Examining Mathematics Teachers' Opinions about the Content of the 11th Grade Mathematics Textbook

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Abstract: In 2018, the curriculum was renewed and in this process, deficiencies in mathematics textbooks were tried to be determined. In the context of this effort, suggestions have been made regarding the quality of mathematics textbooks. In this way, it was thought to make the textbooks more functional in mathematics lessons. Due to the fact that the textbooks prepared in this context are new, it is necessary to reveal how the textbooks were interpreted by the teachers in terms of content. In this context, the aim of this research is to reveal the opinions of teachers about the 11th grade mathematics textbook prepared by the Ministry of National Education, Board of Education. The mixed method was used in the research and the research was designed with a case study. The data collection tool in the quantitative dimension of the research consists of the "evaluation survey of mathematics textbooks in terms of content" for which validity and reliability studies have been made, and the semi-structured interview form is the data collection tool in the qualitative dimension. As a result of the data obtained from the participants, it has been revealed that the books do not contain different types of questions, they are insufficient in terms of creating an environment that supports asking questions, and the concepts related to reasoning are not included enough in the books.

Keywords: Secondary school mathematics, Mathematics textbooks, Book review

1. Introduction

It is known that the influence of institutions such as school and family on the formation of the personality of individuals is of great importance. Especially the importance of schools has increased significantly after the industrial revolution and these institutions have played an important role in raising qualified individuals for the existence of societies. In this context, individuals acquire a significant part of the social and academic skills necessary for their survival in society at school. In order for schools to fulfill this important role in raising qualified individuals, there is a need for the existence of different kinds of tools and equipment in the education-teaching processes. Considering that an effective teaching can be done with the help of these tools, it has become a necessity to increase the quality of these tools. One of the most important of these tools is textbooks. The positive effect of the textbooks, which are prepared in an effective and functional way, on the learning processes of individuals should not be ignored.

Ellis (1997) describes the textbook as a product that is drafted on the basis of the achievements in the curriculum, examined within the framework of certain standards, and used by teachers in the process of teaching academic skills to students. From another point of view, textbooks are resources used to achieve learning goals in educational processes thanks to their content (Trowbridege & Bybee, 1996). Issitt (2004) states that textbooks contribute to the learning experiences of individuals due to the features they have and that their use in education-teaching processes is quite common. Swanepoel (2010) states that studies aiming at examining textbooks are important in terms of revealing which features of textbooks facilitate learning processes.

Textbooks have an important place for each discipline in the Turkish education system, and the evaluation of textbooks contributes to the emergence of more functional books (Kılıç & Seven, 2003). The books to be taught in formal education institutions affiliated to the Ministry of National Education in Turkey are determined by the Board of Education and textbooks are prepared on the basis of the Textbooks Regulation. Although there is a systematic method followed in all these processes, some deficiencies may occur during the preparation of textbooks and may negatively affect the learning-teaching process. In the Turkish education system, the contribution of textbooks to the attainment of discipline-specific goals by individuals is quite high. Binbaşıoglu (1994) states that besides the widespread use of textbooks, their contribution to students' learning processes should not be ignored. Because, a systematic teaching environment will be possible thanks to the textbooks, which are one of the auxiliary resources of the teachers (Uluğ, 1993). In addition, textbooks play an important role in the learning-teaching process as much as educational programs, teachers and physical facilities (Ceyhan & Yiğit, 2004).

Seguin (1989) argues that an effective mathematics textbook requires objectivity and precision. In addition, the content in the textbooks is expected to support the improvement of the quality of individuals' life. In order to achieve the relevant goal, attention should be paid to the preparation of the textbooks taking into account the age

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groups of the individuals and the content in the textbooks to include examples from the environment of the individuals (Mouzakitis, 2006). Pepin and Haggarty (2007) mention that a functional textbook should include non-routine problems and state that it is important to prepare the problems at least in practice. Even if textbooks with all these features are prepared, it is important for teachers to have positive opinions about the textbooks in order to benefit from them. Researchers examining teachers' beliefs about textbooks revealed that teachers' knowledge and views on the discipline of mathematics, external pressures, and the goals of schools play an important role (Remillard, 1999).

There are different studies on the quality of the textbooks used in formal education institutions affiliated to the Turkish Ministry of National Education. In terms of purposes, these studies include developing scales (Güner, 2015), evaluating the formal features of textbooks (Kurtulmuş, 2010), examining the extent to which textbooks are included in the lesson (Bulut, 2013), comparing textbooks in the international context (Ata-Özer, 2018), examining the compatibility of curricula with textbooks (Karakuzu, 2017), revealing the effect of mathematics textbooks on academic achievement (Ayber, 2017), and determining the views of education stakeholders on textbooks (Tutak & Güder, 2012). It has been concluded that teachers' adoption of textbooks plays a very important role in the learning-teaching processes, especially in studies aiming to determine the views of education stakeholders on textbooks.

1.1. Conceptual Framework

Although the United States of America is considered to be a superpower today, it faced significant problems in terms of education systems, especially in the middle of the 20th century. An international comparison was made in the mentioned periods and it was seen that American students were not at a sufficient level in terms of academic success, especially in disciplines such as physics, chemistry and biology. (Keeves, 1988). Similarly, it has been revealed that only 7% of the students who continue their education processes in secondary education can use scientific knowledge effectively (Applebee, Langer, & Mullis, 1989). In this context, negative opinions about the curriculum of the mathematics course began to be expressed, and with the contribution of the "Curriculum and Evaluation Standards for School Mathematics" report, improvements were made in mathematics programs (NCTM, 1989). Baki (2006) mentions that thanks to the related report, a different understanding has been brought to the discipline of mathematics and that the need for the re-preparation of mathematics textbooks has been revealed.

In order to improve this negative situation in the United States, many studies have been carried out by scientists within the scope of improving education processes. One of these studies was Project 2061, which was supported by the American Association for the Advancement of Science. This reform study was planned on the use of criteria determined in order to examine the content in teaching materials. Kesidou and Roseman (2003) mention that the criteria determined within the scope of Project 2061 were created by a group consisting of expert teachers, curriculum development experts and education experts. Thanks to Project 2061, studies were carried out on the qualifications that textbooks should have in the context of the criteria determined (Kanlı & Yağbasan, 2004). The main evaluation criteria included in this reform study are; i) setting goals, ii) considering student ideas, iii) engaging students in mathematics, iv) developing mathematical ideas, v) encouraging students to think about concepts and events, vi) assessing students' progress, and vii) improving the mathematics learning environment.

When these categories in Project 2061 are examined, it can be said that these categories contain elements that are extremely beneficial for both students and teachers in all teaching-learning processes. It is clear that considering the criteria in these categories in the process of preparing textbooks, which is one of the most important auxiliary resources, will play an important role both in increasing academic success and in creating an environment that allows teachers to reason.

1.2. Research Aim and Problem Statement

This study aimed to determine how the mathematics textbook, which was prepared within the scope of the Board of Education dated 28.05.2018 and numbered 78, and used at the 11th grade level in formal education institutions affiliated to the Ministry of National Education, is evaluated by teachers in the context of the criteria included in Project 2061. With this aim, the study addressed the following research questions;

- How teachers evaluate the adequacy of the 11th grade mathematics textbook in terms of setting the objectives?
- How teachers evaluate the adequacy of the 11th grade mathematics textbook in terms of considering students' ideas?
- How teachers evaluate the adequacy of the 11th grade mathematics textbook in terms of attracting students' attention?
- How teachers evaluate the adequacy of the 11th grade mathematics textbook in terms of developing mathematical ideas?

- How teachers evaluate the adequacy of the 11th grade mathematics textbook in terms of encouraging students to think?
- How teachers evaluate the adequacy of the 11th grade mathematics textbook in terms of assessing the mathematical development of students?
- How teachers evaluate the adequacy of the 11th grade mathematics textbook in terms of improving the mathematics learning environment?

2. Method

In this research, since it was aimed to examine the qualities of the 11th grade mathematics textbook, which was prepared on the basis of the new curriculum, the mixed method was used in order to obtain in-depth information. Thanks to mixed method research, it will be possible for qualitative and quantitative data to confirm each other, and as a result, to increase the level of credibility of the results obtained (Yıldırım & Şimşek, 2016). The research was designed with a case study. With case study, it is possible to examine and describe all aspects of a situation (Merriam, 2013).

In scientific research processes, researchers may prefer to increase the validity of research results by using different data tools (McMillian & Schumacher, 2010). Thanks to different data collection tools, it is possible to reach more holistic and rich results (Glesne, 2012). In this research process, attention was paid to the use of different data collection tools and the data were obtained through a questionnaire and semi-structured interview form. Within the scope of the study, quantitative data were collected through a content evaluation questionnaire (MDKIYDA) of mathematics textbooks created by Keleş (2008), and qualitative data were collected by an interview form prepared by the researcher. The questions in the interview form were prepared considering each research question. The questions asked to the teachers who are the head of the department in the interviews were presented in the findings section for the research problem to which the question belongs.

2.1. The Participants

The participants of the study consist of 29 mathematics teachers and 4 mathematics department heads working in secondary schools in the Safranbolu district of Karabük. Easily accessible sampling, which is one of the purposeful sampling methods, was preferred in the formation of the research group. While the purposeful sampling method provides the opportunity to examine the phenomenon in depth considering the purpose of the research (Büyüköztürk et al., 2014), researchers focus on choosing the persons that can be reached in the stage of sampling from a particular universe in line with their purposes, thanks to the easily accessible sample (Patton, 2005). Information about the mathematics department heads in particular and all the participants in general are presented in Table 1 and Table 2, respectively.

Table 1. Personal and professional information of the department heads

Pseudonym	School type	Years of service	Gender	Graduation department
T1	Multi-program high school	3	Female	Mathematics
T2	Anatolian high school	13	Female	Mathematics
T3	Anatolian religious high school	18	Male	Mathematics education
T4	Anatolian high school	25	Male	Mathematics education

Table 2. Personal and professional information of the participants of the study

		Frequency	%
Gender	Female	13	45
	Male	16	55
Years of service	1-5	2	7
	6-10	5	17
	11-15	4	14
	16-20	10	34
	21+	8	28
School type	Anatolian high school	14	48
	Multi-program high school	2	7
	Anatolian religious high school	13	45
Graduation department	Mathematics education	10	35
	Mathematics	19	65

2.2. Data Analysis

The qualitative data of the research were analyzed descriptively. In descriptive analysis processes, researchers have the opportunity to support the views of the participants in the research group with direct quotations. The aim is to organize the data obtained in descriptive analysis and to transfer it to the readers in an interpreted way. The data obtained is systematically described by the researcher at the first stage, and then the described data are interpreted and the results are reached in the context of the purpose of the research (Yıldırım & Şimşek, 2016). The data obtained from the questionnaire, which was used to reveal how the mathematics textbook was evaluated by the teachers, was also analyzed descriptively. The data obtained from the teachers were examined under separate headings in the context of seven criteria in Project 2061. The frequencies and percentages of the data obtained from the survey were calculated and presented in the findings section.

3. Findings

In this section, the findings of the research are presented under the sub-headings of the problems addressed in the research.

3.1. Findings Regarding Setting the Objectives Component

One of the problems addressed in the study was what the opinions of the heads of departments were about the content of the textbook in terms of setting the objectives. In the interviews conducted in this context, the first question asked was "*What do you think about the appropriateness of the presentation of the unit outcomes and the sequence followed in the presentation of the content*?". When the answers given were analyzed, it was determined that the head of the departments with the codes T1 and T2 found the order of the subject and objectives in the book appropriate. However, the head of the department coded T1 stated that the trigonometry unit was difficult for many students to understand, and emphasized that including this unit in the book at the beginning of the year would have a positive effect on overcoming this difficulty. It was seen that the evaluations of the other two head of the departments on this issue were in the opposite direction. The head of the department coded T3 emphasized that the objectives should be more detailed in the book, and the book was not satisfactory in this respect. The head of the department coded T4, on the other hand, stated that the content in the book was ordered very densely, which made it difficult to follow the content.

The second question asked under this heading was "*Do the units include activities to motivate students (to attract their interest)*?". In the interviews, although all of the department heads stated that there were activities designed to attract attention in the book, it was seen that they differed in terms of the potential of the activities to meet this purpose. While T1 emphasized that the activities did not even attract his/her attention, T4 emphasized that such activities were not included in the units with the same intensity.

There are 4 items related to the component of setting goals in the MDKIYDA. The content of these four items and the distribution of all participants' responses according to categories are presented in Table 3. As seen from Table 3, teachers showed the highest level of agreement with the item related to explaining the objectives of the units and their relationship with other units, and the lowest level of agreement with the item related to the potential of the activities to develop cognitive skills. Considering the average of the items under this heading, teachers showed moderate agreement that the book was sufficient in terms of the component of setting goals.

Table 3. Distribution of the responses to the items related to the component of setting objectives

Items	S.D. (1)		D. (2)		M. A. (3)		A. (4)		S.A. (5)		Mean
	f	%	f	%	f	%	f	%	f	%	$\bar{x}$
The textbook contains general objectives and instructions to motivate students.	1	3	7	24	11	38	8	28	2	7	3.1
Each unit expresses its purpose and its relationship with other units.	1	3	1	3	16	55	10	35	1	3	3.31
At the beginning of the topics, students are presented with logical and strategic activities.	1	3	6	21	11	38	9	31	2	7	3.17
The activities offered are of a nature that will improve students' cognitive process skills.	2	7	2	7	19	66	6	21	-	-	3
								Total mean			3.14

S.D.: Strongly Disagree; D.: Disagree; M.A.: Moderately Agree; A: Agree; S.A..: Strongly Agree

3.2. Findings Regarding the Component of Taking Student Ideas into Consideration

The first question posed to the heads of departments in the interview regarding this component was "*Does the textbook contain any activities aimed at revealing students' prior knowledge and misconceptions related to the subject*?".

In the interviews conducted, all of the heads of departments stated that the book was inadequate in terms of emphasizing misconceptions. On the other hand, T2 coded head of department stated that an effective book should also warn teachers about misconceptions. In addition, T1 coded head of department stated that the content included in the book under the name of misconceptions belongs to situations that can be characterized as lack of knowledge rather than misconceptions.

In the interview regarding this component, the second question asked was "*What do you think about the inclusion of knowledge and skills that are prerequisites for the teaching of the units in the textbook?*". In this regard, all of the department heads stated that there were enough questions in the geometry learning area to test preliminary knowledge, and the others, except for the department head coded T1, stated that there were enough questions in all units. On the other hand, the head of the department coded T1 stated that some of the questions in the functions unit were given prematurely.

There are 5 items related to the component of taking students' ideas into consideration in the MDKIYDA. The statements of the related items and the distribution of all participants' responses to these items into categories are presented in Table 4. As can be seen from Table 4, teachers participated the least in the item related to warning the teacher about misconceptions and the most in the item related to the presence of prerequisite information for learning the subject. When the averages of the answers given to all items are taken into account, teachers agree that the book is sufficient for the component of taking into account student ideas is slightly below the medium level.

Table 4. Distribution of the responses related to taking student ideas into consideration

Items	**S.D. (1)**		**D. (2)**		**M. A. (3)**		**A. (4)**		**S.A. (5)**		**Mean**
	f	%	f	%	f	%	f	%	f	%	$\bar{x}$
The textbook contains the basic knowledge and skills, which are the prerequisites for learning the subject.	1	3	12	41	5	17	10	35	1	3	2.93
The textbook warns teachers about the misconceptions that students may have.	3	10	10	35	10	34	6	21	-	-	2.66
It includes suggestions to reveal students' thoughts before moving on to scientific statements.	2	7	5	17	18	62	3	10	1	3	2.86
The textbook includes students' misconceptions.	2	7	10	35	7	24	9	31	1	3	2.89
The course book contains questions that will reveal students' prior knowledge.	4	14	5	17	13	45	5	17	2	7	2.86
								Total mean			2.84

S.D.: Strongly Disagree; D.: Disagree; M.A.: Moderately Agree; A: Agree; S.A..: Strongly Agree

3.3. Findings Related to the Component of Attracting Students' Interest

To determine how they evaluated the adequacy of the book in terms of attracting students' interest, the question "*What kind of practices does the textbook include in order to associate the concepts and topics that students have learned throughout the unit with daily life?*" was asked to the heads of department. All of them stated that the textbook was quite incomplete in this regard. For example, in one part of his speech, the head of the department with the code T1 said, "*According to the book, there is something that is daily life, but there is no such daily event in the student's life*".

To determine how the teachers included in the study evaluated the adequacy of the book for the component of attracting students' interest, 4 items were included in the MDKIYDA. The wording of these items and the distribution of participants' responses according to categories are presented in Table 5. As seen in Table 5, in the context of this component, teachers evaluated that the book had the lowest competence in terms of activities that could be carried out outside the school and the highest competence in terms of including multiple and variable events from daily life. When the averages of the answers given to the items within the framework of this component are taken into consideration, teachers agree that the book is sufficient in terms of attracting students' attention slightly below the medium level.

Table 5. Distribution of the responses related to attracting students' interests

Items	S.D. (1)		D. (2)		M. A. (3)		A. (4)		S.A. (5)		Mean
	f	%	f	%	f	%	f	%	f	%	$\bar{x}$
In the introduction to the subject, examples, stories, cartoons, etc. are included to arouse students' interest and curiosity.	3	10	5	17	17	59	3	10	1	3	2.79
The Multiple and varied events from everyday life are presented to support learning.	-	-	11	38	10	35	8	28	-	-	2.9
The textbook includes activities related to the topics that students can do themselves outside of school.	1	3	13	45	8	28	7	24	-	-	2.72
The textbook contains activities made by someone else for topics that cannot be practiced..	1	3	8	28	12	41	8	28	-	-	2.93
								Total mean			2.84
S.D.: Strongly Disagree; D.: Disagree; M.A.: Moderately Agree; A: Agree; S.A..: Strongly Agree											

3.4. Findings Related to the Component of Developing Mathematical Ideas

In the interviews conducted to determine how the heads of the department evaluated the adequacy of the textbook in developing students' mathematical ideas, they were asked the following questions: "*Are the concepts, operations and relationships in the units presented in a correct and understandable way? What are the errors and deficiencies in your opinion?*". In the interviews conducted within the framework of this question, all of the heads of department stated that they did not encounter any faulty content in the book. In addition to this, the head of department coded T3 stated that the definitions in the book were not short and clear, and that there should be more examples to explain the definitions and concepts. In addition, T1 and T4 coded heads of the department evaluated that the content in the book was presented very intensively.

There are 4 items in the MDKIYDA in which the participants can evaluate the adequacy of the book in terms of developing mathematical ideas in students. These items and the distribution of the participants' responses to the items according to categories are presented in Table 6. As can be seen from Table 6, teachers found the book most adequate in terms of presenting homework/problems and least adequate in terms of providing suggestions on how students can use the knowledge and skills they have acquired. When the average of the responses to all items is taken into account, the participants showed a moderate level of agreement that the book was sufficient in terms of developing mathematical ideas.

Table 6. Distribution of the responses related to the component of developing mathematical ideas

Items	S.D. (1)		D. (2)		M. A. (3)		A. (4)		S.A. (5)		Mean
	f	%	f	%	f	%	f	%	f	%	$\bar{x}$
Mathematical concepts, operations and relationships are presented in a way that does not arouse misconceptions in students, with accurate and understandable relationships.	1	3	12	41	8	28	6	21	2	7	2.86
The textbook contains suggestions on how to use the knowledge and skills acquired by the students.	-	-	11	38	14	48	4	14	-	-	2.76
Assignments/problems are presented to students for the use of knowledge and application of skills acquired in various cases.	-	-	5	17	14	48	9	31	1	3	3.21
The examples, explanations and hints in the textbook serve to construct mathematical concepts for students.	-	-	5	17	18	62	6	21	-	-	3.03
								Total mean			2.97
S.D.: Strongly Disagree; D.: Disagree; M.A.: Moderately Agree; A: Agree; S.A..: Strongly Agree											

3.5. Findings Related to Encouraging Students to Think Component

The question heads of department were asked to comment on to reveal their opinions on this component was "*What does the textbook contain to develop students' advanced thinking skills (reasoning, association, etc.) about concepts, skills and relationships?*". In their evaluations on this issue, the heads of department showed a common approach and concluded that the questions in the textbook were not in a way to develop advanced thinking skills. Only T1 coded head of department stated that the daily life problems in the functions unit serve this purpose. On the other hand, T2 coded head of department emphasized that discussions about where the formulas originate from in the contents of the book under the title of "let's learn" has the potential to develop advanced thinking skills, but this quality is not included in the problems and questions. The head of department coded T4 stated that the types of questions expressed with the term "new generation questions" have the quality of developing such thinking skills, but there are very few questions in the book.

There are 2 items in the MDKIYDA that serve to reveal all teachers' evaluation of the adequacy of the book to encourage students' reasoning. These items and the distribution of the participants' responses to the items according to categories are shown in Table 7. As can be seen from Table 7, teachers moderately agree that the book is sufficient for this component.

Table 7. Distribution of the responses to the items related to encouraging students to think

Items	**S.D. (1)**		**D. (2)**		**M. A. (3)**		**A. (4)**		**S.A. (5)**		**Mean**
	f	%	f	%	f	%	f	%	f	%	$\bar{x}$
The textbook consistently includes suggestions for each student to express, explain, verify and demonstrate their ideas.	-	-	12	41	13	45	4	14	-	-	2.72
The textbook includes problems/assignments to guide students' reasoning and interpretation of concepts, skills and relationships.	-	-	9	31	14	48	6	21	-	-	2.9
								Total mean			2.81

S.D.: Strongly Disagree; D.: Disagree; M.A.: Moderately Agree; A: Agree; S.A..: Strongly Agree

3.6. Findings Related to Assessing the Mathematical Development of Students

In order to find out how the heads of departments evaluated the adequacy of the textbook in terms of assessing students' mathematical development, they were asked the question "*What do you think about both the quantity and quality of the exercises and problems in the textbook for the assessment of the units?*". In the interviews conducted, all of the heads of departments expressed the opinion that the number of exercises and problems in the textbook should be more. In addition to this, the head of the department coded T2 stated that the textbook was lacking in including different types of questions. On the other hand, the T3 coded head of department stated that the difficulty levels of the questions in the book did not vary and therefore it was insufficient to appeal to all students.

There are 2 items in MDKIYDA for the book's competence in assessing students' mathematical development. These items and the distribution of all teachers' responses to the items according to categories are presented in Table 8. As can be seen from Table 8, teachers moderately agree that the book is adequate in terms of this component.

Table 8. Distribution of the responses to the items related to assessing mathematical development of students

Items	**S.D. (1)**		**D. (2)**		**M. A. (3)**		**A. (4)**		**S.A. (5)**		**Mean**
	f	%	f	%	f	%	f	%	f	%	$\bar{x}$
The textbook contains assessment questions/assignments that keep the student away from expressions that resemble repeating memorized phrases or using a formula without understanding.	-	-	8	28	17	59	4	14	-	-	2.86
The content covering the curriculum evaluates education and training activities in accordance with their objectives.	-	-	9	31	14	48	6	21	-	-	2.9
								Total mean			2.88

S.D.: Strongly Disagree; D.: Disagree; M.A.: Moderately Agree; A: Agree; S.A..: Strongly Agree

3.7. Findings Related to Improving Mathematics Learning Environment Component

In order to reveal the evaluations of the heads of departments participating in the research in terms of improving the mathematics learning environment, they were asked the question "*How would you evaluate the textbook in terms of helping students to comprehend mathematical knowledge, to create a learning environment that encourages them to explore, ask questions, and discuss?"*. In their evaluations on this issue, the heads of departments touched upon different points. The head of department coded T1 stated that the book was not very productive for students at intermediate and lower levels and did not contain activities for exploration. On the other hand, the head of department coded T2 stated that the adequacy of the book was at a low level in terms of this component, citing that the number of questions in the book was insufficient. On the other hand, T3 coded head of department evaluated that the number of solved examples in the book was insufficient. Finally, T4 coded head of department stated that although proofs were included in the book, there were no proof activities for students to complete in the book.

In order to determine how the teachers included in the study evaluated the competence of the book for the component of improving the mathematics learning environment, there are 4 items in the MDKIYDA. These four items and the distribution of the participants' responses to the items according to categories are presented in Table 9. As it can be seen from Table 9, the participants assessed that the book has the least competence in providing teachers with a teaching environment that rewards creativity and arouses interest. Under this heading, the participants think that the book is most adequate in terms of including computer-assisted activities. When the average of the responses to all items is analyzed, the teachers agree that the book is adequate in terms of encouraging students' ideas below the medium level.

Table 9. Distribution of the responses to the items related to improving mathematics learning environment

Items	S.D. (1)		D. (2)		M. A. (3)		A. (4)		S.A. (5)		Mean
	f	%	f	%	f	%	f	%	f	%	$\bar{x}$
The textbook can help teachers to develop their own knowledge of science, mathematics and technology necessary for teaching.	2	7	11	38	11	38	5	17	-	-	2.66
The textbook includes computer-assisted activities.	-	-	9	31	16	55	4	14	-	-	2.83
The textbook helps teachers to provide a teaching environment that encourages students to ask questions without dogmatism.	1	3	12	41	12	41	4	14	-	-	2.66
The textbook helps teachers to provide a teaching environment that rewards creativity and stimulates interest.	1	3	13	45	13	45	2	7	-	-	2.55
								Total mean			2.68

S.D.: Strongly Disagree; D.: Disagree; M.A.: Moderately Agree; A: Agree; S.A..: Strongly Agree

4. Discussion and Conclusion

This study examined how the mathematics textbook prepared for 11th grade was evaluated by teachers in terms of the components of Project 2061. The findings of the study show that teachers have positive opinions about the relationship between the units of the 11th grade mathematics textbook. Considering that periodic efforts to improve textbooks can lead to positive results, it can be said that the studies carried out in the related textbook prepared in this context support the teaching processes. In the study conducted by Altundağ et al. (2009), it was revealed that teachers had negative opinions about the unity between the units. However, it was concluded that teachers had positive opinions about the relationship between the units in the textbook subject to this study. In the context of this result, it can be said that there is an awareness of this issue while preparing the textbooks and studies are carried out to establish a relationship between the units of the textbooks. In order to maintain this positive situation, increasing the support from curriculum development experts for the preparation of the content of mathematics textbooks and ensuring the integrity of the content will lead to more positive results.

As the findings show, teachers think that the textbook is adequate in terms of expressing the topics and achievements clearly. However, they evaluated that the activities presented in the introduction part of the subject in order to motivate students were insufficient. In addition, they thought that the textbook was too dense and lacked to some extent in making students active. In parallel with the results obtained in this study, Cinemre

(2010) stated in his book review study that the elements motivating students towards the lesson were not sufficient. As a result, it is understood that this issue should be considered more in future book design studies.

Another issue sought to be answered in the research is to reveal to what extent the textbook supports students' mathematics development processes. In particular, the interviews conducted with the heads of departments revealed that the problems in the textbook were not of different types and were not found to be useful by the students in the evaluation processes. Similarly, Işık (2003) concluded that the textbooks did not include different types of questions and that students did not find them functional in this sense. Considering that mathematics textbooks are one of the most important materials for supporting learning processes, it can be said that there are still inadequacies in the preparation of textbooks in line with the needs and expectations of students. In order to eliminate this problem, longitudinal studies with students, who are one of the most important stakeholders of education, in which their needs and expectations are at the forefront will make an important contribution.

The findings of the study show that teachers evaluate that the mathematics textbook is deficient in terms of encouraging students to ask questions. Considering that students' reasoning skills cannot be developed at the desired level in an environment where asking questions is not supported by teachers, it can be said that high-level skills cannot be gained. These findings of the study are in parallel with the findings of the study conducted by Doğan (2019). In the aforementioned study, it is mentioned that mathematics textbooks are deficient in terms of activities that support reasoning. For this reason, it may be useful to raise awareness on this issue through nationwide workshops in which teachers will participate and their suggestions will be received in order to develop high-level skills and create an atmosphere in which reasoning will be possible for students while preparing mathematics textbooks.

Textbooks are one of the most important curriculum resources for teaching mathematics in classrooms (Cai & Cirillo, 2014). Through textbooks, teachers can shape their teaching methods and thus teachers have the opportunity for professional development. Therefore, it can be said that textbooks are one of the most important resources for teachers to create an engaging learning environment for students. However, as a result of this study, it was concluded that the mathematics textbook is lacking in terms of supporting creativity and creating an engaging atmosphere for teachers. Considering that teachers are the most important practitioners of textbooks, integrating teachers more into these processes during the preparation of textbooks and even programs can have positive results.

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