and curricula has changed, while some teachers review and follow these materials for each lesson, some teachers do not use these materials at all or think the textbooks worth examining. Textbooks are mostly used to determine the boundaries of the subjects, to learn the subject sequence and the parts that changed according to the previous year, to perform activities, to use examples, exercises or end-of-unit evaluation questions and to give homework to the students. Teachers, especially in the last year of the central exams are away from textbooks and use supplementary resources, to see different question styles, to reach more quality questions, they prefer these resources to solve more questions. In this respect, they criticize textbooks and think that they are not compatible with the central exams. In the study conducted by Şahin and Turanlı (2005), it was revealed that the students turned to other supplementary sources instead of textbooks because of the alternative books being more comprehensible, oriented towards the exam, and containing practical solutions compared to textbooks. In the study conducted by Gökçek and Hacısalihoğlu Karadeniz (2013), it was determined that students preferred alternative books due to the fact that the students found the questions in the textbooks insufficient, that there were more questions for the university entrance exam in other sources, and that there were different kinds of questions and solutions. Therefore, it can be concluded that these attitudes of teachers towards textbooks are also reflected to their students. In the study by Altun, Arslan and Yazgan (2004), it was found that high school mathematics teachers rarely used textbooks and exam-oriented books were used to prepare questions instead. In addition, in the same study, the uniformity of the samples and the low number of questions are among the other findings, which are in parallel with the present study findings.

In the study conducted by Işık (2008), it was determined that the rate of teachers using textbooks was low due to the lack of exercises and problems in the textbooks and the textbooks did not comply with the central examination. Similarly, as a result of the study conducted by Tutak and Güder (2012), it was seen that the fifth grade teachers found the assessment and evaluation activities in the textbooks insufficient. In the study conducted by Taşdemir (2011) at the elementary school level, it was determined that although the classroom teachers found the textbooks insufficient in terms of samples and the number of questions, they thought that the textbooks were highly qualified in a way that contradicted the findings of the present study. This may be the result of students not experiencing a centralized examination at primary level. On the other hand, teachers who prefer to use textbooks are very few and often use these resources at lower grade levels and always need a supplementary resource. The main aim of the teachers to use the textbooks is to determine the content of the course and to give homework. This situation was put forward in the study conducted by Işık (2008) and it was stated that teachers mostly used textbooks for the purpose of giving homework. When the use of teachers' curricula is examined, it is noteworthy that the teachers see the programs as mostly acquisition-oriented and a list of what should be given in the course content. Although the curricula have been simplified with the last update, some teachers criticized that the acquisitions in secondary and high school are quite intense. Especially at the high school level, it is stated that the curriculum is disorganized and complicated for the teachers, probably due to the combination of mathematics and geometry courses only under mathematics.

When the findings obtained as a result of the study are examined in general, it is seen that there are similarities and differences between mathematics teachers' curriculum and textbook usage styles and frequencies. According to the results of the findings, it is suggested that the textbooks should be reviewed

and adapted to the curriculum and the studies should be carried out in order to be scientifically error-free. In addition, teachers should be encouraged to express their opinions about the curriculum and textbook perceptions and how these materials can be used more effectively in a discussion environment. It is recommended to conduct studies involving more participants and obtaining more detailed data for teachers' use of instructional materials. The most important limitation of the present study is the use of a structured measurement tool and it is thought that more detailed data will be obtained through one-to-one interviews.

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