



Mathematics Homework View from the Perspective of Primary School Students' Parents

İlkokul Öğrenci Velilerinin Penceresinden Matematik Dersi Ev Ödevi Görünümü

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ABSTRACT: This research was carried carried to reveal the opinions of the parents of primary school students about mathematics homework. The research was designed with the case study model, which is one of the qualitative research methods. The study group of the research consists of 26 parents whose children are studying in a primary school in the central of Konya, Provincial Directorate of National Education in the 2022-2023 academic year. Care was taken in the selection of an equal number of participants from each grade level. The parents were selected using criterion sampling, one of the purposive sampling methods. The research data were collected with a semi-structured interview form and the interviews were recorded on a voice recorder. The semi-structured interview form prepared by the researcher consists of five questions aiming to reveal the views of the parents of primary school students on mathematics homework. Content analysis method was used in the analysis of the data. Parents participating in the research define mathematics homework as reinforcement and repetition. Parents are involved in mathematics homework as control or direct support. Although students usually allocate half an hour for their math homework, this time is less in the 1st and 2nd grades, and more in the 3rd and 4th grades. According to the parents, teachers check the homework constantly and in detail. It has been concluded that the students love to do short-term homework using technological tools, made with concrete materials, and they do not like to do long-term homework that requires writing.

Keywords: Mathematics homework, primary school, parent's opinion

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ÖZ: Bu araştırma, ilkokula devam eden öğrenci velilerinin matematik dersi ev ödevlerine ilişkin görüşlerini ortaya koymak amacıyla yapılmıştır. Araştırma nitel araştırma yöntemlerinden durum çalışması modeli ile desenlenmiştir. Araştırmanın çalışma grubunu, 2022-2023 eğitim öğretim yılında Konya İl Milli Eğitim Müdürlüğü'ne bağlı merkez ilçede bulunan bir ilkokulda çocukları eğitim öğretim gören 26 veli oluşturmaktadır. Katılımcıların her sınıf düzeyinden (1,2,3 ve 4.sınıf) eşit sayıda seçilmesine dikkat edilerek veliler amaçlı örneklem yöntemlerinden ölçüt örnekleme kullanılarak seçilmiştir. Araştırma verileri yarı yapılandırılmış görüşme formu ile ve görüşmeler ses kayıt cihazına kaydedilerek toplanmıştır. Araştırmacı tarafından hazırlanan yarı yapılandırılmış görüşme formu ilkokul öğrenci velilerinin matematik ev ödevlerine ilişkin görüşlerini ortaya koymayı amaçlayan beş sorudan oluşmaktadır. Verilerin analizinde içerik analizi yöntemi kullanılmıştır. Araştırmaya katılan veliler matematik ev ödevlerini pekiştirme ve tekrar olarak tanımlamaktadır. Veliler matematik ödevlerine kontrol ya da doğrudan destek olarak müdahil olmaktadır. Öğrenciler matematik ödevlerine genellikle yarım saat ayırmakla beraber 1. ve 2. sınıflarda bu süre daha az, 3. ve 4. sınıflarda daha fazla olmaktadır. Velilere göre öğretmenler ödevleri sürekli ve ayrıntılı olarak kontrol etmektedirler. Öğrencilerin teknoloji destekli ortamlarda, somut materyal yardımıyla yapılan ve kısa süren ödevleri severek yaptıkları, uzun süren ve yazı yazmayı gerektiren ödevleri yapmaktan hoşlanmadıkları sonucuna ulaşılmıştır.

Anahtar sözcükler: Matematik dersi ev ödevi, ilkokul, veli görüşü

1. INTRODUCTION

Homework is the extracurricular activities given by the teachers in accordance with the interests, abilities, expectations and needs of the students in order to ensure the permanence of the subjects covered in the lesson (Aksu, 2018). Homework is the school work that students do at home. In recent years, changing educational practices, technological developments and updates in education programs have prompted discussions about how homework should be involved in the education process. What is more, the global epidemic, which has been experienced in recent years and has changed the way of education, reaching and doing homework together with all our habits, has caused the differentiation of homework. Adding to this differentiation are technological advances in the content, scope, construction, delivery and control of homework. Homework assignments are given so as to make a positive contribution to the learning of the student in out-of-school environments, as well as to provide the student with various skills. While some studies reveal that homework has no effect on success (Kapıkıran and Kiran, 1999), there are some studies that show that homework has an effect on student success (Atlı, 2012; Kaplan, 2006). Teachers do their homework and reinforce the activities carried out at school at home; They give the students to come prepared for the next lesson and to provide communication between the stakeholders of education (Van Voorhis, 2004). One of these stakeholders is undoubtedly parents. Particularly, parents have an important role to play in helping primary school students acquire the habit of doing homework. Because in order for students to gain the habit of doing homework in the further education levels; This habit should be established in the first years of primary school. Studies have revealed that family involvement is important and make a big contribution to students, educators, families and schools at all levels (Aktaş et al., 2011; Avcı, 2020; Çakmak, 2010; Özdamlı & Yıldız, 2014; Sak et al., 2015; Wasserman & Zwebner, 2017). In the literature, there are studies that show that the academic success of students who have regular communication with the components of the school and who have parents who support their children in order to this communication will be higher (Hakyemez, 2015; Hamlin & Flessa, 2018). It is important to investigate how the parents of primary school students provide this support, especially how they perceive math homework, how they support students while doing homework, and whether they have difficulties in this help.

Considering the purpose of homework assignment, it can be said that it is to consolidate the lessons and activities at school and to make learning permanent. In the study conducted by Öcal (2009), it was stated that homework is often given in order to gain reinforcement, research and responsibility awareness behavior. The duty of the teacher for the formation and increase of academic success is quite high. However, as a result of the researches, it is understood that parents have great responsibilities as well as teachers (Dumont et al., 2012; Silinska & Kikas, 2019). In addition to studies stating that students' mathematics achievement increases with the time allocated to homework (Cheema & Sheridan, 2015; Fernández-Alonso, et al., 2015), there are also studies that conclude that the time allocated to homework does not increase their mathematics achievement (Cooper et al., 2006; De Jong, et al., 2000; Rosário et al., 2015; Trautwein, 2007). When we look at these studies, it can be stated that there is no consensus on the amount of homework and especially how much time will be allocated for homework. The fact that the content of the homework is too much or too little may also cause the students to perceive the homework as difficult. How often homework is given is another reason why homework is perceived as difficult. Kaplan Can & Gelbal (2022), in their study in which they took the opinions of students, teachers and parents, concluded that giving homework frequently would cause students to develop negative attitudes towards homework. On the other side, there are also studies stating that there is a positive relationship between homework frequency and student achievement

(Dettmers et al., 2010; Fernandez-Alonso et al., 2015). We can say that homework has a more complex structure when compared to other components of education and training. In doing homework; the physical environment provided, the equipment, how the students perceive the homework, the control of the homework by the teacher, the grade of the student, the amount of homework, the students' liking of the homework, etc. situations are effective. The teacher is an important element in giving and controlling homework (Tam & Chan, 2016). Factors such as the teacher's experience, field and pedagogical knowledge, and communication with students affect the assignment and evaluation of homework. When the literature is reviewed, there are studies that work on the same subject but reach different results. It is possible to explain this situation by the reasons mentioned above.

1.1. What are the Parents' Views on Mathematics Homework and the Purpose of Mathematics Homework?

In order for primary school students to have a sense of responsibility, the objectives of the homework should be well defined. Students in this period may not be able to make sense of the purpose of homework in their own intellectual structures. In order to eliminate this situation, the purpose of the assignments should be clearly stated to the students. According to the findings of the study conducted by Oluşum (2016), the objectives of the assignments are; Completion of the unfinished studies during the course, reinforcing the knowledge and skills learned in the classroom, identifying the deficiencies of the students about the subject, imposing punishment on the students, and improving the study discipline.

Studies in this area have revealed that the purpose of assigning homework is different, but they generally think that homework is indispensable for school life, that it is necessary for children to develop the knowledge they have learned, and that they have a role in their success and gaining a sense of responsibility (Cooper et al., 2006; Singh et al., 2013). Homework assignments are given to students with the aim of contributing to their learning as well as giving them responsibility. Especially in courses where subjects such as mathematics lessons progress in a spiral integrity, it is inevitable that homework will be done by students in order for learning to be permanent. It is thought that well-structured and given assignments in accordance with student learning will contribute to the development of students.

1.2. Family Involvement in Mathematics Homework

Although students spend a significant part of the day at school, they spend most of their out-of-school time at home. In this time period, students do their homework for the course they study at school. Homework given in order to reinforce the activities carried out in the lesson and to make the learning permanent is usually done at home and with the help of parents. Homework is a subject that is constantly discussed among teachers, students and parents. This discussion is about issues such as the amount, length and shortness of homework (Çetinkaya & Uzunkol, 2019). When the relevant literature is examined, the purpose of homework is different and it can be viewed that the education levels, which course is the homework for, the type of homework, etc. appears to vary from situation to situation. Homework creates a common area for teachers, students and parents, who are the most important stakeholders of education and training, from the assignment to the completion of the homework (Hong, et al., 1995). The aim is to bring the student to the near and far goals of the education system and to raise them as useful individuals to the society. No matter how close their

ideas, there may be a difference of opinion between these three important components of the education process (Akran Koç 2021). In order to minimize this difference of opinion, teachers at school and parents at home have some obligations regarding homework. While these obligations are being fulfilled, especially the parents should not do the homework themselves by taking the place of the students. For primary school students, such an approach can lead to failure to fulfill the task in the future, avoiding taking responsibility, reluctant work, etc. may cause adverse effects. Especially in the primary school period, students should do their homework themselves as much as possible in order to develop a sense of responsibility.

The amount of homework, difficulty level, content, etc. In addition to being different factors affecting how situations are perceived, the environment in which homework is done can also change students' perception of homework. Parents can support children by providing a suitable learning environment for homework (Baynazoğlu, 2019). There are studies in the literature on the involvement of parents in homework with different results. The reason for this may be the differences in the way families participate in homework. In addition, the fact that their children can't get down to their level of knowledge while helping with their homework is among the problems faced by parents (Duru & Çöğmen, 2017). It is understood that the academic success of the children of families who prepare a working environment for their children at home, show interest in their homework, and inform the teachers about the homework their children do at home (Boonk et al., 2018). It has been observed that students whose families participate in homework have high mathematics achievement and develop a positive attitude towards this lesson (Van Voorhis, 2004). On the other side, there are studies that conclude that the participation of families in homework does not contribute to student learning (Castro et al., 2015; Kim, 2020; Tan, Lyu, & Peng., 2020), on the contrary, students are negatively affected by it (Cooper et al., 2006; Fernández-Alonso, et al., 2022). In order to eliminate or minimize these negative situations, teachers and parents should act together, be in cooperation, not show different attitudes towards the student and make joint decisions. Schumm, (2005:3-12); Türkoğlu et al., (2007) listed the duties of parents at home as follows:

- Organizing the study environment and making it suitable for doing homework
- Collaborating with the teacher
- Planning together when homework will be done
- Examining the homework done by the children
- Guiding children
- Motivating children to do homework
- Not having a negative attitude towards homework.

The way families participate in homework may vary according to the course (Silinska & Kikas, 2019). How parents, who are students in primary school, will be involved in mathematics homework is important in terms of students' approach to mathematics and their success in this course, both in this education level and in further education levels. For this reason, obtaining the parents' responses to the participation process of families in homework and examining it specifically for the mathematics lesson make the study important.

1.3. Time Spent on Mathematics Homework

Homework is not just something that students do and that interests them. There are also teacher and family dimensions of homework. In this sense, it will be beneficial for parents to monitor homework at home, especially in primary school. Although this benefit is known, there is a negative prejudice towards homework by students, parents and even teachers (Yücel, 2004). Some studies have shown that homework does not affect student achievement, that students get bored with school work and cause negative attitudes towards school (Cooper, et al., 2006; Froiland, 2011; Rudman, 2014). In addition, it is emphasized by some researchers that well-designed homework that does not only contain repetitions, is suitable for students' development, and meets student interests and wishes, also increases academic success (Bembenutty, 2011; Güneş, 2014; Rudman, 2014; Ramdass & Zimmerman, 2011; Özcan & Erkin, 2015; Özer & Öcal, 2012). The results of this study show that there are different approaches to homework. In addition, homework is seen as a burden for students. Because, as a result of homework given in many courses, students cannot find time to play games and do other social activities (Baumgartner et al., 1993). When the environmental conditions of students who have problems in allocating time for homework are also effective, their approach to homework becomes even more negative (Ekşi, 1990). This situation may cause anxiety in students and it can be thought that over time, it will negatively affect the success of the students, their belonging to the school, and their relationship with their friends. It may cause especially primary school students to come to school reluctantly. In this sense, how long the homework will take is considered to be an important issue, and there are studies on how much time will be allocated for mathematics homework and how much it will be. For example, Ministry of National Education (2011) stated that between grades 1-5, homework should be between 15-20 minutes in the first and second grades, and 40-60 minutes in the fifth grade. According to Cooper (2001) adding 10 more minutes in the first grade, 20 in the second grade, and 10 more minutes for each subsequent grade; According to homework should be assigned for 20-30 minutes in the first three grades and 30-60 minutes in the next three grades primary school students should be given at least one time per day, and secondary school students should be assigned at least once a day. recommends doing at least 2 hours of homework. Similar to these studies, it is recommended that homework durations be 15 minutes for 1-3 homework in primary schools (Strother, 1984). 15-45 minutes for 2-4 homework in secondary schools, and 75-120 minutes for 4-5 homework in secondary education (Gündoğan Özben, 2006; Sönmez Ektem & Yıldız, 2017). It can be said that the main reason why these time periods are different is that students in primary school have different attention spans and spend more time playing games.

1.4. Difficulties Students Have Concerning Mathematics Homework

Students may encounter different difficulties while doing homework related to the activities and lessons taught at school. The most common problems students have with doing homework are; they cannot plan their homework, have difficulties in doing homework or do not do homework at all (Duru & Çöğmen, 2017; Singh et al., 2013). Students can resort to different ways to overcome these difficulties, and perhaps the most important of them is to seek help from family members. Particularly in the mathematics lesson, family members may sometimes not have information about the question the child will ask. In this case, it is very important for family members to guide students. This guidance will be to guide students by supporting them on homework and to ensure that they reach homework-related resources. If family members do the homework themselves instead of guiding the student, this may harm the student's development. As a result of not doing the given homework, the child may not

be able to realize the gains of that lesson, may not gain the habit of doing homework, and perhaps most importantly, a sense of responsibility may not develop.

In the study conducted by Duru & Çoğmen (2017), it was found that students mostly liked assignments such as projects and design; It was concluded that he did not like homework such as writing and reading. It is known that students do not perceive the homework they like to do as difficult, but they define the homework they do not like to do as difficult. This shows that the assignments do not only have a cognitive aspect, but also that the students describe the assignments as affective.

1.5. How Do Teachers Check Mathematics Homework from the Standpoint of Parents?

It is seen that different applications have emerged, from giving homework to students by the teacher, doing homework by students at home, and checking homework at school. As a result of these practices, researchers have carried out research involving these processes (Berberoğlu, 2008; Cunha et al., 2018; Demirbaş, 2011; Eraz & Öksüz, 2015; Duban, 2016; Gökdağ Baltaoğlu, et al., 2017; Kaplan Can & Gelbal, 2022; Rosário et al., 2018 Walberg & Paik, 1999;). When these studies are examined, it is seen that there are studies in which the opinions of students and teachers are generally taken. It is seen that the number of studies taking the opinions of parents, especially primary school students' parents, is insufficient.

It can be thought that checking the homework given by the teachers will positively affect the completion of the homework and the success of the students. In this direction, Walberg and Paik(1999) state that evaluating homework with grades, making corrections about homework, conducting individual or group discussions, and giving feedback on student progress triple the effect on student achievement. Similarly, according to Büyüktokatlı (2009) teachers should give assignments suitable for their purpose, provide feedback on these assignments, answer students' questions, check the homework they have done, listen to them while reading their homework aloud, and teach them how to organize their materials. There are studies showing that the follow-up of homework by both teachers and parents increases students' positive attitudes towards mathematics in addition to their success in mathematics (Eraz & Öksüz, 2015). It is thought that controlling homework by the teacher will increase student success.

When the homework will be checked by the teachers is also among the topics discussed. It can be said that it is not very possible for the teacher to check the homework of each student in detail, especially in crowded classrooms, within 40 minutes of class time (Berberoğlu, 2008). It can be said that it would be more beneficial for teachers to do homework checks outside of the classroom hours. It is possible to state that it is not correct to spend class hours for homework control instead of learning activities. In this context, individual feedback should be submitted in writing; however, work should be done during the course to correct common mistakes (Sullivan & Sequare, 1996). Especially the reason why mathematics teachers cannot check the homework in detail; workloads are high, the classes are overcrowded, and there may be concerns about not being able to complete the curriculum. There are studies conducted with secondary school mathematics teachers and reaching similar results (Cunha et al., 2018; Rosário et al., 2019). It was determined that teachers' feedback on homework increased students' motivation and desire to do homework (Xu, 2011). In this context, it is important for teachers to check students' homework and give feedback to students.

While teachers do regular homework checks in some lessons, homework checks are not done regularly in some lessons. Regarding feedback applications, it can be concluded that teachers regularly

check their mathematics homework (Kaplan Can & Gelbal, 2022). Discussing homework in class and transferring the correct answer by students to their peers is a different form of homework control. Applications that provide feedback to all students at the same time should be used more frequently to provide feedback on math homework in order to use time effectively (Cunha et al., 2018).

When the relevant literature is reviewed, it is seen that there are studies in which the opinions of students and teachers are generally taken. It is seen that the number of studies taking the opinions of parents, especially primary school students' parents, is insufficient. In order to determine the parents' views on the above-mentioned situations regarding homework, the basic question of the research and the sub-questions related to this question are stated below and answers to these questions were sought during the research.

What are the parents' views on math homework and what is the purpose of math homework?

- How do parents get involved in given math homework?
- According to the parents, how much time do the students allocate to the given mathematics homework?
- What are the difficulties and causes of students' math homework?
- How do teachers control math homework according to parents?
- According to the parents, which homework do the students like to do?

2. METHOD

In this study, it was designed with the qualitative research method, since it was aimed to determine the views of the parents of students attending primary school on mathematics homework. In qualitative research, instead of finding out what the general truth about the majority is, the researcher carefully and meticulously tries to understand in depth how people interpret their experiences, how they construct their worlds, and what meaning they give (Merriam, 2013, p.5). The study is a case study from qualitative research designs and an exploratory case study, which is one of the case study types, in order to determine the opinions of the parents of primary school students about mathematics homework. Case studies usually aim to reveal and interpret individual perceptions or perspectives on a particular phenomenon (Yıldırım & Şimşek, 2013, p.316). The situation in this study is to reveal primary school parents' perceptions of mathematics homework.

2.1. Working Group

32 parents attending primary school participated in this study in the 2022-2023 academic year. While determining these parents, criterion sampling, one of the purposive sampling methods, was used. Purposive sampling allows for in-depth study of situations that are thought to have rich information (Patton, 2014). As a criterion, attention was paid to the presence of male and female parents from 1,2,3, and 4. grade levels. However, it was observed that two of the parents wanted to withdraw from the study while the interviews were going on, and that four parents had difficulties in answering the questions, so their opinions were not included in the study. The study was completed by evaluating the opinions of 26 parents. The characteristics of the parents participating in the study are given in Table 1. according to this, six of the parents are male and 20 are female, and the age range is between 28 and

47. In addition to having at least one and maximum four children, the parents participating in the research generally have two children, and there are seven students each attending the 1st and 3rd grades, and six students each attending the 2nd and 4th grades. Eleven of the parents are secondary school, eight high school, five undergraduate and two graduate. Students usually share their rooms with their siblings, and there is an internet connection in twenty-three houses and there is no internet connection in three houses. Detailed information of the working group was given by giving code names without using their real names.

Table 1. Demographic Characteristics of the Working Group

Parent Name	Gender	Age	Number of children	Student's Class	Student's Own Room	Internet Connection	Graduation
Berna	Female	39	3	1	Common	Yes	high school
Filiz	Female	44	2	1	Yok	No	secondary school
Merve	Female	42	4	1	Common	Yes	university
Kemal	Male	40	4	1	Common	Yok	high school
Pelin	Female	34	2	1	Yes	Yes	master
Tülin	Female	36	4	1	Common	Yes	high school
Zeynep	Female	28	1	1	Yes	Yes	university
Ayşe	Female	35	2	2	Common	Yes	high school
Gülây	Female	39	2	2	Common	Yes	secondary school
Hatice	Female	38	1	2	Yes	Yes	university
Ömer	Male	44	4	2	Common	No	secondary school
Serap	Female	38	3	2	Common	Yes	secondary school
Uğur	Male	36	2	2	No	Yes	secondary school
Cem	Male	43	3	3	Common	Yes	high school
Leman	Female	31	3	3	No	Yes	secondary school
Nida	Female	36	2	3	Common	Yes	secondary school
Rana	Female	32	1	3	Yes	Yes	lisans
Şeyma	Female	39	3	3	Common	Yes	high school
Yaren	Female	39	2	3	Common	Yes	secondary school
Çiğdem	Female	37	2	3	Common	Yes	university
Dilek	Female	43	3	4	Common	Yes	secondary school
Elif	Female	46	4	4	Common	Yes	secondary school
İbrahim	Male	39	2	4	Common	Yes	secondary school

Oya	Female	46	3	4	Common	Yes	high school
Ümit	Female	47	2	4	Yes	Yes	master
Vedat	Male	44	3	4	Common	Yes	high school

2.2. Data Collection Tool

For interviews conducted in the study, data were collected using a semi-structured interview form prepared by researcher. When the literature is examined, it can be said that there are generally two types of interviews. These; structured interview and semi-structured interview. In the semi-structured interview form, questions were prepared before the interview and different questions could be asked to the participants according to the answers received during the interview process (Patton, 2014, p. 21). Relevant literature (Berberoğlu, 2008; Cunha et al., 2018; Demirbaş, 2011; Eraz & Öksüz, 2015; Duban, 2016; Gökdağ Baltaoğlu, et al., 2017; Kaplan Can & Gelbal, 2022; Rosário et al., 2018 Walberg & Paik, 1999;) was reviewed while preparing semi-structured interview questions. In order to ensure the internal validity of the interview form applied in the research, the interview form was given to two field experts who had previously worked with qualitative research methods, and the semi-structured form was given its final form by examining it. After a pilot interview with a classroom teacher and a parent other than the participants, the form was given its final form. The voices recorded during the interview were written on the interview transcription form created in the computer environment. After the necessary arrangements were made, the semi-structured interview form prepared by the researcher consisted of six questions. However, in line with the answers received from the participants, different questions were asked to some participants in order to make the study more understandable.

2.3. Data Collection Process and Data Analysis

The questions in the form were directed to the participants and the answers were recorded on the voice recorder after obtaining the necessary permissions. In order to ensure a quiet environment, the interviews were conducted one-on-one with the parents in the meeting room located on the ground floor, shown by the school administration. Semi-structured interviews with parents lasted between 17 and 22 minutes. The data obtained during the study were carefully read and the codes were determined. After the interview transcripts were made, the interview questions were examined separately, and categories were determined in line with the answers given by the parents to each question. As a result of these evaluations, an "Interview Coding Key" was prepared, in which the answer options for each question item were written. In order to ensure the reliability of the research, the researcher triangle was used. To ensure transferability in the study, how the study group was selected, the characteristics of the participants, and the research environment were stated. In this study, step-by-step repetition and inter-coder consistency methods were followed to ensure consistency. The codes that are related to each other were brought together and the themes were reached. In order to ensure the reliability of the qualitative data, help was received from two different experts who had previous studies and experience in qualitative research method. Miles and Huberman's (1994) reliability formula "Reliability = Consensus/ (Agreement + Disagreement)" was used to compare the codes revealed with three different approaches. As a result of the calculations, it was determined that the consensus on the codes created was over 89%. For example "We have solved this problem when we limit the use of technological devices and we do not have much problems with homework because our teacher gives little homework.

But I think that if there was more homework, they would get bored because children are used to technology..." This statement created a difference of opinion among the coders. While an independent coder concluded from this statement that technology was useful, another coder stated that technological tools distracted the child from doing homework. In addition, the transcript of the data was transferred to the Maxqda 20 qualitative data analysis program and the data of the study were analyzed with the same program.

2.4. Ethical Permissions of Research

In this research, an application was made to a university faculty of education ethics committee, and the "Acceptance" Decision Document dated 01.12.2022 and numbered 42 was obtained.

3.FINDINGS

In this section, the findings obtained as a result of the analysis of the data obtained from the parents participating in the research are included. The findings are presented by evaluating the research questions under the headings. The codes that emerged as a result of the interviews with the parents and the frequencies showing how often these codes were mentioned in the interviews were added next to the relevant codes.

3.1. What is the Purpose of Mathematics Homework?

Parents defined math homework using different simulations. These definitions are generally evaluated under the headings of reinforcement, repetition, responsibility and reinforcement. The opinions of the parents directly taken regarding these definitions are presented below. Some parents referred to more than one code.

One of the opinions of the parents who thought that homework was given for reinforcement purposes, Ayşe, the second grade student's parent, said:

"To ensure that what is done at school is reinforced at home, sometimes she does not understand what she sees at school. Namely, if the subject does not sit well at school, it is good to reinforce it at home"

According to the opinions of parents who think that homework is given for repetition, Cem, the parent of the 3rd grade student, said:

"I think we can say that homework is repetitions given for the purpose of repeating the daily lessons. It is when children come home and reinforce what they have learned at school. It is the repetition work done to keep them in their minds and to continue their school life successfully. Learning becomes better and more permanent if it is repeated in the homework"

Berna, a first-grade student parent, who thinks that homework is given to gain a sense of responsibility, said:

"Homework is actually a responsibility given to the child. The child needs to do it himself, he needs to take responsibility, but we also need to help him to realize that responsibility. In other words, we do not do the homework, but we have to provide the appropriate conditions. Control can be as surveillance at work"

Dilek, a 4th grade student parent, who thinks that homework is given for the purpose of enhancement the subject, said,

“As I said, homework is supplementing, if there is a deficiency, it is for the purpose of completing it. For example, my son has trouble understanding what he reads in the new generation questions, our teacher said that we immediately bought a story set, and his reading comprehension also helped and reinforced the math”

According to parents, the purpose of the math homework is presented in Figure 1.

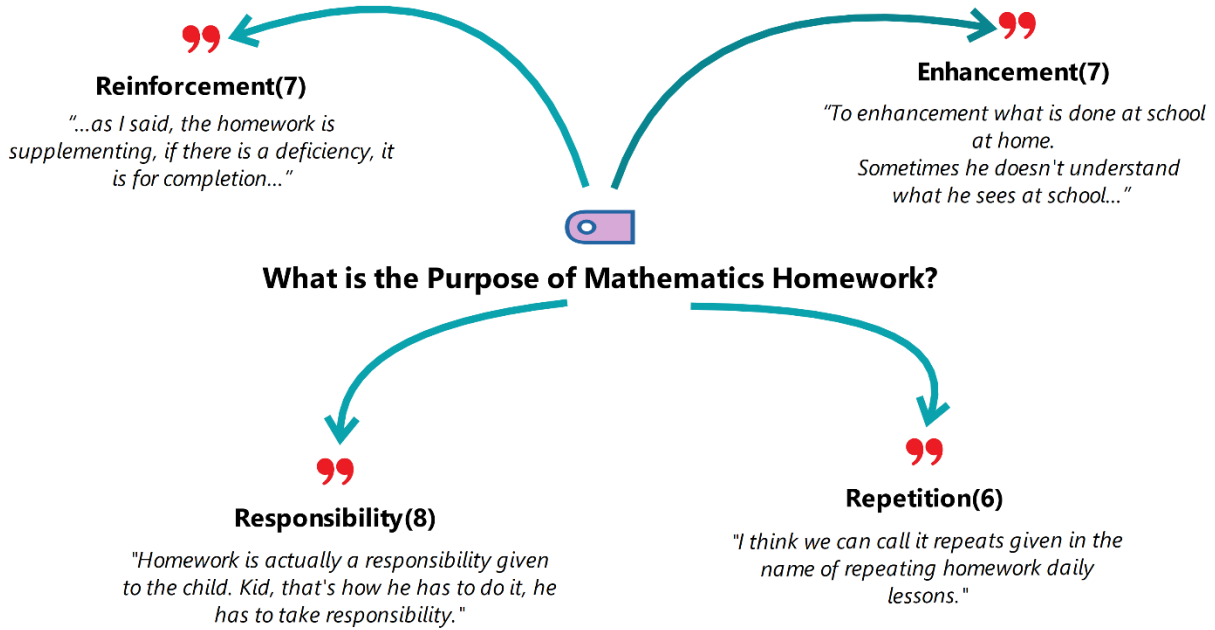


Figure 1: According to Parents, The Purpose of Math Homework

3.2. How Are Parents Involved in Given Mathematics Homework?

Parents stated that they were involved in mathematics homework by direct intervention, indirect intervention and control. The views of parents directly received of these statements are presented below.

Elif, the 4th grade student's parent, who stated that she directly interfered with her homework, said:

“...we generally don't have problems in verbal lessons, but I look at some math questions and I see that she can't. Then I have to answer the question, but still I prefer this way last. There are some questions, I'm trying to solve it, when it doesn't happen, we watch it together on the internet, we understand, then we solve it. He has no problem with the process, he can do the four operations very well, but he has trouble understanding the four operations, so I say you need to read more books”

Filiz, a first grade student's parent, who stated that she interfered with her homework indirectly, said:

"First of all, I prepare the environment where she should do homework. Unfortunately, she doesn't have her own room, but you know, you know, small tables like this are made there in her sister's room or in the kitchen. I'm preparing it, helping with math homework just checking it out. That's when he comes to me about a subject he doesn't know much, and I help him with questions he doesn't know. For example, if I do not say that he has done it in general, I will definitely check it"

Gülay, the second grade student's parent, stated that she interfered with her homework by checking her homework and said:

"I say you think of yourself as at school, do it and if it is wrong, I will help you. They do what they do, what they can't do, I help with exam style, plus and minus. I help after the homework is finished, I help while checking. Our teacher told us to check it after the homework is done at the parents' meeting. I usually act like a teacher, go to your room, do your homework, bring it to me, if it's wrong, I ask him to correct it again"

How parents help with math homework is presented in Figure 2.

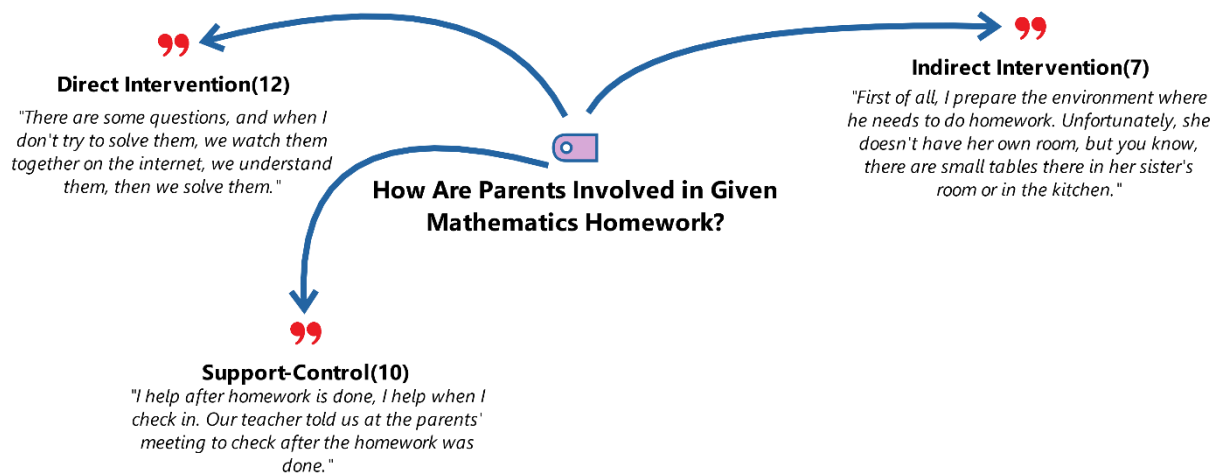


Figure 2: Parents' Involvement in Math Homework

3.3. According to Parents, How Much Time Do Students Allocate for Mathematics Homework?

As a result of the parent interviews, it was understood that the students usually allocate half an hour to their mathematics homework, but there are also homework lasting less than half an hour and more than half an hour. The views of the parents directly taken regarding these explanations are presented below.

Hatice, the second grade student's parent, stated that students spare less than half an hour for their math homework, said:

"It takes 1 hour with other assignments, but only math homework does not exceed half an hour. Since my son is the 2nd grade, they(classmate) have math lessons almost every day and

homework is given every day. For him, homework is not too much and they do it immediately without getting bored. But I don't know how it will be in the following grades, for example my daughter in 7th grade can only solve 10 math questions in 1 hour. It also changes according to the weather, for example, we also check the homework on WhatsApp. Because he wants to play games, he does homework sloppy, so he spends little time”

Leman, the third grade student's parent, stated that students spare half an hour for mathematics homework and said:

“My child has trouble doing homework, not only in mathematics, but also in other classes. Come on, girl, let's do it quickly, I say, but she is having trouble sitting down to her homework. She spends 1 hour with other lessons, but an average of half an hour for mathematics, but she is distracted, she does not have a room, maybe she would make it more comfortable if she had a room. She can do it without being distracted. The television is on, sometimes we have a conversation or she is distracted when she is in another room. When he spends time on math homework, it can be related to the environment where he does the homework. When it is messy, the homework does not end”

İbrahim, the parent of the 4th grade student, stated that the students spend more than half an hour on their mathematics homework and said:

“Other classes have homework, and math happens almost every day. He does at least 2 hours of homework once, devoting a significant part of it to mathematics. Our teacher checks the homework himself and tries to do it carefully for him. Maybe if the teacher didn't check it himself, he wouldn't be able to do it in such detail, but when he checks it himself, my son does it diligently”

How much time students spend on math homework, according to parents, is presented in Figure 3.

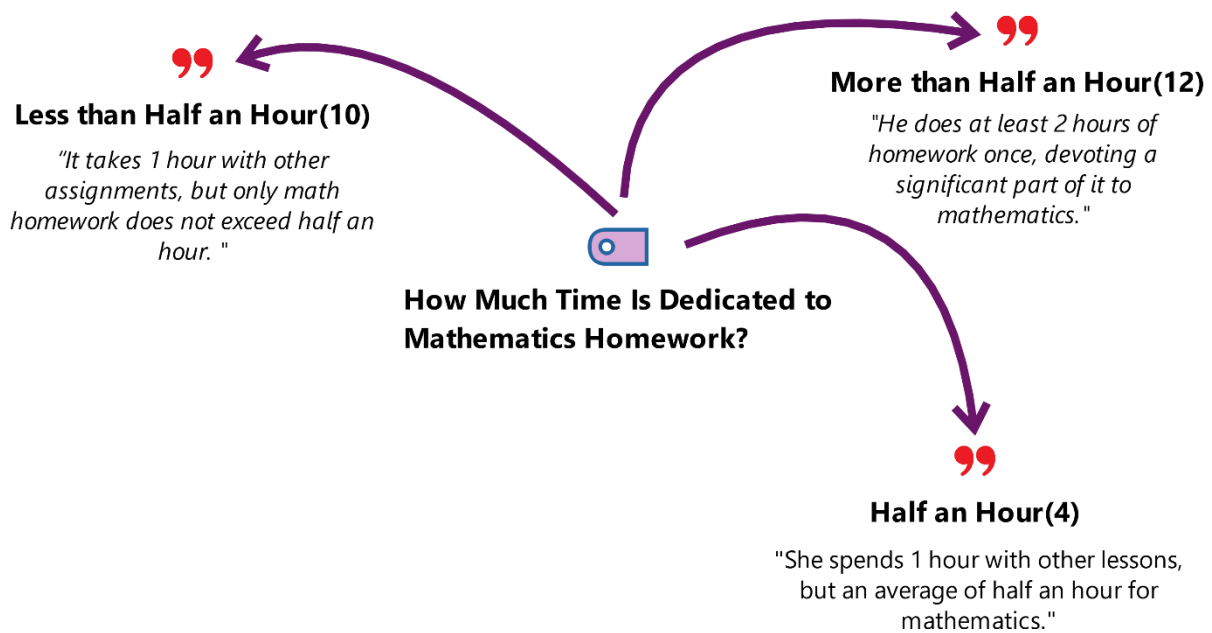


Figure 3: The Amount of Time Students Allocate to Math Homework

3.4. Students' Difficulties With Regards to Mathematics Homework

While the parents were doing their math homework, they stated that the students had difficulties in the pre-homework process due to the difficult subject, having repetitive homework, long homework, addiction to digital tools, the desire to finish the homework as soon as possible, and not understanding the content of the problem. The opinions of the parents directly taken regarding these explanations are presented below.

Parents of 1st grade students opinions, Merve, who stated that she had difficulties in the pre-homework process regarding homework, said:

"She has difficulties in the pre-homework process, she doesn't want to sit on the homework, but she does it when she starts. I think the reason why she doesn't want to starts is because she has a tablet, she plays it, then she goes to TV, it ends, she waits for her father to come, so she lingers. Sometimes we have so many problems that I say I will call your teacher. Sometimes she cries, but in the end, I win(achive). Then I say, why did you do that, Ela, can't you just sit down to your homework be in a groove, Ela says "okay mom, I will sit down again" but we are living the same scene again. She's right too, she's smaller, but I think she should know her responsibility"

Nida, the third grade student's parent, who stated that she had difficulties when she did not understand the problem with her homework, said:

"Sometimes she says she does not understand the problem, sometimes she gets angry when she does not understand. She is based on what she heard at school, she can do that, but we usually appeal to the internet, she. There she will see or listen to a visual. Yes, I understand that she is struggling, when she does not understand, I have to intervene quickly anyway. I ask if there is a problem without helping much, I can help, okay mom says when I need help, I will tell you"

One of the parents' opinions, Kemal, the parent of the 1st grade student, who stated that he had difficulty in giving the same questions about homework, said:

"I make a photocopy the homework from WhatsApp, I find out it is repetitive homework. The teacher came to realize and wants reinforcement with repetition, but sometimes he gets bored while doing the same things. He complains that it takes a long time to write math assignments to be written. I don't have any problems in terms of content, I want Ahmet to see different types of questions about his like of mathematics. He does not want to do very simple questions, he does not want to do the same things, he does not want to do the questions when the questions are repeated, I think that children should see different types of questions"

Oya, the 4th grade student's parent, who stated that she had difficulty with the difficult subject of homework, said:

"There are some subjects, we have difficulties with them. For example, last year he had difficulties in hours, this year there are splits, we are giving a "0 penalty", he has a little difficulty understanding it. Sometimes we watch videos on the internet that we don't understand, we try to reinforce it from there, sometimes we had problems with money, we have difficulties in such matters. Not everyone experiences these, but we sometimes correspond with the parents, I think these issues are difficult for children"

One of the parents' opinions, Pelin, the parent of the 1st grade student who stated that she had difficulties with the homework being too long, said:

"We have difficulties when there is a lot of homework, I don't want to do it, we can't get it to work. My daughter doesn't like to write very much, her writing assignment is too long for her. Sometimes there are unnecessarily long assignments, but writing is also a part of these assignments. I think that if other assignments were given instead of writing like this, my daughter doesn't have that much difficulty"

Oya, the 4th grade student's parent, stated that she had difficulties with homework due to the fact that the student wasted time with technological devices.

"Those habits still remained, they became dependent on technological tools. Since I am a university graduate, I somehow overcome this problem, but I know the situations where other parents say that I am a primary school graduate and how to overcome this situation. Being too busy with technological tools distracts the child from homework. We have solved this problem when we limit the use of technological devices and we do not have much problems with homework because our teacher gives little homework. But I think that if there was more homework, they would get bored because children are used to technology, so they always want homework to change. They want homework in a different style all the time, since I am the advisor the children want a constant movement and change in the classroom"

Ömer, the second grade student's parent, who stated that he had difficulty in completing his homework as soon as possible, said:

"...there are times when he doesn't want to do any homework, he just doesn't feel like sitting down for homework. He does it carelessly because his mind is million miles away, he wants it to end immediately, I understand from his behavior, he can't understand the benefit of homework when he does this. He felt relief after he finished his homework. At the beginning of the term, he had a hard time doing his homework, but we got used to it"

The difficulties students experience with math homework, according to parents, are presented in Figure 4.

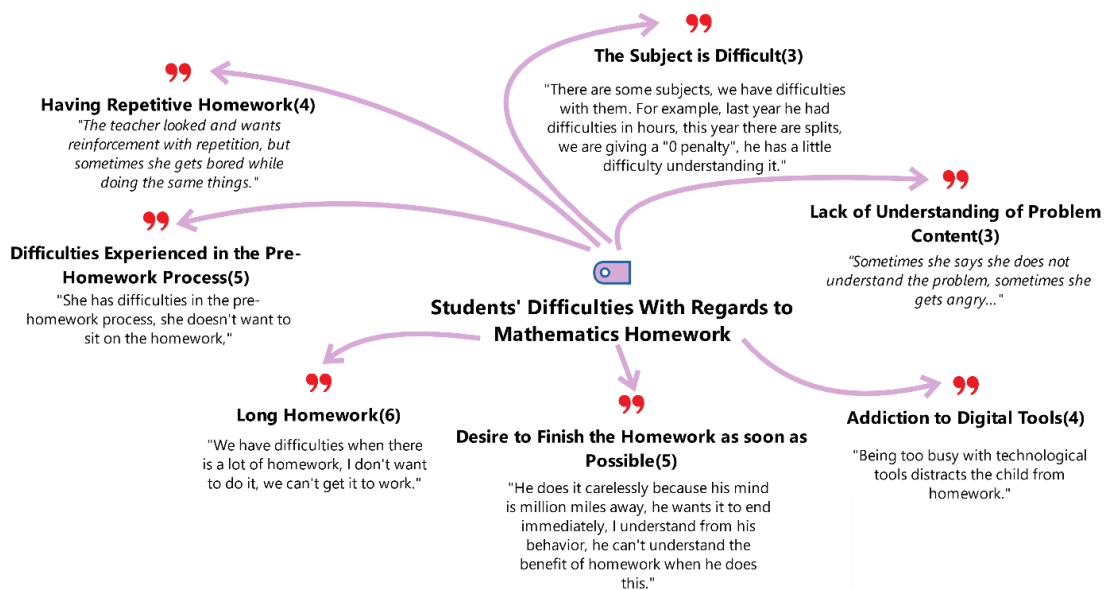


Figure 4: Students' Difficulties With Math Homework

3.5. How Do Teachers Check Homework from the Stand Point of Parents?

According to the parents, the teachers not only check the mathematics homework in detail, continuously, superficially, and occasionally, but also have the students they assign in the classroom checked. The opinions of the parents directly taken regarding these explanations are presented below.

Serap, the second grade student's parent, stated that her homework is checked in detail by the teacher and said:

"I don't know exactly how it happens in the classroom, but she corrects the mistakes she writes, operational mistakes, etc. with a red pencil. Our teacher checks every assignment he gives. He had already said that he would not give the homework that I would not check at the parents' meeting. We like it because kids get into the habit of doing homework at a younger age"

One of the opinions of parents who stated that their homework is superficially checked by the teacher, Şeyma, the parent of the 3rd grade student, said:

"The teacher is right, on the other hand, if our class compose of 34 students, there may be no time to teach the lesson, so she checks it superficially. If the number of classes is small, maybe our teacher can control it differently"

One of the parents' opinions, Tülin, the parent of the 1st grade student, the homework is constantly checked by the teacher and said:

"...our teacher always checks the homework, because we are the first class. If the child gets used to making mistakes from a young age, this is how it goes. I'm looking at the math notebook, he had it written with a number on each square, so if this regular kid keeps his notebook neat in the first grade, it will always be the same, of course, the teacher has a role in this"

Ugur, the second grade student's parent, stated that homework was checked by the teacher from time to time:

"It used to be checked frequently in the past years, but now it does sometimes. But I don't think it's good for him to check it once in a while, because sometimes he says it's okay if I don't do homework. If the child thinks about this, he will never do the homework anyway. But if he catches what he is not doing, he gets angry and the teacher is probably trying to do it. He especially does his math homework because he likes it, but I think it would be better if it was checked"

Ümit, the parent of the 4th grade student, stated that the homework is checked by the classmates of the student:

"... this year, there are 4 different students who control the homework. Sometimes it is the bench next to him, and sometimes the teacher assigns students before that lesson. I think this is a good practice, so the teacher has time to lecture. If you think of more than 30 people in our class, you are also a teacher, it will take at least 10-15 minutes. Then there is no time to teach the lesson, our teacher has started this practice for him"

According to parents, teachers' checking of math homework is presented in Figure 5.

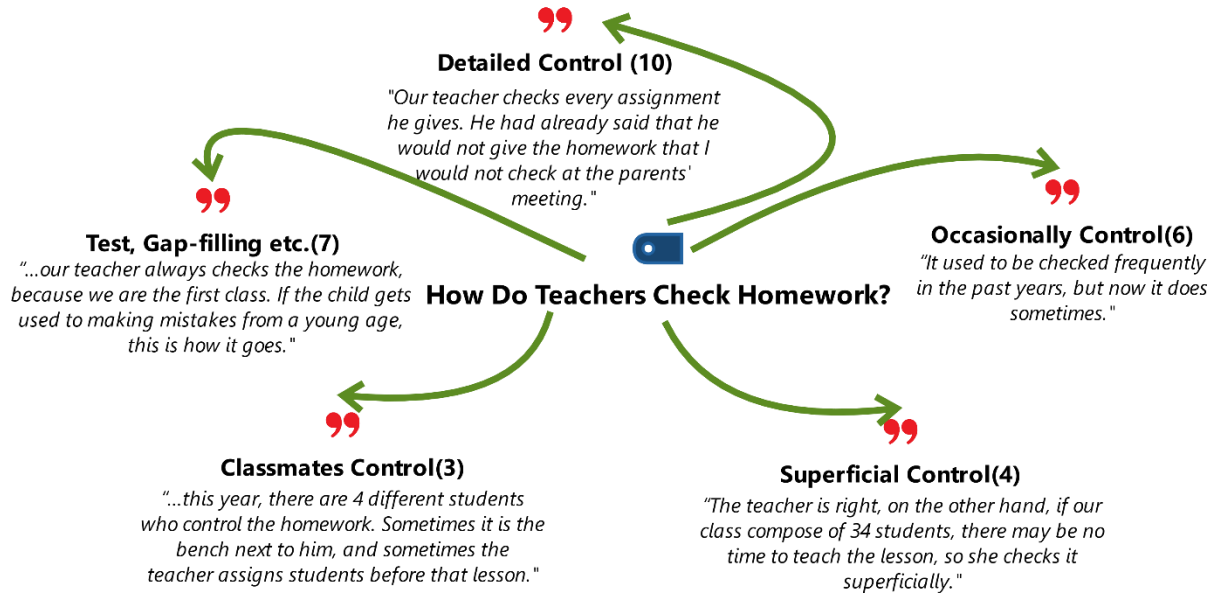


Figure 5: According to Parents, Teachers' Homework Control Status

3.6. Types of Homework Students Enjoy to Do

As a result of the interviews with the parents of primary school students, it was understood that the students had homework that they liked or did not like to do, according to the parents' own statements. The parents answered these questions by giving the course name, but with the questions asked at the end, it was tried to determine what kind of homework the students liked or did not do. According to the opinions of the parents, the students were able to complete their research assignments with digital tools, multiple-choice tests, true-false, fill-in-the-blank, etc. they like to do their homework, project and design assignments, and assignments made with concrete materials. The opinions of the parents directly taken regarding these explanations are presented below.

One of the parents' opinions, Zeynep, the parent of the 1st grade student, who stated that her students love to do research assignments made with technological tools, said:

"My son sometimes gets homework done on a tablet like this, he does them with love. You know, there were geometric shapes, triangles, squares, they were matching, he doesn't understand how time passes there. Mom says there is no more. In fact, instead of banning the tablet, it would be better if we included it in education, there are educational videos and sites, and he loves to listen to lessons from them"

Test, true-false, fill-in-the-blank, etc. One of the opinions of parents stating that their students do their homework with like, Çiğdem, the parent of the 3rd grade student, said:

"Sometimes there are questions to be written, and he doesn't like them very much. He likes to fill in the blanks, true false questions or test questions. He likes to finish his test right away and check it from behind, but he can't write down whether the homework he has done is right or wrong, and he wants to see the result right away. I think that's why he likes to do it, but there may be other reasons, maybe it comes easy"

Leman, the third grade student's parent, stated that he liked to do homework with concrete materials and said:

"I remember once, not this year, but last year, we had a cut-and-paste assignment about measurement. They both learned it very well and did it with love, and they never objected. In other words, homework is good, except for writing, not necessarily cutting, but writing that he can hold and hold. This is the case with my child, but I think it may be the same for other children"

One of the opinions of parents, who stated that their students do their project and design assignments with like, Şeyma, the third grade student, said:

"Just after this pandemic passed, the teacher gave the children group assignments and divided them into groups of three. Our people were very willing and they did it with love. As such, they learn well, I don't know, when he gives such project assignments, homework that produces a product, these are the homework he enjoys in the math class"

According to parents, the types of homework students like to do are presented in Figure 6.

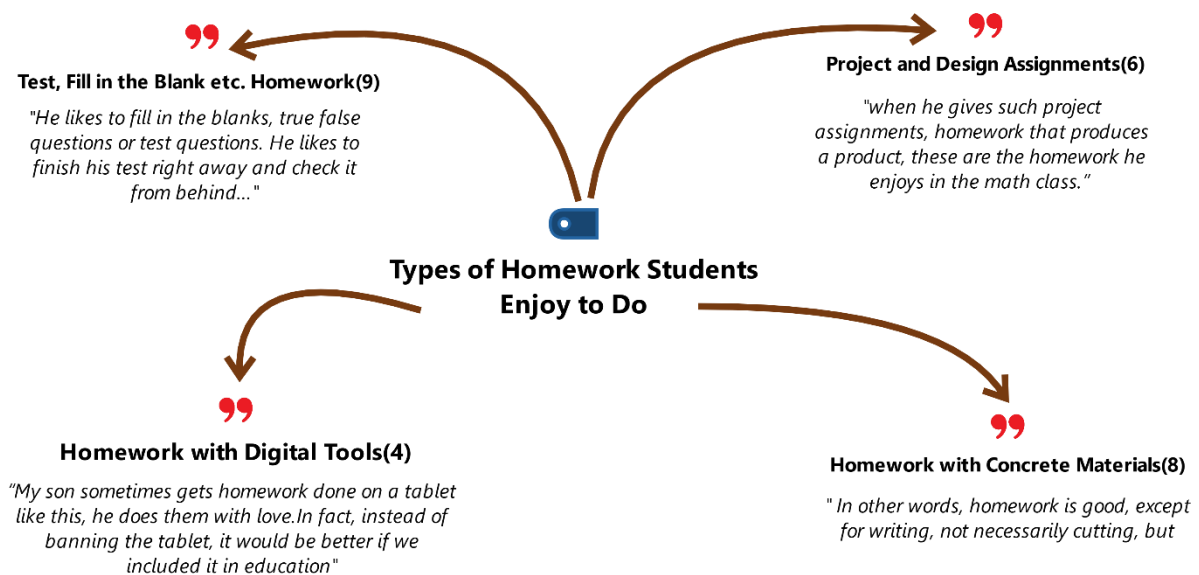


Figure 6: Types of Homework Students Like to Do

3.7. Types of Homework Students Don't Enjoy to Do

The parents stated that the students did not like to do the homework of the mathematics subjects that they did not understand, the assignments that required writing, the project assignments and the assignments that included the new generation questions. The opinions of the parents directly taken regarding these explanations are presented below.

Serap, the second grade student's parent, stated that her students did the homework that required writing unintentionally:

“Give my daughter 10 pages of other homework, but she doesn't want to be given a writing homework because we are having so much difficulty. She does not want to write, she wants to write well, but because she writes slowly, she cannot finish her homework in mathematics. Although, this situation is not very common when doing homework, but sometimes there are assignments that require writing, and we have difficulties here”

Oya, the 4th grade student's parent, who stated that her students did the project assignments unintentionally, said:

“So we are used to working alone. There are some assignments, this also happens in mathematics, but mostly in other lessons, group work. I don't think it is very productive about group work. He wants it to be finished immediately like this. I saw that you didn't do the one or two weeks of homework that was too long for the next day, very willingly”

Elif, the parent of the 4th grade student, stated that her students did the homework containing the new generation questions unintentionally:

“It is now the 4th grade, and the structure of the questions has also changed. In the past, she used to add and subtract immediately and find the result. But now, is this a new generation question, you say, they exist; Sometimes I have a hard time understanding too, my daughter has it too. We discussed this issue with the teacher, he says it is very important to understand what you read, he says we should read a book”

Vedat, the parent of the 4th grade student, stated that his students did their homework unintentionally about the mathematics subjects that he did not understand:

“Now, there are some questions in mathematics. I see he's trying to do it, but he can't. I understand that he did not listen well in class. If he had listened, he would have done it right away, or I look at the homework he did immediately, it was not difficult at all, he did not even use an eraser, he did it correctly. But there are fractions and some subjects, you have difficulties when you do not understand, so you do not want to do homework, so it is difficult”

According to the parents, the types of homework that students do not like to do are presented in Figure 7.

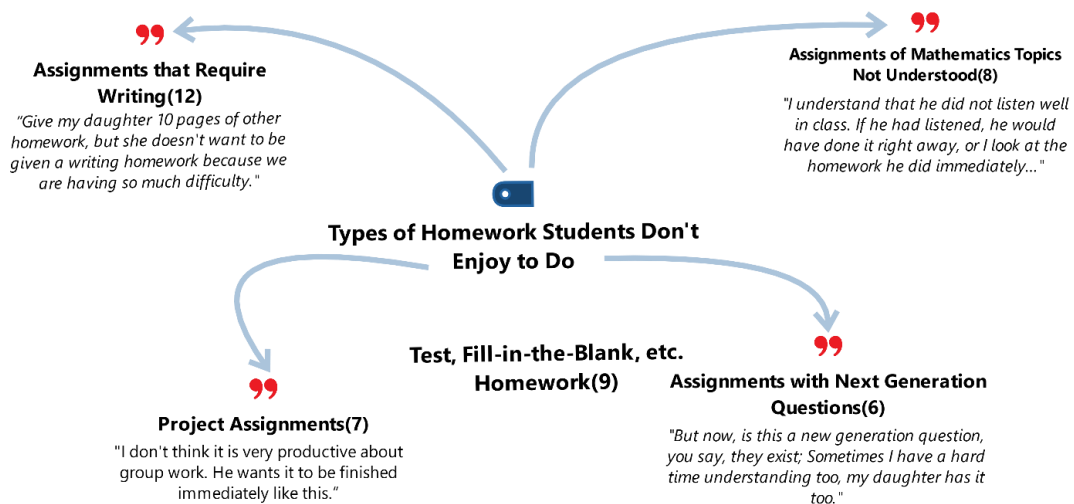


Figure 7: Types of Homework Students Don't Like to Do

4. DISCUSSION and CONCLUSION

In this study, the opinions of the parents of primary school students about mathematics homework were taken. According to the results of the research, all of the parents who participated in the research, except one, stated that mathematics homework should be given and that homework contributed to the learning of children. Parents' definitions of homework were themed under the headings of reinforcement, repetition, responsibility and reinforcement. When the literature is examined, there are studies (Aşık, 2022, Baynazoğlu, 2018; s.1934; Cooper, 1989; Duru & Çöğmen, 2017; Xu, 2020) that support the findings of this study. These findings are presented below.

Parents, who state that the content of homework is more important than the amount, intervene in the students' homework with different approaches. Especially in the primary school period, homework should be given to students so that they do not forget and reinforce the information they have learned at school. It is one of the results of the research that primary school students gain responsibility and make new learning permanent. In addition, it is thought that it would be beneficial to give homework in small amounts and with frequent intervals instead of giving it in large quantities and with infrequent intervals.

Another result of the study is that the parents help the homework by direct and indirect support and control. It was concluded that the parents, whose opinions were taken, generally supported their students by directly intervening in their homework. Parents state that they can't help with some math homework, but they overcome this situation with helpful videos and course resources that they search on the internet. They concluded that as a result of parents' behaviors that interfere with homework excessively and incorrectly, students' academic success decreases and they develop a negative attitude towards homework. Family members can help students with homework, but when this help goes beyond support and counseling, students will become dependent on outsiders. Helping the child's every request in homework will lead to the development of a dependent personality (Cooper, 2001). According to the findings of this study, most of the parents emphasized the importance of checking homework. Family members should check the homework of primary school students who are not aware of the distinction between right and wrong about homework, but this control should not replace the student's doing the homework. In addition, parents should help students to provide a suitable environment for doing homework. According to the parents' opinions taken during the study, each student does not have a separate room and the homework is in the kitchen, living room, etc. environments have been found. It is thought that creating the appropriate environment and conditions for these students to do their homework will help the students to have a positive approach towards their homework and support their success in the course.

All of the parents participating in the study stated that homework is given every day, but not on some special days and holidays. It was concluded that as the grade level, which students usually allocate about half an hour to these given assignments, increases, the time that students allocate to their mathematics homework increases. It can be said that this situation is related to the attention levels of the students. For example, it is recommended for primary school students to have 15 minutes for 1-3 homework. The opinions received from the parents are in line with the literature in this context. It was stated that homework should be between 15-20 minutes in the first and second grades and 40-60 minutes in the fifth grades (MoNE, 2011). The reason for this situation is that the attentional status of young children changes rapidly according to the age variable and they are insufficient to establish a relationship between the subjects (Bryan & Burstein, 2004). In particular, it can be said that the content of the given homework causes the time spent doing homework to differ. It has been understood that the

time spent doing mathematics homework is also related to the homework of other lessons, and when less homework is given from other lessons, more homework is given than mathematics and this time increases. In primary schools, giving homework lasting approximately 30 minutes according to the development level of the students will both facilitate the learning of the students and ensure that they do not have difficulty in doing homework.

The difficulties experienced by students in the process of doing homework differ in terms of parents. This situation can be explained by the student's interest in the lesson, whether he has his own study room, his dependence on technological tools, his understanding of the subject given to the homework, and the parent's content knowledge about that subject. In addition, parents stated that they had difficulties in their own way. They state that this difficulty stems from the fact that they cannot come down to the level of students pedagogically and that mathematics subjects are difficult especially in the upper grades. These results of the study show parallelism with the conclusion of Kaplan Can & Gelbal (2022)'s research that parents have difficulty in helping their children if they do not know the subject learned, and that they have difficulty in descending to their child's level even if they know the subject of homework. Parents, who stated that primary school children have difficulty in starting homework, stated that their children think of playing games with their friends and that their addiction to tablets, computers and television outside of homework increases this situation. Akran Koç (2021) stated that students should be encouraged to use skills such as learning and innovation, communication, life career and media technologies in their study where they systematically analyzed articles and theses related to homework. Primary school students should be encouraged to use technological tools while doing their homework. In this way, their tendency to use technology in the later stages of their education life will increase and they will meet the requirements of the technological age. Another result of the research is that primary school students have difficulty doing homework as a result of being bored with doing repetitive and similar homework. The parents, who stated that the students started to do homework willingly, but their desire to do homework decreased in the following period, stated that this was due to their exposure to different stimuli. In addition, it was stated that these students had insufficient self-regulation skills and had problems focusing while doing homework. Ramdass & Zimmerman (2011) researched the relationship between self-regulation and homework; They stated that there is a significant relationship between students' homework status and self-regulation behaviors from primary school to university.

According to the opinions of the parents participating in the research, almost all of the teachers check the homework. However, although these checks are sometimes superficial, the assignments are usually checked in detail. In addition to this, some teachers have the homework control done by a friend of the students or a student they assign. The reason why the teachers check the homework for the students can be related to the crowded classrooms and the training of the curriculum. It can be said that controlling homework increases the motivation of the student to do homework. Because the parents stated that the student who knows that the teacher will control the homework does the homework more seriously. Another result of the study is that homework control is also carried out considering the class size. In this context, the present study coincides with the conclusion of Taş et al. (2014) that as the number of classrooms they reach increases, the importance that teachers give to homework decreases. An & Wu, (2012); Kaplan Can & Gelbal (2022) emphasized in their study that teachers should check the homework and give written notification to the students at the end of this process in order to eliminate students' misconceptions and to better understand the subjects they have difficulty with.

Parents generally stated that their students like to do homework. Students stated that they like to do research assignments made with technological tools, short-term tests, fill-in-the-blank and true-false assignments, assignments made with concrete materials, projects and design assignments. However, they also stated that they do not like to do their homework on mathematics topics that require long writing, include new generation questions, and that they do not understand during the lecture. Duru & Çöğmen (2017), in their study, concluded that the fact that some students do the same homework willingly and some students do it unwillingly may be due to the individual characteristics of the students such as interest, curiosity, need, learning style, and developmental periods. In the current study, it can be assumed that the fact that some students do the same homework willingly and some unwillingly is due to the individual differences of the students. In this context, it can be said that it would be more effective for teachers to assign homework by considering the individual differences of students. Assignments should be given individually to the student, following the rule of relativity. Homework should be given in small amounts and frequently, not in large amounts and at infrequent intervals. Parents should not be directly involved in homework and should provide indirect support. Family members should check the homework of primary school students who are not aware of the distinction between right and wrong when it comes to homework, but this control should not replace doing the homework for the student. In addition, parents should help students provide a suitable environment for doing homework.

Contribution Rate of the Researchers

The study was carried out by a single author.

Statement of Conflict of Interest

I declare that there is no conflict of interest during the preparation and implementation of the research, data collection, interpretation of the results, and article writing.

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