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Parent Groups Established with Instant Messaging Applications for Math Lessons During Covid-19: Parents' Opinions

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Abstract: It is known that communication between parents and instructors has decreased significantly due to the lockdowns and distance education implemented due to Covid19. This shortcoming is being attempted to be remedied via instant messaging applications. Therefore, the purpose of this study is to learn what parents' opinions are of parent groups that math teachers have created using online instant messaging applications like WhatsApp, Bip, Telegram, etc. during the Covid-19 pandemic. Semi-structured interviews were used to collect data for the study, which was planned as a case study, and content analysis was used to analyze the data. Five male and five female parents of secondary school-aged children make up the study group, they were chosen using the criteria sampling method. The parent groups created using instant messaging applications are commonly used for announcements, homework, homework controls, the distribution of course materials, video URLs, reminders, and the delivery of lesson URLs and passwords for online courses. Students in certain groups also sent mathematics questions to the parent groups, where the problems were answered by the students' teachers. Although it is clear that these groups are helpful for parents in general, there are some drawbacks, including teachers' loss of interest in the groups towards the end of the school year, concerns about security of personal information, late-night messages, and unnecessary talks.

Keywords: WhatsApp, Parent groups, Mathematic lesson, Instant messaging applications

Introduction

The Covid-19 outbreak, which has become a pandemic, has affected not only the field of health but also the economy, education and social fields. The rapid spread of Covid-19, which was first seen in Wuhan, China in December 2019, has caused social troubles and concerns in many countries of the world (Karatepe et al., 2020). Therefore, many countries have temporarily suspended face-to-face education and accelerated distance education activities. In addition to existing applications to ensure communication with students and parents, live lessons and online courses have been carried out by educational institutions in almost every country (Chang & Satako, 2020). During this process, elementary, secondary and high schools in Turkey continued teaching activities through TRT EBA TV channels and Education Information Network (EBA). Not only is it limited to TV channels, but also synchronous education opportunities, in which teachers and students interact simultaneously, have increased. In this way, to provide effective education and training, Turkey, like most countries, has adopted digital technology and carried out the distance education process.

However, it is known that this situation weakens communication between parents and teachers. Creating chains of home and school life and ensuring continuity in education is achieved with successful school-family cooperation (Çağdaş & Seçer, 2011). However, studies have revealed that family involvement is important and contributes to children, educators, families and schools at all levels (Atabey & Tezel-Şahin, 2011; Çakmak, 2010; Özdamlı & Yıldız, 2014; Wahyuni & Febianti, 2019; Wasserman & Zwebner, 2017). According to

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Hamlin and Flessa (2018), the academic success of children with family members who communicate regularly with the school and support their child based on this communication is higher. This shows the importance of family involvement. However, this requires an effective link between teachers and parents.

Creating chains of home and school life and ensuring continuity in education is achieved with successful school-family cooperation (Çağdaş & Seçer, 2011). Schools use many different ways to maintain communication between parents and teachers. Techniques such as phone calls, newsletters, correspondence, photographs, booklets, school visits, notice boards, tape and video recordings, brochures, newsletters, portfolio files, meetings, and arrival and departure times are the most common (Aktaş-Arnas & Yaşar, 2011; Çağdaş & Seçer, 2011; Çalışkan and Ayık, 2015; Temel et al., 2010; Tezel-Şahin & Özyürek, 2016; Tuncer et al, 2018). However, due to the pandemic, the fact that we have switched to distance education and the lockdowns have inevitably caused old habits to be replaced by new methods and techniques (Balcı, 2017). In the last few years, thanks to the diversification and expansion of the use of new technologies, communication channels between teachers and parents have increased through Internet-based computer or smartphone applications (Thompson, 2009). Researchers state that new technologies provide communication between parents and teachers and this will continue increasingly in the future. (Avcı, 2020; Balcı & Tezel-Şahin, 2018; Wasserman & Zwebner, 2017). With the help of instant messaging applications such as WhatsApp, Telegram, and Bip, uninterrupted and fast communication can be achieved (Shechtman & Boucherian, 2015). The importance of these applications has increased with the pandemic.

Since instant messaging applications allow direct messaging anytime and anywhere, using these applications significantly increases mutual accessibility between parents and teachers (Ayçiçek, 2019; Shechtman & Boucherian, 2015). In the literature (Avcı, 2020; Balcı & Tezel-Şahin, 2018; Sanders, 2016; Wasserman & Zwebner, 2017), it is possible to find many studies examining the intended use of instant messaging applications in terms of teachers. However, studies examining the opinions of families, which is another side of the use of instant messaging applications, are less common (Tuncer, 2021). In some studies, it is emphasized that it is important to investigate the use of these applications, which are stated to have significant disadvantages as well as advantages, in terms of putting forward the necessary recommendations for proper use (Avcı, 2020; Bouhnik et al., 2014). This study is carried out to reveal reasons for using instant messaging groups for mathematics lessons in families' communication with their children's teachers, the advantages and disadvantages of them and the opinions of parents on this practice.

Method

In this study, one of the qualitative research methods, the case study, was used. In the case study, the fact or event that the researcher cannot directly control is examined in depth by focusing on the questions of how and why (Yıldırım & Şimşek, 2018). This study aims to reveal the reflections of parents' groups created for mathematics lessons through instant messaging applications on the parents and how they are evaluated by the parents during the pandemic process.

Study Group

The study group consists of five male and five female participants selected by criterion sampling method. All cases meeting a predetermined set of criteria are studied. The criterion or criteria can be prepared by the researcher or a previously created criteria list can be used (Patton, 2005). The criterion used in the selection of the participants is that the children of the participants go to secondary school and are included in the parent groups created for the mathematics course through instant messaging applications.

Data Collection Tools and Data Collection

The qualitative data obtained in this study were collected with the "semi-structured interview". The semi-structured interview technique is relatively more flexible than the structured interview method. In addition to the certain level of standardization this method provides, it can be seen as more suitable for educational research due to its flexibility (Ekiz, 2003). Thus, it was aimed that the participants would express their opinions independently and without limitations.

A semi-structured interview protocol was prepared by the researchers after the literature review to determine the opinions of the parents participating in the study on the usability of the groups created in instant messaging applications. During the development of the qualitative data collection tool, two separate experts (Psychological Counseling and Guidance specialist, Mathematics Education specialist) were asked to examine the interview form. Also, the appropriateness of the language used in the form was edited according to the views of a Turkish Education field expert. Then, a pilot study was conducted with two participants and the feedback obtained from the semi-structured interview form designed as a measurement tool with the experts was compared. After the edits, its suitability in terms of language was reconsidered and the necessary arrangements were made by taking the opinions of the experts in the field of Turkish Teaching. This phase was used to structure the interview questions and was not presented as a finding. Then, an average of 30-minute interviews were held with the parents voluntarily.

Data Analysis

The data collected as a result of "semi-structured interviews" were analyzed with the "content analysis" method. Content analysis is the process of arranging and interpreting the concepts and relationships that can understandably explain the collected qualitative data within the framework of codes and themes (Yıldırım & Şimşek, 2013). The interviews recorded in the first stage of the analysis process were transferred to an Office program. The diversification method was adopted in the data analysis process. First, the data was coded with open coding and a draft code tree was created. Then the coding made by two independent researchers and the coding made by the researchers who carried out this study were compared and necessary corrections were made by discussing the conflicting coding. According to the Miles and Huberman (1994) formula, the consistency rate between the coders was found to be 84%. In the analysis process, explanations were made by giving a code number (P1, P2, …) to the participants whose opinions were taken, so that the names were hidden in the semi-structured interview records considering ethical principles. Then, direct quotations were made to convey the views of the participants, the code of the participant was specified, and the interview notes were given in quotation marks. In the last stage, the data were interpreted considering the literature and the quantitative data of the study.

Results and Discussion

The categories obtained as a result of the content analysis categories related to codes, frequencies of these codes and the verbatim quotations from parents about these categories are given below. Also, the participant codes given in the parentheses after the quotations indicate which participant stated the note.

Genders of the Participants in the Groups

Table 1 shows which parents are included in the groups created with instant messaging applications.

Table 1. Parents in the groups

Group participants	f	Quotations
Only mother	5	“As our teacher is a woman, woman-to-woman communication is easier.” (P2) “I am the only one in the group because my husband is working.” (P6)
Only father	2	“My wife doesn't have a smartphone so only I participate.” (P7) “I don't want anyone else to have my wife's phone number.” (P3)
Both mother and father	3	"We're both in the groups so that if one of us skips a message, the other reads it." (P8) “Our teacher specifically asked us both to be in the group.” (P5)

Five of the parents who participated in the study stated that there were only mothers in the groups, while two parents stated that only the father was involved. Three of the participants stated that both parents were in the group together. In groups with only mothers, mothers stated that women can communicate better because the teacher is a woman and they are busy because their husbands are working. However, they emphasized that mothers are generally included in the groups and fathers are busy. Only one of the men in the fathers' groups stated that his wife did not have a mobile phone, and the other stated that he did not want others to see his wife's

mobile phone number. In the groups in which both parents were involved, the participants stated that the teacher wanted both the mother and the father to be present and that this was a more appropriate way to follow the child together.

Instant Messaging Applications Used

The results regarding the applications in which the mathematics teachers of the children of the participants set up the groups are presented in Table 2.

Table 2. Instant messaging applications used

Applications	**f**	**Quotations**
WhatsApp	7	“I'm quite happy that I already have the application on my phone, so we didn't need to install a second application.” (P4)
Telegram	1	"Although I am glad we are using Telegram after rumours about WhatsApp, I would prefer a native software." (P5)
Bip	2	“Better having a local application, I feel our data is safe.” (P1)

Participants mostly use the WhatsApp application (n=7). They stated that the reason is that the WhatsApp application is already so common. Two users stated that they are happy to use the Bip application because it is local, and one user stated that they use the Telegram application, but would prefer to use a local application instead.

The Most Common Intended Purpose of Groups

The most common intended purpose of groups is given in Table 3 according to the opinions of the participants.

Table 3. The most common intended purpose of groups

Category	Code	f	Quotations
The most common intended purpose of groups	Announcements	8	"Announcements are made about the school or the extra lessons" (P1) “Since our teacher is also a classroom teacher, she also makes announcements about the class” (P2)
	Homework	6	“The teacher sends the assignments from the group.” (P4)
	Homework checks	4	“We take a picture of our child's homework and send it to the teacher.” (P5)
	Course materials	2	“Teacher sends us lesson notes and questions in pdf” (P9)
	Video URLs	1	“Our teacher shares YouTube URLs of some topics with us” (P3)
	Reminders	6	“Reminders about the lesson are sent from the group.” (P10)
	Online lesson URLs and passwords	9	“URLs are sent to the group before each lesson.” (P5) “Sometimes, when EBA (Educational Information Network) is busy, the password is sent from here.” (P6)

In the analysis of Table 3, it is understood that the groups mostly use the URLs and passwords of online lessons, announcements, reminders and assignments. Also, it is understood that assignments are made in groups and homework control is carried out in some groups. In very few groups, course materials and video URLs related to the courses were shared.

Positive Aspects of the Groups

The positive aspects of the groups created for the mathematics lesson are given in Table 4 according to the opinions of the participants.

Table 4. Positive aspects of the groups

Category	Code	f	Quotations
Positive aspects of the groups	Supervision	4	"My child completes his homework because the teacher checks them." (P3) "The math teacher gives feedback on the students who do not attend the classes" (P4)
	Question-solving	4	"My child can send the questions he cannot solve to the group and learn the solution immediately." (P2) "We can also see the math questions other kids send and their solutions." (P6)
	Fast communication	7	"We can reach the teacher immediately during the day." (P2)
	Being free	5	"It is very good that it is not paid like a phone call or an SMS." (P8)
	Motivation	3	"Our teacher always motivates our children" (P10)

According to Table 4, it has been understood that the dominant factor in terms of the positive aspects of the groups is to provide fast communication. Also, it is understood that the applications are free, the mathematics teachers inform the parents of the students who do not attend the lesson, they supervise the students by checking homework and they solve the mathematics questions in groups. Thus, students can both find answers to their questions and see the solutions to the questions asked by other students. Also, it is understood that mathematics teachers use groups for motivating children.

Negative Aspects

The negative aspects of the groups created for the mathematics lesson are given in Table 5 according to the opinions of the participants.

Table 5. Negative aspects of the groups

Category	Code	f	Quotations
Negative aspects of the groups	Unnecessary conversations	5	"Sometimes there are unnecessary discussions." (P7) "It is unnecessary to discuss personal matters in a group and expose everyone to these messages." (P3)
	Teacher's loss of interest	2	"Towards the end of the year, our teacher started not responding to messages. I understand they're tired, but if this group was created, they should do their part." (P4)
	Messages sent late	7	"Announcements in the middle of the night are annoying." (P5)
	Security concerns	4	"It is quite annoying to share personal information in groups" (P6) "I wish that no parent could see my phone number" (P8)

In the analysis of Table 5, it is understood that the most notable negative aspect of the groups is the late-hour messages. Unnecessary discussions or discussing personal matters in groups are also among the negative aspects. Sharing personal information in groups and that group members can see the phone numbers of other group members also cause security concerns. Some participants stated that towards the end of the year, teachers lost interest in groups.

Conclusion

In this study, notable results were obtained in the light of the purposes of instant messaging groups in the communication of families with mathematics teachers, the advantages and disadvantages of them and the opinions of parents on this matter. It is seen that usually mothers participate in the class groups created to communicate with the teachers. It can be said that the reason for this situation is that men are not at home due to their workload. This is also consistent with the results of Tuncer (2021). The gender roles in Turkish society are quite different (Dedeoğlu, 2012). It is important that both parents are included in the groups, and it is clear that a

family participation process carried out in this way will also have positive results on students' performance (Mayangsari & Aprianti, 2017). Also, parents and teachers, as two common partners of education, have to work together to carry out the best education.

Another result of the study is about the instant messaging applications used. While the WhatsApp application is mostly used in the classes, Bip and Telegram applications follow. The main reason for this may be the prevalence of these applications (CNN TÜRK, 2021). However, most parents think that it would be safer to use local applications. According to another result of the study, groups are mostly used to send announcements, homework, homework checks, course materials, video URLs, reminders, and online lesson URLs and passwords. Avcı (2020); Balcı and Tezel-Şahin (2018), Duru and Çöğmen (2017), Tuncer (2021), and Wasserman and Zwebner (2017) have also reached consistent results. However, the use of parent groups to send online lesson URLs and passwords, which are not included in these studies, is an understandable situation since the lessons are instructed online during the pandemic.

In the consideration of the results of the study, it is understood that the positive aspects of the parent groups are the supervision of the students, the solving of the mathematics questions in the groups, the ability to communicate quickly with the mathematics teacher, the free applications and the motivation of the students. Balcı and Tezel-Şahin (2016) and Tuncer (2020) also reached similar results. According to another result of the study, the negative aspects of the groups are the unnecessary conversations made in the groups, the loss of interest of the teachers in time, the messages sent late at night and the safety concerns. In the literature review, it is seen that there are studies reaching similar results (Avcı, 2020; Balcı & Tezel-Şahin, 2018; Wahyuni & Febianti, 2019).

Recommendations

This study was carried out with parents who were included in the parent groups created for mathematics lessons and had children at the secondary school level. Comparisons can be made by checking how these practices are conducted in different education levels and different courses. Also, notifying the group rules to everyone after the group is created can prevent unwanted situations. With a family education program, family education and awareness studies can be carried out on how to provide school-teacher-family communication in digital environments and what to pay attention to.

It may also be appropriate to disseminate the solving of math problems in parent groups, and even to set specific time intervals for this. Also, it is important to increase father participation in parent groups. Responsibility should not be left only to mothers. It is also important for teachers to keep their interest in the parent groups they created. It is clear that parent groups are considered positive for parents. Therefore, dissemination of this practice is thought to be important. However, some restrictions should be applied, such as turning off messaging or assuring that only the teacher can send messages after a certain hour.

Scientific Ethics Declaration

The authors declare that the scientific ethical and legal responsibility of this article published in EPESS journal belongs to the authors.

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