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Preschool teachers' ability to manage problem behaviours in their classroom: can it be predicted by teacher self-efficacy and emotional literacy

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ABSTRACT

Objective: Management of problematic behaviours (MPB) in the classroom is one of the important components of the teaching process. It is among the issues that teachers worry about in the education process. Preschool teachers often encounter problematic behaviours as children's cognitive, emotional, and behavioural development processes in their classrooms are still incomplete. Therefore, it is important to examine preschool teachers' ability to MPB and determine the related factors. This descriptive study aims to determine the relationship of preschool teachers' ability to MPB in their classrooms to teacher self-efficacy and emotional literacy.
Method: The study sample consists of 381 preschool teachers (working in schools affiliated with the Ministry of National Education in different cities of Turkey. Preschool Classroom Management Scale, Emotional Literacy Scale and Teacher Self-Efficacy Scale was used to collect data. Descriptive statistics, Pearson correlation analysis, and multiple regression analysis techniques were used to analyse the data.
Results: This study confirms that preschool teachers' ability in MPB in their classrooms is moderately related to emotional literacy skills. In addition, it was determined that there is a moderate relationship between the ability of preschool teachers to MPB in their classrooms and their teacher self-efficacy.
Conclusion: The findings draw our attention to the importance of teachers' efficacies and emotional abilities in improving schools and the general teaching environment.

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INTRODUCTION

Teaching is a complex and multi-dimensional profession that requires many skills such as getting to know each child in the class closely, supporting them accordingly, structuring the educational environment in accordance with the characteristics of the classroom, and planning, implementing and evaluating education at the same time. A good teacher must have some competencies related to his/her field as well as some professional competencies (Akar et al., 2010). One of these professional competencies is positive classroom management skills. Classroom management skills are important in terms of both maintaining educational activities without interruption and creating a positive social and emotional atmosphere. In order to create an efficient educational environment, classroom management requires making decisions on many issues such as seating plan, determining activity times, preparing materials, setting classroom rules, and ensuring each student's participation (Emmer & Gerwels, 2005). In classroom management processes, teachers sometimes encounter problematic student behaviours in their classrooms that may negatively affect the education process. In the literature, all disturbing student behaviours that are not suitable for the classroom environment, that prevent educational activities, that negatively affect the course flow and other individuals in the classroom, and that prevent the effective use of time are defined as undesirable or problematic behaviours (Akçadağ, 2006; Başar, 2008).

Successful MPB by teachers is of great importance for the healthy execution of educational activities without interruption. However, educational studies show that MPB in the classroom is one of the most challenging tasks for teachers (Ataman, 2005; Beaudoin & Skocic-Mihic, 2018; Jennings & Greenberg, 2009). The MPB in preschool classrooms appears to be a challenging and complex process for preschool teachers (Arbuckle & Little, 2004) since children continue to develop socially and emotionally; preschool classrooms are the first formal environments for children, and the frequency of behavioural problems (between 10-25% on average) is high in preschool children (Powell et al., 2003; Powell et al., 2007; Qu & Kaiser, 2003). For this reason, preschool teachers' ability to MPB is among the issues that have recently attracted researchers' attention (Carter & Van Norman, 2010; Filcheck et al., 2004). In addition, considering the fact that childhood problem behaviours may have adverse effects in the future, such as peer rejection (Carter & Van Norman, 2010; Sprague & Perkins, 2009), social behaviour problems (Uyanık Balat et al., 2008), academic failure (Dunlap et al., 2006; Powell et al., 2007; Sayal et al., 2015), an increase in the rate of involvement in crime (McCabe & Frede, 1997; Sprague & Perkins, 2009), and psychological problems (Emond et al., 2007), it becomes even more important to understand teachers' skills to manage these problematic behaviours in their classes. The prosocial classroom model developed by Jennings and Greenberg (2009) argues that teachers' social-emotional well-being and competencies have an important place in the formation of a positive classroom environment. Teacher self-efficacy is the first variable whose relationship with teachers' MPB is investigated in the study.

Teacher Self-Efficacy

Bandura (1997) defined the concept of self-efficacy, which he frequently included in his social cognitive theory studies, as beliefs about what an individual can do in certain situations with what he has. The social cognitive theory argues that it determines how much effort an individual will make in a subject where self-efficacy beliefs are challenged (Usher & Pajares, 2008). Their beliefs significantly influence teachers' efforts in the teaching process about what they can do (Bandura, 1997). In fact, creating a classroom environment in which effective learning can take place largely depends on teachers' abilities and self-efficacy beliefs (Bandura, 1993), which makes self-efficacy belief an important concept for the teaching profession. Individuals with high self-efficacy beliefs about their abilities are loyal to their goals and make sufficient effort to achieve successful results. They also view hard tasks as struggles to be accomplished, not threats to be avoided. This allows them to continue their efforts even in difficult and unclear situations. Even when they face failure in their work, they continue to struggle without giving up. They experience less stress when faced with difficulties. They achieve more successful results in their

work (Çolak et al., 2017). However, individuals with low self-efficacy tend to give up their efforts in a short time in the face of challenges and have difficulties motivating themselves. These individuals avoid challenging work and do not feel confident that they can do what is necessary for success (Bandura, 1993, 1997; Stajkovic & Luthans, 2003). The literature shows that the MPB in the classroom is among the challenging tasks for preschool teachers (Arbuckle & Little, 2004; Oliver et al., 2011). Therefore, whether preschool teachers' self-efficacy beliefs can predict their ability to deal with problem behaviours in the classroom was examined in this study.

Emotional Literacy of Teachers

Emotional literacy is an important concept within the social-emotional competence of teachers. This concept, which was first used by Steiner in the 1970s, is defined as the individual's ability to understand his/her emotions in a way that can improve his/her personal power, quality of life, as well as the quality of life of the people around him/her (Steiner, 2003, p.11). Emotional literacy skill is accepted as a source of strength that a person has in overcoming challenges (Alemdar, 2014). Emotional literacy gives the individual the ability to understand, perceive, interpret, manage, cope, and appropriately express life's social and emotional aspects. It is a collection of skills that includes social and emotional components (Weare, 2004). Although there are different categorisations of skills that emotional literacy includes in different models (Fraupel, 2003; Kandemir & Dündar, 2008; Weare, 2004, etc.), the five commonly accepted components are motivation, empathy, emotional awareness, self-regulation and social skills. These components are thought to be effective in an individual's learning, communicating, and structuring relationships in a healthy way (Alemdar, 2019). Studies show that people with high emotional literacy are those who can get along well with others, motivate themselves, empathise with other people, overcome the problems they encounter easily, and achieve success in life (Rae et al., 2005). Teaching is a profession that requires establishing intense human relations at different levels, such as students, parents, colleagues and administrators. Teachers are faced with challenging situations from time to time in these intense human relationships. MPB is one of these challenging situations. For this reason, this study examines whether preschool teachers' emotional literacy skills can predict their ability to MPB in the classroom.

This study addresses the following research question based on the information given above: "Does teacher self-efficacy and emotional literacy predict preschool teachers' ability to MPB? The sub-research questions are as follows.

- Is there a relationship between preschool teachers' ability to MPB in their classrooms, teacher self-efficacy and emotional literacy?
- Is preschool teachers' teaching self-efficacy a significant predictor of their ability to MPB in their classroom?
- Is the emotional literacy of preschool teachers a significant predictor of their ability to MPB in their classroom?

METHOD

Study Design

This study assumed preschool teachers' teaching self-efficacy and emotional literacy might be related to their MPB in the classroom. Although the relationships that emerge through the scales are not cause-effect relationships, the scales provide results that could be useful in predicting various situations related to one variable using another variable (Karasar, 2005). Therefore, the relational survey model used in cross-sectional studies was considered a suitable model for this study. Turkish preschool teachers' ability of MPB in the classroom was considered the outcome variable while teaching self-efficacy and emotional literacy skills were determined as predictive variables.

Participants

The necessary application permits for the research were obtained from the Ordu Provincial Directorate of National Education with a permit numbered 18802389-44-E.26107481. In addition, firstly, teachers were informed about the research and those who volunteered to participate were included in the study. Teachers were asked to read and mark the part on the form in that they were informed about the research and voluntarily participated before proceeding with the filling of the measurement tools. Research participants' rights have been protected in accordance with the principle of confidentiality. According to the Turkish Ministry of Education 2019-2020 statistics, the number of preschool teachers working in public and private schools is 56218. In determining the sample size of the study, the sample size calculation method based on the target population prepared by Krejcie and Morgan (1970) was taken as a basis. In accordance with this method, the sufficient sample size that can represent the target population of 50.000 and over is 381 participants. The study sample consisted of 381 teachers working in any state-owned or private preschools in Turkey based on this criterion. 68 of the preschool teachers participating in the study are male (17.8%) and 313 (82.2%) are female. Their average age is 36.38 (SD = 5.72).

Instruments

The Classroom Management Scale for Preschool Teachers (Uyanık Balat et al., 2011), Teacher Self-Efficacy Scale (Gedik, 2015), and Emotional Literacy Scale (Alemdar, 2019) were used to collect data.

Classroom Management Scale for Preschool Teachers: It was used to measure preschool teachers' ability to MPB in the classroom. This scale is a self-assessment tool through which teachers evaluate their classroom management skills. The scale was developed by Uyanık Balat et al. (2011). It consists of five subscales. Within the scope of this study, only the sub-scale of "ability to MPB in the classroom" was used. The scale is a 5-point Likert type scale and the items are scored between 1 and 5 (5- I agree, 1- I disagree). This sub-scale includes four items. The Cronbach's alpha of the scale was calculated as .78 in this study.

Teacher Self-Efficacy Scale: In determining the teaching self-efficacy of preschool teachers, the "Teacher Self-Efficacy Scale", which was adapted into Turkish by Çapa et al. (2005) and whose psychometric properties were evaluated by Gedik (2015), was used. There are a total of 24 questions on the scale. The responses are scored on a 5-point Likert type scale ranging from 'never' to 'always'. The total score that can be obtained from the scale ranges from 24 to 120. High scores indicate high self-efficacy. In the study conducted by Gedik (2015), the Cronbach's alpha internal consistency coefficient of the scale was calculated as .89.

Emotional Literacy Scale: The scale, which was developed by Alemdar in 2019, was used to determine the emotional literacy levels of preschool teachers. It consists of 31 questions scored on a 5-point Likert scale (1-Not Suitable for me, 5 = Completely suitable for me). The scale includes five sub-scales: motivation, empathy, self-regulation, emotional awareness and social skills. The Cronbach's alpha reliability coefficients of the sub-scales calculated according to the reliability analysis results of the scale conducted by Alemdar (2019) are as follows: .70 for motivation, .60 for empathy, .70 for self-regulation, .71 for emotional awareness, and .77 for social skills.

Procedure

The data were collected by the researcher during the seminar periods when teachers from preschool teachers working in schools affiliated with the Ministry of National Education come together according to their branches and receive in-service training. The researcher gave information about the purpose of the research and explained to the participants that participation was voluntary. Five hundred scales were distributed in total and 381 were filled in and returned, with a response rate of about 76.2%. It took 25

min on average to complete the scales. All the participants were assured that the data would be kept confidential and used only for research purposes.

Ethics committee approval

The necessary ethics committee permissions for the research were obtained from the Girne American University Social and Human Sciences Ethics Committee with the decision numbered 5.21.83.

Statistical Analysis

This study examined the relationships between the variables using the Pearson correlation analysis. In relational analyses, according to Cohen (1992), correlation coefficients ≥.10 indicate low, ≥.30 a medium, and ≥.50 a large association. Multiple regression analysis was conducted to determine the predictive power of preschool teachers' teaching self-efficacy and emotional literacy of the ability to MPB in their classroom. Prior to this analysis, the data were evaluated in terms of the assumptions required for regression analysis. First, extreme values among the data were evaluated according to Cook's distance criterion. The criterion had a value less than 1 (Cook, 1977). It was seen that all the values were below 1 and thus, there was no extreme value in the data. Then, the Skewness and Kurtosis values were examined to determine whether the data showed normal distribution. It was required that the skewness and kurtosis values of the data should be between +1.96 and -1.96 (Büyüköztürk, 2006), which is the criteria for normal distribution. In the data set, the skewness values were between -0.951 and 0.322, and the kurtosis values were between -0.769 and 0.738, which both point to normal distribution. In addition, the tolerance and VIF values of the data were examined for the multicollinearity problem. When the VIF value is equal to or greater than 10 and the tolerance values are less than 0.2, the model has a multicollinearity problem (Pallant, 2005). The VIF (values between 1.281-1.859) and tolerance values (values between 0.538-0.781) examined in the data set within the scope of the study showed that there was no multicollinearity problem. Then, multiple regression analysis was employed. IBM statistics 21.0 package program was used for the calculations.

FINDINGS

The descriptive analysis results and the Cronbach's alpha values showing the reliability results for the measurement tools are presented in Table 1.

Table 1. *Descriptive statistics*

	Number of Items	Score range	Mean	SD	Alpha coefficient
1. Teaching self-efficacy (TSE)	24	24-120	106.48	9.23	.74
2. Emotional literacy (EL)					
Motivation (M)	7	7-35	29.98	3.17	.72
Empathy (E)	4	4-20	15.52	1.74	.69
Self-regulation (SR)	6	6-30	25.52	2.42	.76
Emotional awareness (EA)	6	6-30	24.34	2.77	.73
Social skills (SS)	8	8-40	31.61	3.89	.79
3. Ability to MPB in their classroom	4	4-20	16.14	2.31	.81

Abbreviations: MPB= Manage problem behaviours

When Table 1 is examined, it is seen that preschool teachers' mean teaching self-efficacy score is 106.48 (Sd = 9.23). As far as emotional literacy skills are concerned, their mean motivation score was found to be 29.98 (Sd = 3.17) and their mean empathy score was found as 25.52 (Sd = 2.42). On the other hand, the emotional awareness mean score was 24.34 (Sd = 2.77) and the social skills mean score was 31.61 (Sd = 3.89). The teachers' ability to MPB in their classroom was found to be 16.14 (Sd = 2.31). Considering the number of items and the minimum and maximum possible scores of the measurement tools, it was seen that the scores of preschool teachers' self-efficacy, emotional literacy and ability to MPB in their classroom were high. The Cronbach's alpha values of the measurement tools calculated within the scope of this study are between .69 and .81, indicating that the measurement tools are reliable.

To examine the first research question, we examined intercorrelations between the ability of preschool teachers to MPB in their classroom, self-efficacy and emotional literacy skills as presented in Table 2.

Table 2. *Relations between variables (n=381)*

	M	E	SR	EA	SS	MPB
1. Teaching self-efficacy (TSE)	.58**	.39*	.42*	.35*	.40*	.41*
2. Emotional literacy (EL)						
Motivation (M)	1.000	.34*	.52**	.28	.22	.42*
Empathy (E)		1.000	.21	.34*	.29	.35*
Self-regulation (SR)			1.000	.30*	.35*	.42*
Emotional awareness (EA)				1.000	.63**	.36*
Social skills (SS)					1.000	.34*
3. Ability to MPB in their classroom						1.000

Abbreviations: MPB= Manage problem behaviours; *low level of relationship and **moderate relationship

When Table 2 is examined, a moderate positive significant relationship (.41) was found between the ability of preschool teachers to MPB in their classroom and their self-efficacy. The relationships between preschool teachers' ability to MPB in their classroom and emotional literacy skills of motivation, empathy, self-regulation, emotional awareness and social skills are .42, .35, .42, .36 and .34, respectively. All the relationships are moderate and positive ($p<.05$ for all).

Table 3. *Predictors of preschool teachers' ability of MPB in their classroom*

	Unstandardised		Bootstrapping BCa %95 CI		Standardised	
	B	SE	Lower	Upper	Beta	T
Constant	-2.105	1.410	-5.061	.743		-1.492*
1. Teaching self-efficacy (TSE)	.028	.014	.019	.078	.112	2.011*
2. Emotional literacy (EL)						
Motivation (M)	.118	.041	.013	.174	.162	2.885**
Empathy (E)	.205	.064	.030	.296	.154	3.179**
Self-regulation (SR)	.186	.050	.015	.237	.194	3.702**
Emotional awareness (EA)	.097	.048	.001	.206	.116	2.033*
Social skills (SS)	.045	.035	.007	.151	.076	1.312
R=.564 R^2adj=.307 $F_{(6\text{-}374)}$=29.089;p= 0.000				*p<0.05	**p<0.01	

Abbreviations: MPB= Manage problem behaviors

When the regression model in Table 3 is examined in terms of significance, it is seen that the model established to reveal how much teaching self-efficacy and emotional literacy skills can explain preschool teachers' ability to MPB in class is significant (R= 0.56; R2adj=0.31; p<0.001). Preschool teachers' teaching self-efficacy and emotional literacy skills account for 31% of the variance related to their ability to MPB in class.

When the t-test results regarding the significance of the regression coefficients are examined, it is seen that teaching self-efficacy and emotional literacy skills of motivation, empathy, self-regulation and emotional awareness are significant predictors of preschool teachers' ability to MPB in class, while teachers' social skills are not a significant predictor of this ability. According to the standardised regression coefficient, the relative order of importance of predictor variables in terms of preschool teachers' ability to MPB in their classroom is as follows; (1) self-regulation, (2) motivation, (3) emotional awareness, (4) empathy, (5) teaching self-efficacy. According to the multiple regression analysis results, the mathematical model for preschool teachers' ability to MPB in class is as follows.

Ability to MPB in their classroom = -2.105 + 0.205 * Empathy + 0.186 * Self-regulation + 0.118 * Motivation + 0.097 * Emotional awareness + 0.028 * Teaching self-efficacy

DISCUSSION

In the present study, it has been hypothesised that preschool teachers' ability to MPB in the classroom can be related to teacher self-efficacy and emotional literacy. Some major findings emerged from this study. Firstly, correlation analysis showed that teachers' ability to MPB in the classroom was related to their emotional literacy and teacher self-efficacy. Additionally, the results of multiple regression analysis revealed that preschool teachers' emotional literacy and teacher self-efficacy could be used to predict their ability to MPB in the classroom.

The first result of the study is that there are moderate positive relationships between preschool teachers' ability to MPB in their classrooms and emotional literacy skills such as motivation, empathy, self-regulation, emotional awareness and social skills. Besides, there are moderate positive relationships between preschool teachers' ability to MPB in their classrooms and teacher self-efficacy, too. This finding highlights the importance of some skills related to the teacher himself/herself (e.g. self-efficacy skills, emotional literacy) in the MPB experienced in preschool classrooms. For this reason, it is thought that supporting the personal abilities of preschool teachers can be beneficial in classroom MPB.

The second result of the study is that preschool teachers' self-efficacy is a significant predictor of their ability to MPB in class. Studies conducted in the last two decades indicate that teaching self-efficacy can affect teachers' in-class performance and their relationship with students (Gibbs & Powell, 2012; Jennings & Greenberg, 2009). However, a limited number of studies have shown the relationship between teacher self-efficacy and MPB in class (Abu-Tineh et al., 2011; Babaoğlan & Korkut, 2010). The current studies have not been conducted with preschool teachers. Studies on teaching self-efficacy suggest that teachers with high levels of self-efficacy have improved communication skills (Kesicioğlu & Güven, 2014) and problem-solving skills (Yenice, 2012) and adopt democratic values in the classroom (Almog & Shechtman, 2007; Shechtman, 2002). On the other hand, teachers with low self-efficacy have been found to set strict rules in the classroom and resort to traditional methods such as punishment when faced with any problem behaviour (Woolfolk & Hoy, 1990). Teaching self-efficacy is a significant predictor of the ability to MPB in class in this study may be the advanced communication and problem-solving skills of teachers with high teaching self-efficacy, their democratic attitudes, and their avoidance of strict rules and punishment. In addition, as stated in the literature, teachers with high teaching self-efficacy establish closer relationships with students (e.g., Hamre et al., 2008; Mashburn et al., 2006), and these close relationships increase the effect of teachers on student behaviours (Hamre et al., 2008; Poulou, 2017). The finding of this study regarding the predictive power of teaching self-efficacy may be attributed to the close relationships established by teachers with high teaching self-efficacy with their students.

The third result of the study is that preschool teachers' self-regulation, motivation, emotional awareness and empathy skills are significant predictors of their ability to MPB in their classroom. The increasing number of students exhibiting problem behaviours in schools (Stoiber, 2011) necessitates research to focus on students who have difficulties and determine which teachers' social and emotional characteristics are related to coping with students' problem behaviours (Poulou, 2017). Teachers' emotions affect their students' cognition, motivation, behaviour and themselves in the educational environment (Goroshit, & Hen, 2016; Poulou & Norwich, 2000; Roorda e al., 2011). Children's problem behaviours are emotionally challenging for teachers and, if not managed well, they can turn the classroom into a chaotic environment (Arbuckle & Little, 2004; Friedman-Krauss et al., 2014). A teacher with a high level of emotional literacy can skilfully establish relationships with students, empathise with them, analyse how to act by controlling their emotions in case of any problem, and make the best decision thanks to the self-regulation, motivation, emotional awareness and empathy skills that emotional literacy includes (McAllister & Irvine, 2000; Rae et al., 2005; Poulou, 2017). The finding that emotional literacy skills of self-regulation, motivation, emotional awareness, and empathy predict preschool teachers' ability to MPB in class may be related to the fact that teachers exhibit these behaviours.

Conclusion

This study is the first study to reveal whether preschool teachers' teaching self-efficacy and emotional literacy can predict their ability to MPB in class. The findings contribute to our understanding of preschool teacher education and in-service training and draw our attention to the importance of teachers' efficacies and emotional abilities in improving schools and the general teaching environment. In the light of the research results, it is believed that organising in-service training to improve preschool teachers' teaching self-efficacy and emotional literacy could develop their ability to MPB in-class. Preparing content that supports teaching self-efficacy and emotional literacy should also be taken into account in programs that train preschool teachers. In addition, the findings revealed that teaching self-efficacy and teachers' emotional literacy account for 31% of the ability of preschool teachers to MPB in the classroom. However, there is still 69% which could not yet be explained. Therefore, there is a need for new studies to determine the factors that may be related to the ability to MPB in their classroom.

Limitations

There are some limitations of this study. The measurement tools used in collecting data in the study are self-assessment tools and include an assessment based on teachers' own statements. This limitation may be eliminated by conducting future studies using different data collection methods and qualitative data.

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Conflict of Interests

The author declares that there are no conflicts of interest.

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Trends in 'Technology Leadership' Research in Education: Scoping Review

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ABSTRACT

The rapid development of technology and the effective use of technology in education systems have revealed the concept of technology leadership. In this study, a total of 32 master's and doctoral dissertations on 'technology leadership' published in the National Thesis Center of Turkey (YÖKTEZ) between 2009-2020 were examined. PRISMA (2009) model was preferred in the selection of published thesis studies. This review was carried out using the Scopping Review method of Arksey and O'Malley (2005). In this direction, the scope of the research consisted of 28 master's and 1 doctoral thesis 'in the field of education and training', 'the language of publication is Turkish', which 'has the conditions of publication and permission'. Of the examined studies, 26 were conducted using quantitative, 2 qualitative and 1 mixed research method. In the sample distributions in the studies, it is seen that there are 52% teacher participants and 24% administrator participants. When the findings of the studies were examined, it was determined that school administrators' self-efficacy regarding technology leadership, role perceptions and teacher views on technology leadership were the most researched dependent variables. In studies on ISTE (International Society for Technology in Education) and NETS-A (National Educational Technology Standards for Administrators) standards, it has been concluded that school administrators are seen as technology leaders. When the literature is examined, it is seen that the studies on technology leadership in education have increased in recent years, but doctoral studies are not sufficient in the general distribution.

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INTRODUCTION

In 2005, Turkey's National Education policy adopted the student-centered constructivist approach system to adapt to the developing age. In our country, the constructivist approach has been applied in educational institutions since 2005 (Bostan & Yapıcı, 2019). According to this approach, knowledge is actively and continuously reconstructed by the learner (Noddings, 2017). The answer is given in a constructivist approach to learning by doing and experiencing and how learning environments can be made more effective (Aykaç & Ulubey, 2008). It is stated in the literature that the important contribution of technology in the development of academic success and high-level cognitive skills with the education system in which the constructivist approach is adopted has a very important role in teaching and learning (Borel et al., 2019; Çakır, 2012; Gonzales, 2020). All kinds of materials used in education are technological tools in providing learning. It is important to follow new developments in teaching methods that change and develop over time, as in everything else. The primary reason for the use of technology in education is the widespread use of technology in every field and environment in our age, and as a result, the necessity of integrating education and technology. Many factors can be listed among the benefits of using technology in education, such as supporting critical thinking, helping permanent, effective, and fast learning, interdisciplinary use, and the importance of adapting to living conditions after the formal education process. With the development of technology on these conditions, the integration of technology into the school environment brings the need for technology leadership (Ahmadi, 2018; Baybara, 2018; Güven, 2015).

The need for school administrators to use technology in order to perform work and operations quickly and practically while performing their duties, and to be a role model for the other stakeholders of the school in the use of technology has given birth to the concept of technology leadership (Köybaşı, 2020). While making decisions regarding the integration of technology into education and training in the institution, it is necessary to adopt and implement technology leadership roles in initiating a change in the school climate and facilitating the operation in the use of technology (Gonzales, 2020). In his study, Yeni (2020) reveals that 21st century skills in technology leadership in education support the leadership role of school administrators and that the leadership role is the qualifications expected from school administrators by evaluating the opinions of the participants. In this direction, the effective use of technology was included in the job descriptions of school administrators with the circular numbered 53 published by the General Directorate of Education Technologies in 2001 (MEB, 2018). This job definition, which has been renewed in education administrators, emphasizes the necessity of administrators who have sufficient skills and a vision suitable for the technological age at the point of ensuring the integration of technology into education (Güven, 2015).

It will be easier for teacher candidates trained in this direction to adapt to the integration processes of technology (Borel et al., 2019; Gökoğlu, 2014). In addition to the field and professional knowledge and skills expected from teachers, they are expected to have the ability to use and design appropriate technology in learning environments (Şimşek et al., 2013). It is thought that these trainings for the use of technology will determine the attitudes and perceptions of teacher candidates regarding technology for the schools where they perform their teaching duties (Can & Namlı, 2019).

In the use of technology in education, it is necessary to give importance to the pedagogical level of the students. It is important for school principals and teachers to be able to choose the technological designs and applications to be used during teaching in accordance with the profiles and developmental levels of the students and to guide them throughout the process. Teachers need to receive supportive training in the use of technology in education, develop their technopedagogical competencies and keep them constantly updated (Tondeur et al., 2017). It should be realized that technology integration in education is a phenomenon that should include all the stakeholders of the school together with school administrators (Ahmadi, 2018; Baybara, 2018; Güven, 2015).

When the distribution of the theses written under the leadership of technology in education is analyzed by years, it is seen that the most intense research on technology leadership were published in 2019. When the

literature is examined, the concept of "technology leadership" is seen as a field of study that has been given great importance in recent years (Turan, 2020; Tan, 2010). ISTE (International Society for Technology in Education) creates standards for technology in international education by working for teachers, students and school administrators and renews these standards according to the conditions of the day (Turan, 2020). This organization has determined the international education technology standards for school administrators working in all educational institutions as 'NETS-A' (National Educational Technology Standards for Administrators) (Eren and Kurt, 2011). NETS-A is accepted as one of the most comprehensive studies on an international scale that determines guiding criteria in the field of technology leadership of school administrators. This study, which was determined as 6 subtitles in November 2001, was reviewed in 2009 and ISTE-2009 standards were created (Gürsel, 2020), and the latest changes were added in 2018, bringing together technology leadership standards in education under five subtitles (ISTE, 2018).

1. *Equality Advocate:* Educational administrators create a school climate that provides learning environments where teachers and students can actively use instructional technologies. Educational administrators contribute to positive social change by evaluating online resources and become a digital citizen role model by improving ethical and safe use of technology behaviors.

2. *Visionary Planner:* Educational administrators develop a vision and create a strategic plan in order to ensure that the school's stakeholders dominate the instructional technologies. They manage the process, evaluate, and make corrections on this plan and give a qualified direction to the use of technology. They make the strategic plan created by active interaction with the education stakeholders operative.

3. *Empowering Leader:* Education managers encourage teachers to develop their digital citizenship skills by encouraging them to in-service training in the field of technology. They raise the digital competencies of teachers and students by taking steps to implement ISTE standards. They support education stakeholders in using technology by giving importance to innovation and cooperation.

4. *System Designer:* Education managers create robust infrastructure systems for their technology strategic plans. They make predictive decisions for the instructional technology systems to be established by ensuring the effective use of resources. They create privacy policies in line with the protection of personal information of teachers and students and take protective measures in this regard.

5. *Commitment to Learning:* Educational administrators follow innovations by blending advances in instructional technologies with pedagogical developments. They use technology to create learning environments that support the development of education stakeholders by collaborating with professional teams. They develop its capabilities in order to direct change, save the system from stagnation and encourage more qualified use of technology (ISTE, 2018).

When the national and international studies on the technology leadership of education administrators are examined in the literature, it is seen that especially in recent years, ISTE and NETS-A standards have been emphasized (Hacıfazlıoğlu et al., 2011; Esplin, Stewart & Thurston, 2018; Aksoy & Çobanoğlu, 2018; Çalık et al., 2019). These standards provide guidance to school administrators by creating specific indicators that determine technical skills, knowledge, and tendency in terms of technology integration (Gonzales, 2020). When the study titles on technology leadership are examined; technology leadership roles of school administrators (Sezer, 2011; Baş, 2012; Balaban, 2012; Şahin, 2015; Baybara, 2018; Smart, 2019), school administrators' attitudes towards technology leadership (Efeoğlu, 2019; Hayytov, 2013), school administrators' technology leadership roles leadership self-efficacy perceptions (Gültekin, 2013; Güven, 2015; Ulukaya, 2015; Gençay, 2018; Baybara, 2018; Dinç, 2019; Kurt, 2019; Teke, 2019), technology integration (Gürkan, 2017), technopedagogical leadership competencies of managers (Çakır, 2020), teachers' views on technology leadership of school administrators (Tezel, 2020; Baş, 2012; Sincar, 2009) focused on studies on technology leadership in many sub-branches. When the studies on the technology leadership of school

administrators are examined, it is seen that mostly quantitative research methods are preferred.

Since the concept of technology leadership in education is a new field in the literature, examining its relationship with different variables using different research techniques will be effective in completing the deficiency in the literature. In this research, all master's theses published between 2009 and 2020 were examined by using the search term 'Technology Leadership' in the National Thesis Center of the Council of Higher Education (YÖKTEZ), and it was aimed to bring together the trends in the field of technology leadership and the results of the studies. It is thought that this research will contribute to the literature on the subject of technology leadership by compiling the studies in the literature and presenting them systematically in terms of the sub-problems determined.

The aim of the research is to compile the published studies on technology leadership in the field of education and training and present them in a systematic way in terms of determined sub-problems. For this purpose, answers to the following sub-problems were sought:

1. What is the distribution of master's and doctoral theses on technology leadership in education by years?
2. Which scientific research methods were used in master's and doctoral theses on technology leadership in education?
3. What is the distribution and quantity of participants used in master's and doctoral theses on technology leadership in education?
4. What are the dependent and independent variables used in master's and doctoral theses on technology leadership in education?
5. What are the contributions of master's and doctoral theses on technology leadership in education to technology leadership?

METHOD

In line with the purpose of the study, the master's theses published in the national thesis center on "Technology Leadership in Education" were examined. Scoping review method, which was determined by Arksey & O'Malley (2005), was preferred during the examination. Scope reviews have a broader scope than traditional literature reviews and differ in their primary purpose.

Research Design

A clear definition of keywords and purposes in a scoping review is a useful alternative when an explanation is needed around a concept (Munn, Peters, & Stern, 2018). In line with the chosen method, a five-stage syllabus is carried out;

1) Defining the research question
2) Identification of all studies related to the research subject
3) Selection of studies covering the purpose of the research
4) Visual graphing of data
5) Compilation and reporting of results (Arksey & O'Malley, 2005). The study was implemented by following these steps.

Inclusion and Exclusion Criteria

In this research on the research problem, the search term 'Technology Leadership' was preferred in the field of education and training. Among the published articles, master's thesis and doctorate studies on technology leadership, the studies published in the Turkish National Thesis Center were examined. The National Thesis Center affiliated to the Council of Higher Education includes master's and doctoral theses published in Turkey. As a result of the research, 32 master's/doctorate theses published between 2009-2020

were found. According to the coverage criteria of the research, the research was limited to master's and doctoral theses published in Turkish. Master's and doctoral theses published in a foreign language are excluded from the scope of the research. Accordingly, the coverage criteria are presented in Table 1 in detail.

Table 1. *Scope Criteria of the Study*

Criteria's	Included Studies	Excluded Studies
Time interval	2009-2020	Before 2009 and After 2020
Language	Turkish	Other Languages
Discipline	Studies in the field of education and training	Studies in other fields
Research Method	Quantitative, qualitative, and mixed methods research	Studies without a research method and design
Publishment Type	Master's and Doctoral Theses with Permission to Publish	Books, articles published in academic journals
Sample	Teachers and administrators working at preschool, primary school, secondary school, high school, and undergraduate level.	External stakeholders of education (parents, pressure groups, unions, etc.)

Data Collection Instrument and Procedure

In accordance with the research carried out by using the search term "Technology Leadership" dated 18.03.2021 in the national thesis center, 29 master's theses and 3 doctoral studies were listed. The studies included in the scope of the research were determined in line with the criteria specified in Table 1. In accordance with the criteria in Table 1, a thesis that is not in the field of education and training, a thesis that does not have permission to be published, and a thesis whose publication language is not Turkish were excluded from the research area. The PRISMA method developed by Moher et al., (2009) was used in the study selection process. This method is useful for reporting and developing systematic reviews and meta-analyses, and critically evaluating published studies (Moher et al., 2009). The selection of studies is shown in Figure 1.

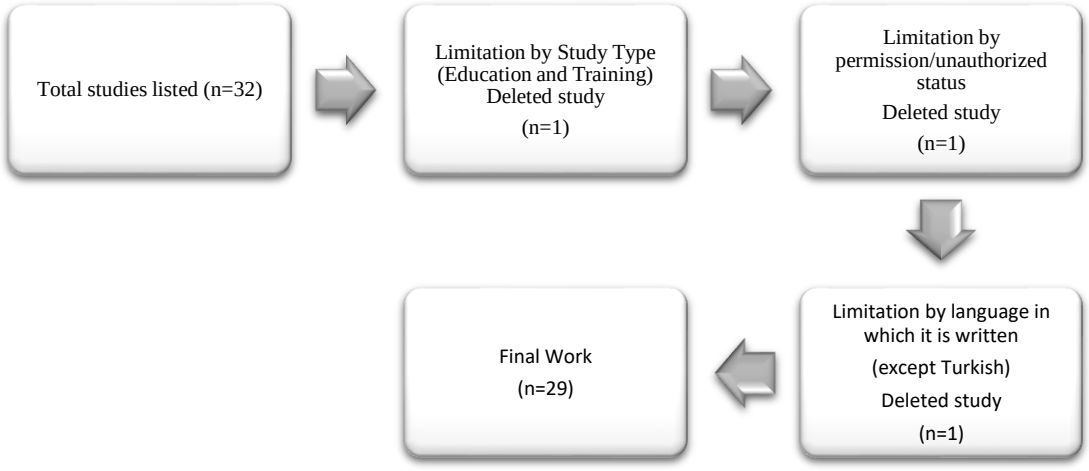

Figure 1. *PRISMA flowchart/ study selection, (Source: Moher et al., 2009)*

The studies included in the scope of the research at the end of the selection period stated above are summarized in Table 2 (Appendix-1).

Data Analysis

The studies, which were included in the scope of the research (Appendix -1) and summarized in Table 2, were examined in the findings section in accordance with the research problems.

Ethic

Since this study was a meta-analysis study, ethics committee approval was not required.

FINDINGS

1. Distribution of theses written on technology leadership in education by years

The distribution of the examined master's and doctoral theses by years is given in Figure 1.

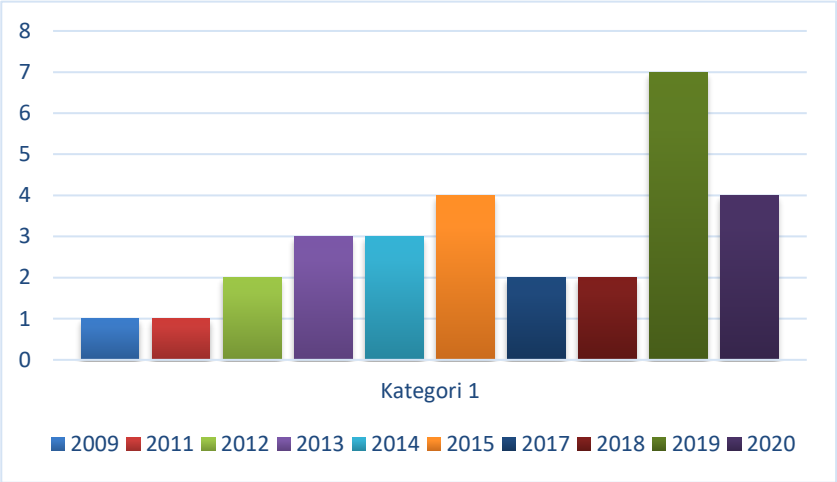

Figure 2. *Distribution of master's and doctorate theses on technology leadership in education by years*

When Figure 1 is examined, there was no thesis study on technology leadership in 2010 and 2016. It is seen that the thesis studies on technology leadership in the literature have increased in recent years, and the most studies were done in 2019. Accordingly, it is possible to say that the subject of technology leadership has become more popular in recent years.

2. Research approaches used in studies on technology leadership in education

The scientific methods used in the studies examined and the thesis numbers in which these methods are used are listed in Figure 2.

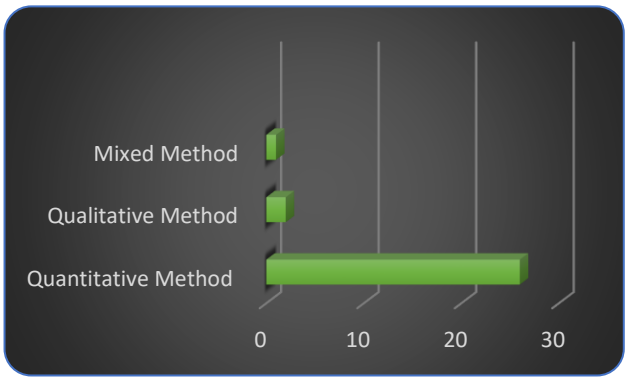

Figure 3: *Distribution of examined master's and doctoral thesis studies by research approaches*

Of the 29 master's and doctoral theses examined, 26 were carried out using quantitative research, 2 qualitative research and 1 using mixed research methods. It is seen that the quantitative method is used more in the studies. In addition, it is seen that the second place in the ranking of qualitative studies and the third in the ranking of mixed studies are quite low compared to the quantitative studies. It is concluded that the scales used in the literature on Technology Leadership are preferred to collect data from large samples.

3. Sample size and quantities in studies on technology leadership in education

The quantity of the sample determined during the data collection phase in academic studies varies according to the subject studied and the research method. It is stated that in studies where the qualitative method

is preferred, it is important that the ideal sample consists of the population that contains the characteristics of the subject studied, and it is sufficient to keep the sample number reasonable if the participant qualifications are provided (Büyüköztürk, 2015). In studies where quantitative methods are preferred, the number of samples varies according to the preferred design. If the universe of the research subject determined for the descriptive survey model consists of a large universe, at least 10% of the universe should be taken as participants, and if the universe consists of a small universe, at least 20% of the universe should be taken as participants. However, in the descriptive survey model, it is appropriate for the ideal sample size to be '218 participants'. In the regression technique, on the other hand, it is expected that the number of variables will be 10 times or more. In quantitative studies where the correlational and causal model is preferred, at least 30 participants and 30 participants in each group for experimental models are the desired sample numbers in terms of increasing the reliability of solving research problems (Büyüköztürk, 2015). In Table 2, the sample sizes and qualifications of the theses included in the study are summarized.

Table 2*: Methods applied by sample size range*

Sample Size	Sample type	Qualitative Method(f)	Quantitative Method(f)	Mixed Method(f)
100 and below	Teacher	1	1	
	Administrator	1		
	Teacher and Administrator			
Between 100-200	Teacher			
	Administrator		3	
	Teacher and Administrator			
Between 201-300	Teacher		1	
	Administrator		1	
	Teacher and Administrator			
Between 301-400	Teacher		6	1
	Administrator		1	
	Teacher and Administrator			
401 and above	Teacher		6	
	Administrator			
	Teacher and Administrator		7	

In Table 2, the sample size is given at certain intervals and the number of theses according to the applied methods is given. In line with this information, if there are participants suitable for the purpose of the research in the thesis studies using the qualitative method, there is no specific criterion in terms of the number of participants in the sample number. Accordingly, the sample size of both of two qualitative studies included in the study was found appropriate. It has been observed that the ideal sample size is considered as 217 in studies adopting the descriptive research paradigm, and there are 25 descriptive survey models in the study, and it was observed that three theses were below the desired number of participants in terms of the research method applied. It is seen that one regression method was used within the scope of the research. In studies in which the regression method is used, variables are used in determining the sample. The independent variables in the study are gender, branch, seniority, duration of management, school level, age and graduation. The dependent variable is technology leadership and learning competencies. As a result of the determination of the sample number as 10 times the number of variables, it was concluded that the study, which used the regression method, worked with enough participants. In the mixed model, qualitative and quantitative methods are used together. It is seen in the study that the number of theses in which the mixed model is applied is one. Quantitative and qualitative sample numbers included in the mixed study were found to be appropriate. As a result, it is understood that three thesis studies, in which quantitative methods are used and the sample type consists of administrators, do not have the appropriate sample number.

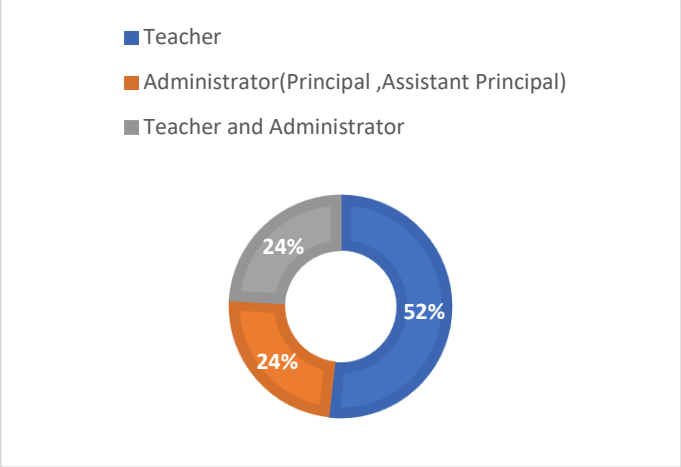

Figure 4: *Participant Distribution Chart*

In the variety of participants selected to collect data in the master's and doctoral thesis studies examined within the scope of the research, "teacher participant" in 15 (52%) studies, "administrator (principal / assistant principal) participant" in 7 (24%) studies, and "teacher and administrator participant" in 7 (24%) studies was preferred and the distribution of participants is given in Figure 3.

4. Distribution of dependent and independent variables used in theses written on technology leadership in education

Table 3 and Table 4 show the dependent and independent variables and frequency of use of the studies examined.

Table 3. *Dependent variables*

Dependent Variables	Thesis Frequency
The Most Used Dependent Variables	
Self-Efficacy of School Administrators on Technology Leadership	11
Role Perceptions of School Administrators on Technology Leadership	8
Teachers' Views on Technology Leadership of School Administrators	6
The Least Used Dependent Variables	
Media and Technology Use Attitudes	1
Technopedagogical Competencies of School Administrators	1
Lifelong Learning Competencies	1

When we examine the studies on technology leadership, it is observed that the elements that make up the school are focused on the managers. Although technology leadership is a broad-spectrum concept, it is seen that there is not an adequate and balanced distribution in the literature regarding the evaluation of the studies made in terms of teachers, students and parents. Considering the dependent variable distribution of studies on school administrators, it is seen that they are shaped by 'Self-Efficacy on Technology Leadership' (24%), 'Role Perceptions on Technology Leadership' (17%) and 'Teacher Views on Technology Leadership of School Administrators' (13%). More than half of these master's and doctoral thesis studies on technology leadership are based on these three dependent variables. The remaining dependent variables constitute 46% of all dependent variables. The dependent variables, whose differences were examined only once in the theses examined in the field of technology leadership in education, are "The Effect of Technology Leadership Behaviours of Administrators, School Climate, Level of Realization of Educational Jobs, Levels of Computer Anxiety, Technology Leadership Level Perceptions of School Administrators and Technology Leadership Roles in Educational Studies of Teachers". Level, Lifelong Learning Competencies, Technology Leadership Strategies and Innovation Management Competencies of Administrators, Meaning of Technology Leadership, Level of Fulfilment of Technology Leadership by School Administrators, Technology Leadership and Teacher Academic Optimism of Administrators, Technopedagogical and Leadership Competencies of Administrators. The Integration of Technology into Learning Environments, one of the dependent variables, is discussed in two separate theses using a qualitative and a quantitative method and Making Sense of Technology Leadership

is discussed in a thesis using a qualitative method. The study, which deals with the Opinions of Classroom and Branch Teachers' Managers on the Roles of Technology Leadership, was included in the mixed method. It is seen that other dependent variables are considered as quantitative method studies.

Teachers' views against technology leadership perceptions of school administrators stand out as another important variable and constitute approximately 20% of all studies. Teachers' opinions are important in terms of looking at technology leadership from a different perspective and contributing to the literature. Studies on variables such as 'school climate, school success and teachers' attitudes towards technology constitute 10%. It is important to conduct more research on dependent variables such as the effect of technology roles on the level of computer anxiety, technology leadership strategies, technopedagogical competencies of school administrators, and lifelong learning competencies to contribute to the literature.

Table 4. *Independent Variables*

Independent Variables	Thesis Frequency
The Most Used Independent Variables	
Gender	25
Professional Seniority	25
Educational Status (Associate/Undergraduate/Graduate)	19
Branch (Class/ Other)	18
The Least Used Independent Variables	
District of Schools	1
Marital Status of Participants	1
City/District where Managers Serve	1
Type of Faculty from which Participants Graduated (Education/Other)	1

When we examine the distribution of demographic information in the master's and doctoral thesis studies examined, it is seen that the variables of *'gender'* and *'professional seniority'* are mainly questioned. It is seen that variables such as *'education status (associate degree/undergraduate/graduate)'*, *'branch (class/other)'*, *'participant age' and 'school type (primary/secondary school/high school)'*, *'managerial seniority'*, and *'in-service training in IT'* were collected as data in most of the thesis studies. In the distribution of this data collected in these master's and doctoral theses written on technology leadership, it is noteworthy that the 'computer literacy experience' independent variable remained at 10%.

5. The findings of the thesis studies on technology leadership in education on technology leadership

The contributions and effects of the research findings on technology leadership are presented in Table 5.

Table 5: *Contributions of technology leadership*

Examined Features	Contributions/Effects	Thesis Frequency
Self-efficacy Perceptions	It was concluded that technology leadership competencies are high, and perception is positive.	10
Technology Leadership Roles	It has been stated that the positive effects and roles are at a high level in the studies.	8
Teachers' views on technology leadership of school administrators	It has been stated that technological leadership perceptions are high and have a high effect on educational performances.	8
The Relationship Between Technology Leadership Roles of School Administrators and School Management	It has been determined that the level of fulfilling technology leadership roles is high and there is a positive relationship between managerial roles.	2
Attitudes Towards Technology	In general, it has been explained that technology leadership perceptions and attitudes are highly correlated.	2
The Effect of Technology Leaders on the Integration of Technology into Lessons	It has been concluded that it has an indirect positive effect.	2
Technology Leadership Behaviours of Managers	It has been stated that technology leadership behaviours are at a moderate level.	1
School Climate	It was concluded that they showed the relationship between school climate and leadership roles to a large extent.	1

Levels of Realization of Educational Jobs	It has been shown to be highly positive.	1
Computer Anxiety Levels	It was stated that anxiety levels decreased with the increase in support from technology leadership roles.	1
Technology Leadership Level Perceptions of School Administrators and The Level of Effect of Technology Leadership Roles on Teachers' Performance in Educational Studies	It has been concluded that it is highly and positively effective.	1
Lifelong Learning Competencies	A positive correlation was found between technology leadership and lifelong learning.	1
Technology Leadership Strategies and Innovation Management Competencies of Managers	A positive relationship was found.	1
Making sense of Technology Leadership	It is revealed that administrators are role models in the use of technology and that teachers need motivation about technology.	1
Levels of School Administrators' Fulfilment of Technology Leadership	In general, their self-efficacy is high and varies according to seniority and school types.	1
Technology Leadership of Administrators and Teacher Academic Optimism	A positive and moderate relationship was determined.	1
Technopedagogical and Leadership Competencies of Managers	It has been revealed that technopedagogical and leadership competencies are highly positive.	1
The Relationship Between Technology Leadership and Technology Use	It was found to be highly correlated in the positive direction.	1

In the variables of 'technology leadership competencies' and 'role perceptions of technology leadership', which were emphasized in the master's and doctoral thesis studies, it was seen that school administrators' self-efficacy and perceptions of technology leadership were high and positive. According to the attitudes of the teachers, a positive and high relationship was found in the direction of the increase in the academic success and the quality of education in the school in terms of the technology leadership of the administrators. It has been revealed that the integration and management of technology into the school positively affects the school climate and dynamics and reduces the level of computer anxiety. It is seen that the role model behaviours of administrators on technology leadership have a positive and moderate effect on teachers' motivation and academic optimism. In addition, significant differences were determined that the professional seniority of school administrators and school types (primary school / middle school / high school) vary in terms of fulfilling technology leadership. A positive correlation is observed in the perceptions of technology leadership regarding lifelong learning and innovation management competencies. Finally, it has been revealed that there is a positive and high-level relationship between the perceptions of technology leadership and school administrator roles and the level of realization of educational work.

DISCUSSION, CONCLUSION, RECOMMENDATIONS

The results and comments obtained in line with the findings of the study, which classifies the studies on technology leadership of education administrators between the years 2010-2016, are discussed according to each variable in this section.

1) Within the scope of the research, master's and doctoral theses published between 2009-2020 in the field of "Technology Leadership in Education" were examined and the data obtained were discussed in line with each sub-problem in this section. When the distribution of studies by years is examined, it is seen that research on technology leadership has increased in recent years. When the distribution of these studies by years is analyzed in Figure 1, it is stated that the most intensive studies were published in 2019 with a slice of 24%. From these data, it can be interpreted that the concept of *'technology leadership'* is seen as a field of study that has been given more importance in recent years. There is evidence in the literature to support this conclusion. Due to the renewal of NETS-A standards in 2009, an increase is observed in the studies in the field of technology leadership in the literature (Anderson & Dexter, 2005). Öznacar et al. (2020) stated that 2011 was

the year with the highest number of publications in studies on technology leadership, the number of which increased over the years, while, according to Uzunboylu and Beheshti (2017), the studies published in the literature differ from year to year. As a result of the research, Köybaşı (2020) emphasizes that the fact that the studies that increased over the years in technology leadership were at the lowest level in 2016 may be coincidental and may be due to the differences in the acceptance and publication processes of the publications. As a result, it can be said that the studies published on technology leadership have become more important in recent years.

2) The distribution of scientific research methods used in master's and doctoral theses examined within the scope of this research on Technology Leadership in Education is given in Figure 2. In the studies examined, 26 quantitative research methods, 2 qualitative research methods and 1 mixed research method were used. It is seen that 89.6% of these studies preferred the quantitative research method. In the distribution of Büyüktaş & Özçelik's study (2021), it is revealed that the quantitative research method is preferred at a rate of 66% and a qualitative research method at a rate of 29%. They mention that quantitative research methods are frequently preferred in studies in the field of organizational leadership behaviour in Turkey. It can be concluded that the renewed NETS-A standards data form on technology leadership and the availability of data collection scales on the subject encourage researchers to prefer quantitative research methods. Öznacar et al. (2020), on the other hand, reveals that 39% of quantitative research, 35% of mixed research and 26% of qualitative research method are preferred. When the research methods used in the articles that include the opinions of school administrators on technology are analyzed, it is seen that quantitative research methods are preferred at a rate of 39% (Bicen &Demir,2020). The fact that Rovshenov (2020) stated that quantitative research methods were preferred more intensely in his study, in which he examined the articles of school administrators about technology, supports these findings. According to the results of the content analysis conducted by Köybaşı (2020) on technology leadership in education, it is stated that the quantitative research method is preferred more intensely because the research focuses on problems such as technology leadership self-efficacy, perception, and attitude. He also states that qualitative and mixed studies on technology leadership in the literature are quite few compared to quantitative studies. As a result, it can be said that quantitative research methods are preferred more frequently in these studies in the field of technology leadership in the literature. From the findings, it is seen that there are very few studies on technology leadership using qualitative and mixed methods. It is thought that the preference of these methods in future studies will contribute more to the field.

3) When the distribution of the participants of these master's and doctoral theses on technology leadership in education is analyzed as indicated in Figure 3, 52% of the distribution consists of teachers, 24% school administrators (principal/assistant principal) and 24% teachers and administrators. From this distribution, we can conclude that teachers' and school administrators' perceptions of technology leadership is a generally used research problem and that teachers' views on this issue are given importance. In the technology leadership content analysis study conducted by Akın-Mart & Tulunay-Ateş (2021) between the years 2010-2019, it is seen that this distribution is 51.5% for teachers and 48.5% for school administrators. When the distribution of participants in the studies is examined, it can be concluded that the teachers are partially involved more. Looking at the participant ratios in Chang (2002)'s study, it was stated that more studies on teachers were included, which supports these findings.

4) Considering the distribution of dependent variables in master's and doctoral thesis studies on school administrators, *'technology leadership self-efficacy'* (24%), *'role perceptions of technology leadership'* (17%) and *'teachers' views on technology leadership of school administrators'* (% 13) is seen to be shaped in the framework. It is concluded that more than half of the master's and doctoral thesis studies on technology leadership are based on these three dependent variables. When the literature is analyzed Göl & Bülbül (2012), Yalınkılıç (2012), Derbedek (2008), Şimşek et al., (2013), Demirsoy (2016) 's studies, it is concluded that the dependent variables included in the theses are highly dependent variables (Göl & Bülbül, 2012; Yalınkılıç, 2012; Derbedek, 2008; Şimşek et al., 2013; Demirsoy, 2016).

The remaining dependent variables constitute 46% of all dependent variables. *The Integration of Technology into Learning Environments*, one of the dependent variables, is discussed in two theses and *Making Meaning of Technology Leadership* in one thesis. In addition, the variables of *Integration of Technology into Learning Environments and Making Sense of Technology Leadership* are included in qualitative method studies. The study, which deals with the *Opinions of Classroom and Branch Teachers' Managers on the Roles of Technology Leadership,* was included in the mixed method. It is seen that other dependent variables are concentrated in quantitative studies. In the study of Dexter & Richardson (2020), which is a similar study, which they consider as technology integration literature, it is stated that every staff in the school is a fundamental part of a school technology leadership team with the potential to integrate technology into the course content areas, albeit indirectly, especially teachers in this area. has made important contributions.

When we examine the distribution of the data in which demographic information is collected in the master's and doctoral thesis studies examined, we can see in Table 4 that the independent variables of 'gender' and 'professional seniority' are equally questioned. Gender and professional seniority variables constitute 32% of the study. Immediately after, 'Educational status (associate/undergraduate/graduate)', 'branch (class/other)', 'participant age' and 'type of school (primary/secondary/high school)', 'management seniority', 'IT in-service training' The variables 'receive state' follow the order.

Considering the ratio of independent variables, it is thought that the effect of gender on technology leadership arouses curiosity. On the other hand, it makes us think that what kind of effects the managers have on technology leadership according to their seniority according to the years they perform their duties can change the course of the research. When the "self-efficacy perceptions" of school administrators are examined according to independent variables such as *"age, gender, professional seniority, educational status"* within the dependent variable, Gürsel (2020), Dinç (2019), Gençay (2018), Ulukaya (2015), Güven (2015) as in the literature, in which no significant differences are observed according to 2018; Ulukaya, 2015; Güven, 2015; Cantürk & Aksu ,2017).

5) One of the 29 theses included in the study, which includes technology leadership in education, is a doctoral study and the others are graduate studies. It is clearly understood that the subject of technology leadership in education is not adequately addressed in doctoral studies. It is seen that more than half of the thesis studies on technology leadership are shaped around the dependent variables of *'Self-Efficacy on Technology Leadership', 'Role Perceptions on Technology Leadership'* and *'Teacher Views on Technology Leadership of School Administrators'*. When considered in terms of independent variables, 'gender' and 'professional seniority' variables predominate, followed immediately by 'Educational status (associate/undergraduate/graduate)', 'branch (class/other)', 'participant age' and 'school type (primary school/secondary school/high school)', 'management seniority', 'in-service training in IT', and it is seen that data is collected in most of the thesis studies. It can be thought that the dependent variables, which are examined only once, contribute to the literature by explaining what kind of differences they cause in these variables about Technology Leadership. It is thought that the mentioned dependent and independent variables will contribute to the literature in more thesis studies and the increase in the number of doctoral studies (Brunson, 2015). It is predicted that especially the studies in the fields of technology integration will guide the educators who want to take a position in this field in the future (Dexter & Richardson, 2020).

This study consists of the examination and analysis of the thesis studies on technology leadership in YOKTEZ between the years 2009-2020 with the scopping review method. "Technology leadership" is a relatively new area of expertise in the field of technology integration in educational sciences and requires different studies. The gap in the literature should be filled with new studies to be done with qualitative and mixed research methods and especially the theses to be written in the doctoral field. We think that this study will contribute significantly to the literature in terms of new studies on technology leadership.

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APPENDIX-1:

Table 2: *Studies Examined*

Study Number	Author/Year	Study Model	Sample	The Dependent Variable	Thesis Results
1	Sincar, M./2009	Mixed Method	386 Primary School and Branch Teachers	Views of Primary School and Branch Teachers' Managers on the Roles of Technology Leadership	The results of examining the opinions of the stakeholders in the school together with the variables in order for the educational technologies to benefit the school and the students make a positive sense.
2	Sezer,B./2011	Quantitative/Descriptive Survey Model	950 Teachers – 879 School Administrators	Technology Leadership Roles	Technology leadership role levels were higher than the opinions of administrators and teachers. A significant difference was found only with the professional seniority variable.
3	Baş, E. D./2012	Quantitative/Relational Survey Model	545 Teachers	Teachers' Views on the Relationship Between Technology Leadership Roles of Administrators and School Climate	A significant difference was found when the teachers' views were examined over the variables in the technology leadership roles of primary school administrators. It has been stated that they show their technology leadership roles to a large extent.
4	Balaban, N. /2012	Quantitative/Relational Survey Model	80 School Administrators – 620 Teachers	The Relationship between School Administrators' Technology Leadership Roles and Computer Anxiety Levels	It has been stated that there is no relationship between the technology leadership roles of the managers, but the increase in the support roles reduces the level of computer anxiety.
5	Öztaş, A. /2013	Quantitative / Comparative Screening Model	940 Teachers	Determining the Technology Leadership Role Level of Secondary Education Administrators in the Line of Teachers' Opinions	It has been emphasized that the teachers' views and the average technology leadership competencies of school administrators are close to each other, that teachers' opinions should be taken in the effective use of technology in education and that school administrators have technology leadership roles.
6	Hayytov, D. /2013	Quantitative Research/ Descriptive Model	58 Administrators – 408 Teachers	Technology Leadership Efficiency Perceptions of Primary School Administrators and Teachers' Attitudes Towards Technology	It has been stated that school administrators have high technology leadership efficacy perceptions, and there is no significant relationship between teachers' positive and negative attitudes towards technology.

APPENDIX-1:

Table 2: *Studies Examined*

Study Number	Author/Year	Study Model	Sample	The Dependent Variable	Thesis Results
7	Gültekin, F. /2013	Quantitative/General Survey Model	81 Secondary school administrators	Technology Leadership Self-Efficacy Perceptions	It has been stated that the administrators believe in the importance of technology leadership, they do what is necessary to include technology in teaching and learning at school, and there is no difference in technology leadership with independent variables.
8	Ölçek, G. /2014	Quantitative Research/ General Survey Model	431 Teachers - 119 School Principles	Technology Leadership Levels of School Principals	It has been concluded that the leadership level of technology leadership levels is higher than the opinions of the administrators and the opinions of the teachers, and there is no difference when it is considered with independent variables.
9	Beyaz, G. /2014	Quantitative Research/ General Survey Model	360 Teachers	Technology Leadership Behaviours of Managers	According to the teachers' opinions, it was explained that the technology leadership behaviours of the administrators were at a moderate level and there was no difference between the independent variables and the teachers' opinions.
10	Gökoğlu, S. /2014	Qualitative Research	10 Teachers	Evaluation of the Impact of Technology Leaders in the Integration of Technology into Lessons	It has been understood that technology contributes to learning by integrating technology into learning with the help of technology leaders and the importance of technology leaders.
11	Güven, A. /2015	Quantitative/Sectional Survey Model	115 School Administrators	Technology Leadership Competence Perceptions	It was explained that school administrators' perceptions of efficacy were high and there was no significant difference according to independent variables.

APPENDIX-1:

Table 2: *Studies Examined*

Study Number	Author/Year	Study Model	Sample	The Dependent Variable	Thesis Results
12	Ulukaya, F. /2015	Quantitative Research/ Descriptive Model	112 School Administrators	The Relationship Between Technology Leadership Self-Efficacy and Levels of Realization of Educational Jobs	It has been explained that Technology Leadership Self-Efficacy, Technology Leadership Self-Efficacy perceptions of Educational Affairs, and levels of realization of educational work are significantly higher in school types, vocational high school administrators are significantly higher than primary school administrators, and there is no significant difference according to independent variables.
13	Şahin, H. /2015	Quantitative Research/ General Survey Model	545 Teachers	The Relationship Between Technology Leadership Roles of School Administrators and School Management	It was found that the level of fulfilling the roles of Technology Leaders was high, and there were significant differences in the variables of professional seniority and educational status.
14	Irmak, M. /2015	Quantitative Research/ General Survey Model	350 Teachers	School Administrators' Perceptions Regarding Technology Leadership Levels and The Level of Effect of Technology Leadership Roles on Teachers' Performance in Educational Studies	It has been stated that the principals' behaviours in technology leadership are at a medium level, primary school teachers' technology leadership behaviours are at a higher level compared to secondary school teachers, and that administrators' technology leadership behaviours at a high level are highly effective on their educational performance.
15	Gürfidan, H. / 2017	Structural Equation Modeling Quantitative/ Structural Equation Modeling	396 Teachers	Technology Integration	It has been concluded that support services and school culture indirectly affect technology integration.

APPENDIX-1:

Table 2: *Studies Examined*

Study Number	Author/Year	Study Model	Sample	The Dependent Variable	Thesis Results
16	Gürkan, H. / 2017	Quantitative / Correlation and Regression Techniques	150 School Principles	Lifelong Learning Competencies	A positive correlation was found between technology leadership and lifelong learning. It was concluded that raising the lifelong learning competencies of managers is important in terms of their integration into technology.
17	Gençay, A. / 2018	Quantitative Research/ General Survey Model	445 Teachers	Technology Leadership Competencies of Managers	As a result of the quantitative data collected, it was concluded that the managers were able to partially show their technology leadership competency levels. The importance of the improvable features of managers in technology leadership was emphasized.
18	Baybara, M. / 2018	Quantitative Research/ General Survey Model	507 Teachers/ 81 School Administrators	Competences of State and Private School Administrators for Technology Leadership Roles	It has been determined that public school administrators see themselves at a higher level in terms of performing their duties in terms of support, development and evaluation, ethical and safety criteria compared to private school administrators, and there is no significant difference in terms of educational status and seniority variables.
19	Demiraçan, A. / 2019	Quantitative / Relational Survey Model	236 School Administrators working at different levels	Technology Leadership Strategies and Innovation Management Competencies of Managers	A positive relationship was found between school administrators' innovation management beliefs and technology leadership strategies. In this relationship, it was determined that there was a significant difference according to their educational status, professional seniority, and in-service training they received.
20	Efeoğlu, C. / 2019	Quantitative / Relational Survey Model	283 Primary School and Branch Teachers		A positive correlation emerged between school administrators' perceptions of

APPENDIX-1:

Table 2: *Studies Examined*

Study Number	Author/Year	Study Model	Sample	The Dependent Variable	Thesis Results
				Technology Leadership Roles and Attitudes Towards Educational Technologies	technology leadership and teachers' attitudes towards educational technologies.
21	Akıllı, E. / 2019	Quantitative / Relational Survey Model	381 Teachers	Effectiveness of School Administrators and Roles of Technology Leadership	It has been determined that there is a positive relationship between the technology leadership levels of school administrators and effective management.
22	Gölçek, E. / 2019	Qualitative / Phenomenological Research Model	9 CEIT Graduate School Principals	Making sense of Technology Leadership	It has been revealed that administrators are role models in the use of technology, but teachers show resistance to new technologies and lack motivation in this regard.
23	Dinç, H. / 2019	Quantitative/Descriptive Survey Model	149 School Principles 373 Teachers	Technology Leadership Competencies	It has been determined that the visionary leadership perception of male managers, whom managers consider themselves competent in the field of digital citizenship, is higher than female managers.
24	Kurt, İ. / 2019	Quantitative Research/ General Survey Model	360 Teachers	Technology Leadership Competencies of School Administrators	According to the teachers, school administrators' technology leadership competencies views are at a sufficient level. In addition, it has been revealed that school administrators do not differ according to variables such as the type of school they work, gender, age, branch.
25	Teke, S. / 2019	Quantitative Research/ General Survey Model	452 Teachers	Technology Leadership Competencies of School Administrators	According to the teachers, it has been determined that the technology leadership competencies of the administrators are at a medium level and the leadership roles of the administrators differ according to the school type and the graduation degrees of the administrators.

APPENDIX-1:

Table 2: *Studies Examined*

Study Number	Author/Year	Study Model	Sample	The Dependent Variable	Thesis Results
26	Öztaban, A. / 2020	Quantitative/Descriptive Survey Model	392 Teachers	Levels of School Administrators' Fulfilment of Technology Leadership	According to the teachers, the technology leadership self-efficacy of the administrators is generally high, and these perceptions vary according to the seniority and school types of the administrators.
27	Tezel, B. / 2020	Quantitative / Relational Survey Model	544 Teachers	Technology Leadership of Administrators, Teacher Academic Optimism	A moderate and moderate relationship was determined between administrators' perceptions of technological leadership and teachers' academic optimism levels.
28	Çakır, Ö. / 2020	Quantitative Research/ General Survey Model	188 School Administrator – 558 Teachers	Technopedagogical and Leadership Competencies of Managers	According to the teachers, it has been revealed that the technopedagogical competencies of the administrators vary in direct proportion to their seniority and computer usage time.
29	Gürsel, R.S. / 2020	Quantitative / Relational Survey Model	326 School Administrators	The Relationship Between Technology Leadership and Technology Use	It has been determined that the technology leadership perceptions of the managers are at a high level and their attitudes towards media technologies are positively related to media sharing.

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Teachers' Opinions on Teaching Primary Reading and Writing through Distance Education During the Covid-19 Pandemic Period[1]

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ABSTRACT

This study aimed to examine the positive and negative aspects of primary teaching reading and writing through distance education during the Covid-19 Pandemic period from the eyes of primary school 1st-grade teachers. The case study was determined as the method of the study. The participants were ten primary school teachers who teach 1st grades in a primary school located in one of the central districts of Mersin province. A semi-structured interview form was used to obtain data in line with the purpose of the study. The findings showed more negative aspects in teaching reading and writing with distance education. Among the negativities, the most mentioned issue by the participant teachers was the problematic writing of the students. In addition, they also highlighted the situations such as not being able to contact the students, indifference of the parents, not obeying the classroom rules such as unauthorized speaking and raising their hands. According to the opinions of the participants, it was stated that the use of distance education is not suitable for teaching reading and writing skills in general, and face-to-face education is needed for this. The problems encountered in this process are presented under four main headings. These are: "Problems originating from parents, technical problems, problems related to the learning-teaching process, and problems related to the learning environment". In order to overcome the problems faced by the teachers, Trying to involve parents more in the process has been the most used solution.

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INTRODUCTION

Towards the end of 2019, cases of pneumonia of unknown cause were reported in many people in Wuhan, China. At the beginning of January 2020, the World Health Organization (WHO) announced that the pneumonia in question was caused by a new type of Coronavirus. caused pneumonia in question. With the new type of Coronavirus spread of the new type of Coronavirus to other regions in China in a short time and then to the whole world, WHO declared the Covid-19 Pandemic. The calendars showed March 11, 2020, on the day when the first case appeared in Turkey and the Pandemic was declared (TÜBA, 2020). This situation, which we encountered for the first time globally, put countries in a crisis situation. The increasing length of time students stay out of school has led to concerns about learning losses. This has compelled the majority of countries around the world to take urgent measures to continue teaching and prevent potential learning losses. Countries have applied various distance or hybrid education applications to reduce learning losses and eliminate deficiencies in their technological infrastructure and possibilities (TEDMEM, 2020). During this difficult and troubling period that lasted for about two years, schools worldwide were either mostly or partially closed.

The COVID-19 Pandemic has had an almost universal impact on students and teachers around the world, from pre-school and primary to high schools, from technical and vocational education and training (TVET) institutions to adult learning and skills development institutions and even universities, causing the most significant education disruption in history (United Nations, 2020). As Goldstein (2022) points out, for example, children who just started primary school spent months outside of the classroom instead, where they needed to learn the ABC, the alphabet, and how to read and write. Many first and second graders are back in the classroom needing to revise parts of the kindergarten curriculum. However, according to a local survey in December and January, there was a significant gap in learning and teaching in nearly half of public schools, particularly in special education and primary school classrooms.

With the official announcement of the Pandemic in Turkey, face-to-face education was suspended in all schools and universities affiliated with the Ministry of National Education (MoNE), and education and training activities began to be carried out entirely with emergency remote learning. The following academic year, the 2020-2021 academic year, the Ministry of National Education decided to start with an education that combines face-to-face and online education (hybrid education). However, due to the dramatic increase in the number of Coronavirus cases from autumn to winter, it was returned to online education again a few weeks later. In the same education year, in February 2021, face-to-face education was started again. But, a few weeks later, due to the increase in cases, online education was returned, and the year 2020-2021 was mostly completed in the form of emergency remote learning. In 2021-2022, both the decrease in the number of cases and the increase in the vaccination rate allowed face-to-face education to start in schools, and face-to-face education was carried out in this education year.

In the emergency distance education process, MoNE has started distance education activities so that education and training activities are not disrupted, and students are not disconnected from the learning process. For this, first of all, by structuring the television version of the platform that serves teachers and students in the digital environment under the name of Education Informatics Network (EBA), it has been tried to reach students through television in primary, secondary, and high school levels (MEB, 2020). In the following process, the practice of conducting distance education activities through a live meeting program on EBA through simultaneous (live) lessons was started, based on limitations such as the difficulty of watching television broadcasts by students, the lack of teacher-student interaction and the inability to perform feedback-correction processes. Due to the sudden start of the distance education process and the fact that both teachers and students were caught unprepared for this process, there were some serious problems in the online courses, especially at first.

In this process, various important problems or limitations were encountered, including some

students' internet access and connection problems, students' inability to attend courses adequately, and parents' inexperience in distance education (Kızıltaş & Özdemir, 2021; Ülker, 2021; Saygı, 2021). In addition, the inability of parents to provide adequate support to their children in this process, the financial impossibilities of parents, teachers' inability to use live lesson programs and other digital teaching resources effectively, the interruption of the learning-teaching process, the inability to perform measurement and evaluation activities reliably and effectively were other important problems. In the next period, the problems experienced at the beginning of the distance education application tended to decrease partially with the more systematic and professional management of the process by the Ministry of National Education, as well as the experience of teachers in using digital programs applications and environments.

Of course, in this process, students and teachers at all levels of education, from pre-school to university, faced various difficulties, problems, and negative situations. While unique problems are observed at each education and class level, it can be said that those who are most affected by this process are undoubtedly primary school 1st-grade students and teachers. As reported by D'Souza (2021), the Pandemic has touched many students with increased stress, interruptions, and distance learning barriers, but experts have stated that the biggest impact may be on the youngest students who are in the first years of learning to read. Perhaps the foremost reason for this is that this student group must learn their reading and writing skills in the first grade of primary school.

COVID-19 has caused significant disruptions to the global education system. Initial investigations into the first wave of lockdowns and school closures revealed significant learning loss in several countries. A more recent and comprehensive analysis of the evidence of recorded learning loss documented since the start of school closures between March 2020 and March 2022 finds even more evidence of learning loss. The findings of studies conducted during this period confirm that learning loss is real and significant even compared to the first year of the Pandemic (Patrinos, Vegas & Carter-Rau, 2022). In these studies, on teaching reading and writing and students' learning losses on this subject during the pandemic period, it has been reported that there are significant regressions or losses in the reading and writing skills and academic success of the students compared to the pre-Pandemic period. For example, in December 2020, Northwest Evaluation Association (NWEA) research team published a report outlining how students are progressing academically in the early phase of the COVID-19 Pandemic, as measured by the NWEA MAP® Growth™ assessment. According to the findings, an average of 3-6% decreases were observed in the reading achievement of the students in the 3rd-8th grades in the sample group compared to the previous academic year, 2019-2020 (Lewis & Kuhfeld, 2021). In another study conducted in the USA, in the pre-pandemic period, 19% of primary school 2nd-grade students started two grades behind in terms of reading skills, while the rate of students lagging behind due to the epidemic increased to 25%. This study shows that school closures due to COVID-19 also negatively affect students' readiness for the next grade level (TEDMEM, 2021). In a study by The United Nations Educational, Scientific and Cultural Organization **(**UNESCO), the number of children who lacked basic reading skills was on a downward curve before the Pandemic, and this number was expected to fall from 483 million to 460 million in 2020. However, the number of children in distress due to the Pandemic jumped to 584 million in 2020, increasing by more than 20%, destroying the gains made by education efforts over the past two decades (UNESCO, 2021). The results of a study conducted with a total of 4,290 students in the 9-10 age group in 111 primary schools in Germany showed that there was a significant decrease in the average reading success of students during the Covid-19 Pandemic period (Ludewig, Kleinkorres, Schaufelberger & McElvany, 2022).

Primary school is undoubtedly a period in which individuals acquire basic knowledge, skills, habits, and competencies that they will use throughout their education life and even their professional life. In this respect, it can be said that primary school is a more important place than other education levels. Sağırlı (2019) also drew attention to this and stated that primary school has a different place,

function, and importance in the entire education system, affecting all education levels. He also emphasized that the most important stage of the primary school period that should be emphasized is the first grade process of primary school, which is probably the beginning of the transition from the family environment to a completely different environment the first time. In this process and at the grade level, the primary applications of the learning-teaching process come first, and the first reading and writing activities are the first learning experience in the lives of the children in this class. Akyol and Temur (2008) similarly emphasized that primary school has a major role in the acquisition and development of reading and writing skills and stated that primary school is the institution that first encounters students who have problems in this regard, works with them or directs them to relevant places. Besides, since school is the environment where students spend the most time after their families, it can be said that classroom teachers are the most influential people after families. On the other hand, as Akyol (2011) emphasized, primary school is a process in which students acquire and develop skills such as not only being able to read and write but also using Turkish correctly, effectively and beautifully, solving problems, communicating and making decisions.

Since this study focuses on teaching reading and writing through distance education during the pandemic period, it would be appropriate to briefly examine the concepts of reading and writing. The concept of reading is defined as "*reading and recitation*" in “Current Turkish Dictionary” published by Turkish Language Institution (TDK, 2022). Akyol (2011), on the other hand, defined it as "*the process of constructing meaning, based on the communication between the author and the reader, with preliminary information, carried out with an appropriate method and purpose*”. According to Güneş (2009), “reading is based on two basic skills: word recognition and comprehension. Word recognition is the most important and difficult stage of the reading process. Reading is the process of giving meaning to the written text, and effective primary reading education enables children to become good readers who understand what they read, can apply their knowledge and skills to new situations, and have a strong desire for reading (Ontorio, 2003, cited in Bay, 2021). As for the concept of writing, it can be defined as “*expressing feelings and thoughts by producing/using some necessary symbols or signs*” (Akyol, 2011; Yılar, 2019). A significant part of the studies in the learning and teaching processes at school is based on writing. Writing is the most basic activity that enables school-age children to create a readable product at an appropriate time to express their feelings and thoughts. Writing is a complex activity consisting of cognitive, kinesthetic and perceptual-motor components (As cited in Yıldız, 2013).

The first reading and writing activities are carried out within the scope of the Turkish curriculum in primary school. Outcomes in the Turkish Curriculum; are grouped as “listening/watching, speaking, reading and writing skills” and are taught accordingly. First, reading and writing have an important place in the Turkish curriculum. It was stated that “Sound Based Primary Reading and Writing Teaching” was adopted in the program and that the first literacy teaching was carried out with upright basic letters without quotation marks, and that the initial reading writing teaching was not limited to basic reading and writing skills. According to the Turkish curriculum, primary reading and writing teaching has an important role in developing mental skills such as thinking, understanding, sequencing, classification, questioning, relating, analysis, synthesis and evaluation. In this context, primary reading and writing teaching is aimed at which the skills to use Turkish correctly, beautifully and effectively are acquired (MEB, 2019).

The reason why primary school education is very important in the lives of individuals is that qualified reading and writing skills are acquired in this period and this has a permanent effect on the rest of their lives. As Babayiğit and Erkuş (2017) stated, the first reading and writing teaching is of vital importance for the future education and life of the individual. Well-founded reading and writing skills are effective and very useful in the future. As a result of mistakes or deficiencies made during this period, both the reading and writing skills of the student and their attitude towards them can be

negatively affected. On the other hand, the most failures among classes are generally seen in the first grades of primary school, and the area where students have the most difficulty and fail is literacy (Sağırlı, 2019). Savolainen, Ahonen, Aro, Tolvanen and Holopainen (2008) reported that according to the findings of various studies on this subject, students who have difficulty or fail in reading and writing in the early stages of education have low academic achievement. These students are also less likely to continue and graduate from secondary and post-secondary education, and they graduate with lower qualifications. Besides they have a more negative attitude towards school and a lower academic self-concept. In this respect, face-to-face education and training processes are very important in order for the first reading and writing teaching to be taught effectively by teachers and to be learned by students as well. In this learning and teaching process, the teacher teaches students both reading and activities based on the active participation. In addition, as Güneş (2009) pointed out, the teacher has a very important role in the success of the first reading and writing teaching. In this process, the teacher needs to deal with students one-on-one, correct their mistakes, give accurate and timely feedback to students, and manage the process in the most effective way by communicating effectively with parents.

Despite the fact that face-to-face education has a very important place in the learning and teaching of the primary school period, which forms the basis of both individuals' future learning experiences and education systems, and more specifically, reading and writing skills, due to the interruption of education in schools and the transition to distance education due to the Covid-19 Pandemic, primary school 1st-grade students had to learn their first reading and writing skills, as well as the knowledge and skills in other courses, through distance online teaching environments and tools. By reason of pandemic conditions that suddenly emerged with the whole world, education and training activities in Turkey have been switched to distance education urgently and compulsory. In this way, despite some problems and setbacks, it aims to prevent students from being disconnected from the lessons and learning process.

In this context, it is necessary to dwell on the concept of distance education. Distance education, as stated by Yalın (2015), is an instructional system in which the teacher and student(s) who are physically in separate places interact with a large number of teaching materials and methods (computer, internet, television, written and visual materials, pictures, videos etc.). or perform learning and teaching activities. According to Simonson (2009, 2010), it is an institutional-based, formal education type where the learning group (learners) is in different places and interactive telecommunication systems are used to connect learners, resources and instructors (As cited by Simonson, Smaldino and Zvacek, 2015: 31). Educators can conduct distance education courses synchronously (simultaneously) or asynchronously. In the synchronous lesson, students and the instructor can communicate with each other life in the virtual classroom environment (Serçemeli & Kurnaz, 2020: 42). Asynchronous learning and teaching activities, on the other hand, are the distance education type in which the students watch the videos previously taken by the teacher/instructor whenever and wherever they want (Turan, 2019) and the lessons are not taught live. Asynchronous teaching materials include online resources such as books, other written materials, documents uploaded on the web and made available to students, videos, various visuals and images, forums, tests, exams etc.

Distance education, which suddenly entered our lives, is not a new concept. This contemporary education model, whose history goes back as far as 150 years, was initially published in books, magazines, brochures, lecture notes, etc. While it was applied with written materials, large masses were reached through radio and television broadcasts in the following years. Since the 1990s, distance education activities have gained a different dimension by using it in an integrated way with the computer, with the emergence of the internet and its rapid spread worldwide. For nearly 20 years, online distance education systems have been widely applied, first in adult education and then at the university level, over the internet. However, in recent years, it has been seen that distance education has been used in both formal and non-formal education processes at primary and higher levels.

Due to the Covid-19 Pandemic, the compulsory implementation of distance education in all schools from primary school to university level since March 2020 has brought up the quality of the distance education activities, the current situation, the problems encountered, and how to overcome them. In this context, this study was carried out in order to seek answers to the questions of how the first reading and writing teaching, which should be done through face-to-face education in the most effective way, is done through distance education, and what are the problems encountered in this process and what are the solutions. Therefore, these questions also constitute the main problem statement of this study. Accordingly, it is expected that the findings of this study are important in terms of giving answers to the above questions and will also give ideas to all primary school teachers, especially the teachers who teach the 1st grade and other educators who are interested in the subject, and parents.

METHOD

Model of the Study

This study, which aims to examine how the first reading and writing teaching is carried out through distance education, was designed according to the qualitative model. The "case study" method was determined as the method of the study. The case study is a method frequently used by researchers because it is a method that allows for in-depth data collection and is preferred to collect data in a qualitative way. According to Yin (1984, as cited in Merriam, 2013: 40), "*a case study is an empirical qualitative research design that examines a current phenomenon with its real-life context (especially if the boundaries between the phenomenon and the context are not clear)"*. The situation examined in this study was determined as the first reading and writing teaching practices carried out through distance education during the Covid-19 Pandemic period.

The Study Group

Participants are 10 first-grade primary school teachers who teach in a primary school in one of the central districts of Mersin province. Participants are between the ages of 27-51, 6 of them are women, and 4 of them are men. Volunteering was taken as a basis while interviewing the participants.

Table 1. Demographic Characteristics of the Participants

Gender	Age	Seniority
Female	42	20
Male	36	11
Female	36	14
Female	32	11
Female	27	14
Female	35	13
Female	50	24
Male	40	15
Male	32	10
Male	51	31

Data Collection

A personal information form was used to collect the demographic information of the teachers participating in the study, and a semi-structured interview form was used to determine the teachers' opinions about the first reading and writing teaching examined in the study. According to Yıldırım and Şimşek (2018), in semi-structured interviews, the researcher has the opportunity to both ask pre-prepared questions and ask additional questions in order to get more detailed information about these questions by staying true to the subject or areas that he has prepared in advance. Another advantage of the semi-structured interview is its flexibility. The researcher can change the order and structure of the

questions during the interview and can go deeper with new questions at the points he deems important.

In the process of developing the interview form, firstly, the relevant literature was examined. The questions in the draft interview form were prepared by the researchers, and the opinions of two instructors, who were determined as experts for content validity, were sought. Some minor changes and corrections were made to the questions, taking into account the experts' opinions on the suggestions for additions, deletions, and corrections on the form. The percentage of consensus among the expert opinions was calculated using the Miles and Huberman formula (Consensus / Difference of Opinion + Consensus * 100), and the percentage of consensus was around 90%. The questions in the interview form were then directed to two teachers for pre-application. The teachers who made the pilot application stated that the questions in the interview form were very clear and understandable. Accordingly, it can be said that the content validity and application reliability of the interview form is high. After these procedures, the interview form was applied to the teachers who voluntarily agreed to participate in the study's sample group in the second semester (in March) of the 2020-2021 academic year. Due to the risk of face-to-face meetings due to the Pandemic, the interviews were held remotely through one of the online meeting programs and lasted between 10 and 20 minutes.

Analysis of Data

In the data analysis, the "descriptive analysis" technique, which is frequently used in qualitative studies, was used. According to Şahin (2017: 190), descriptive analysis; "*is a type of qualitative analysis based on summarizing and presenting the collected data according to predetermined themes*". In this analysis, direct quotations are frequently used to reflect the views of the individuals interviewed or observed strikingly. As a result of the analysis made in this study, codes were extracted from the answers given by the teachers, and themes were created according to these codes. These codes and themes formed the study's main findings, and each finding title was created according to the questions in the interview form. The findings were described in summary form, and then the teachers' views on the subject were given as direct quotations. The purpose of including direct quotations in the findings section is to ensure the transferability of the data and thus increase the reliability of the study.

FINDINGS

The findings obtained as a result of the analysis of the answers given by the 1st-grade teachers who constituted the study participants to the questions in the interview form are described and interpreted in this section, and the views of some participants are presented as direct quotations.

1. Findings Concerning the Opinions on Teaching Reading and Writing Through Distance Education (Online/Online) During the Pandemic Period

Table 2*. Opinions of participants on teaching the first reading and writing through distance education during the pandemic period*

Positive aspects	**Negative aspects**
Presenting visual materials (f:3)	*Problematic student writings* (f:5)
Parents' involvement with their children (f:3)	*Not being able to contact students* (f:5)
Using interactive games (f:2)	*Parents' indifference* (f:2)
Using technological tools	*Classroom rules* (f:2)
Using Web 2 tools	Notebook use (f:2)
	Inability to concretize the topics
	Inability to follow eye splatter
	Difficulty controlling the lesson

	Lack of motivation
	Teachers' distraction

As seen in the table above, when the opinions of the participating teachers are examined, it is seen that the negative aspects of the first reading and writing teaching through distance education are emphasized more during the pandemic period. The most stated negative aspects are *"problematic student writings* (f:5), *not being able to contact students* (f:5), *parents' indifference* (f:2), *classroom rules* (f:2), and *notebook use* (f:2)". Apart from these, the participants stated that they had difficulty controlling the students, their motivation was low, and they were distracted by the factors at home (such as children and housework) during the live lesson. On the other hand, the situations that teachers consider positive in this process are expressed as "*presentation of visual materials in online education processes, interactive games, parents' one-to-one care with children, use of interactive games, use of technological/digital tools and use of web 2.0 tools*".

The opinions of two participants on this issue are given below in direct quotation:

"At this time, when we started face-to-face education, we see that there is no writing; children write backward and between the wrong lines. Some even write unreadable texts. There are also good writers, of course, but it is seen that reading is a bit, but writing is not fully taught in distance education."

"On the subject of reading, we can say that most of those whose family is concerned to have switched to reading, and I can even say that there is no student in my class who attends live classes regularly but does not switch to reading and writing. On the positive side, it has become easier to reflect the information in the unlimited environment of the internet to the students."

2. Findings Regarding the Opinions on the Problems Encountered in the Initial Reading and Writing Teaching Process as Distance Online Education

Two participants stated that they did not experience significant problems in teaching reading and writing in distance education. According to the answers the other participants gave, 4 (four) themes of the codes emerged. It is seen that there are "*problems originating from parents, technical problems, problems related to the learning-teaching process, and problems related to the learning environment*".

Table 3. *Problems encountered by participants in the process of initial reading and writing teaching with distance education*

Problems with parents	**Technical problems**	**Problems related to the learning-teaching process**	**Problems related to the learning environment**
Parents' intervention in the lesson (f:4)	The problem in entering the lesson (f:5)	Errors in writing (f:5)	Having the television on (f:2)
Parents constantly texting (f:2)	Not everyone can participate (f:4)	Some students do not want to attend class	Other children attending a live lesson in the same room
Witnessing the daily life of families (f:2)		Making sounds	Inappropriateness for peer teaching
Teaching students by placing vowels next to consonants		Homework check	
Failure to send homework to the teacher		Feedback and correction	

According to the findings, the participants emphasized that there were mostly parent-related problems in the first reading and writing teaching with distance education. Teachers expressed the following views on this issue. "*Parents interfere with the lesson*" (f:4), "*they send too many messages on the same subject*" (f:2) and "*daily lives of parents are reflected on the screen*" (f:2)". Apart from this, the most common technical issues are "*problems in entering live lessons"* (f:5) and "*not every student can attend the lesson*" (f:5). The most important of the problems related to the learning-teaching process was expressed as "*the students' writings are not correct"* (f:5). In addition, it was stated that there were problems in the "*feedback-correction*". Problems such as

"*the TV being on*" and "the fact that "*other children attend the life lesson in the same room cause noise*" were mentioned as problems related to the teaching environment.

Two participant teachers' opinions are as follows:

"For example, we could not control the spelling of sounds. Now I see that he writes according to his head and it is difficult to change it after this time. They make different sounds, instead of saying sh, he just wrote an umbrella when he should have written it wrongly."

"The issue I complained about the most was the parents. Although I have warned them many times during the lesson, they are still in that environment, and the classroom environment is private for the student and the teacher. You feel like you have been invaded. Sometimes the TV was on, and the boy was watching TV in that room with one eye on me and the other on me. I had a lot of trouble with this."

3. Findings Concerning the Opinions of Participating Teachers on How They Overcome the Problems Encountered

The findings of the answers given to the question "What do you do to solve or overcome the problems you encounter in this process?" directed to the participants are presented in Table 4.

Table 4. *Views of teachers on how they overcome the problems encountered*

Solutions for problems related to the learning-teaching process	**Solutions for technical problems**	**Solutions for problems arising from parents and related to the learning environment**
Involving families more in the process (f:5)	Delivering homework to students who cannot attend	Meeting with parent (f:4)
Correcting the deficiencies when switching to face-to-face training (f:3)	Do not invite the student to your home	
Inviting children to school, meeting face to face (f:3)		
Increasing control (f:2)		
Divide the class into groups (f:2)		
Applying methods such as flipped learning		
Informing parents about literacy teaching		

As can be seen in table 4, the most important problems faced by the participating teachers were the situations related to the learning-teaching process, and in order to overcome the problems in this regard, solutions were mostly tried to be produced as "encouraging families/parents to be more involved in the process", while "face-to-face" It was also stated that solution suggestions such as correcting mistakes and mistakes when starting education", "inviting children to school and meeting face to face", "increasing control in online lessons", "using flipped learning method" and "dividing the class into groups" were put into practice. On the other hand, it was observed that the participants mostly preferred to "talk to the parents" for the problems caused by the parents. In addition, it was stated that teachers tried to solve the technical problems they experienced in this process, such as "delivering homework to students who could not attend" and "informing the student by calling their home or giving homework and documents".

The opinions of two participants are given below in direct quotation:

"... when I told other groups to write, they said that they had no problems. But on the way back, we knitted that there were problems in all classes. I tried to control it constantly, I tried to control it, but I still think that it is not effective. Because I think that it cannot be done without holding the child's hand and following his writing, which did not happen anyway."

"... I was in contact with the parents, sometimes they sent their notebooks, but actually I am doing the main editing now in hybrid education. Because the support of parents is very important in every field of education, especially in the first grade, I always say that teachers, students, and parents are like a pillar.

If there is no parent, the student will fall behind because…"

4. Findings of the Opinions of the Participants on the Advantages and Disadvantages of Reading and Writing Teaching Through Distance Education Compared to Face-to-Face Education

The findings of the answers given to the question "What do you think are the advantages and disadvantages of literacy education through distance education compared to face-to-face education?" directed to the participants are presented in Table 5.

Table 5*. Opinions on the advantages and disadvantages of literacy teaching through distance education* compared to face-to-face education

Advantages	**Disadvantages**
Easy presentation of visual materials (f:4) (f:4)	Parents being with the student (f:3)
Parents being with the student (f:3)	Experiencing technical problems (f:2)
Increasing technological literacy (f:3)	Lesson planning is more difficult
Easy classroom management	Houses are not suitable for education
Increasing students' learning responsibilities	Too much screen exposure
Providing flexibility	Not every student can attend class
Saving time	Difficult to communicate
	Not as serious as face-to-face training
	Less effective teaching

According to the opinions of the participating teachers, the most advantageous point of teaching reading and writing through distance education was stated as "the ease of presentation of visual materials (f:4)". In addition, other issues that are seen as an advantage are expressed as "the distance education process increases technological literacy (f: 3)" and "the presence of parents with the student (f: 3)". On the other hand, the most important issue seen as negative or disadvantageous by the participants was stated as "parents being with the students (f:3)". The point that draws attention in this regard is that while this opinion was evaluated positively by three teachers, other three teachers considered it a disadvantage for parents to be in the same environment with the students during the lesson. Apart from this view, other situations that participant teachers consider as disadvantages are as follows; "Experiencing technical problems", "lesson planning is more difficult than face-to-face education", "students' home are not suitable for education", "students are exposed to too many screens", "not every student can attend the lesson".

Two participants' opinions are as follows:

"The advantageous aspects were very few, in fact, it was good in terms of video and sound in terms of visual materials, other than that, there were too many disadvantages, for example, their home was not an educational environment. They had internet problems because families were more interested, they gave the wrong things, it was harder to block back, which is more difficult to fix."

"In general, the most advantageous aspect is the use of web 2.0 tools, technology, students' self-confidence and their own responsibility skills. The child goes to his own computer in the morning. He sends a message to see if the lesson has started. That was its biggest advantage. Positive use of technology. The downside is the inequality of opportunity."

5. Findings Regarding the Opinions on the Appropriateness of Teaching Reading and Writing Through Distance Education

Considering the opinions on the question of "whether it is appropriate to conduct distance education for the first reading and writing teaching,"; While four teachers think that distance education is not suitable at all for primary reading and writing teaching, one is partially suitable, one is suitable because of necessity, the remaining four teachers believe that hybrid education is more appropriate.

The opinions of two of the participants are given below:

"Distance education is definitely not suitable, but our experience has given us hybrid education, I think hybrid education is more suitable not only in teaching reading and writing, but in almost all courses at all levels."

"Face-to-face education is necessary for teaching writing, but distance education can be done in compulsory situations in teaching reading."

6. Findings Concerning the Suggestions for Distance Education and Literacy Teaching Effectively and in Line with the Purposes of the Curriculum

Table 6 shows the suggestions of participant teachers for the effective implementation of reading and writing teaching through distance education.

Table 6. *Suggestions for distance education and literacy teaching effectively and in line with the purposes of the curriculum*

Recommendations for teachers	General recommendations	Recommendations for the learning and	Advice for parents
Involving families in the process (f:5)	Ensuring equal opportunities for students (f:5)	Making digital games or using ready-made ones (f:4)	Ensuring that the student is alone during the lesson
Increasing the technological literacy of teachers (f:3)	The curriculum should be integrated into distance education (f:3)	Teachers must enter the lesson prepared (f:2)	Encouraging students to actively participate in the lesson
Caring about participation and following it (f:2)	Hybrid education should be applied (f:2)	Using methods such as flipped learning (f:2)	To draw attention to the importance of pre-school education
Checking homework	Providing teachers with professional development opportunities related to	Using interactive activities	
Collaboration of the teacher groups	Providing flexibility to the teacher		
Getting a drawing tablet	Reducing the total number of lessons		
	Reducing lesson time		

When the answers given by the participants of the study were examined; It was seen that the opinions presented as suggestions constituted four (4) themes. These are: "recommendations for teachers", "recommendations for the learning and teaching process", "suggestions for parents," and "general recommendations". In these themes, it is seen that the suggestions for teachers come to the fore the most. The most striking issue in the suggestions made for teachers was the idea of "involving parents in the distance education process (f:5)". In addition, the participants also attach importance to "the increase in the technological literacy of the teachers (f: 3)" and that "the students should care about and follow the issue of participation".

The most emphasized subject in the suggestions regarding the learning and teaching process was "teachers creating digital games in distance education courses or using existing games (f:4)". In addition, it was suggested to the participants that "teachers must come prepared for the lesson (f:2)", "methods such as flipped

classroom can be used in this process," and "interactive activities should also be used".

Under the theme of "recommendations for parents", which is among the suggestions of the participating teachers, it was emphasized that "students should stay alone in the room during the distance education lesson", "ensuring their participation in the lesson," and "the importance of pre-school education". The participant, who expressed his opinion on the last suggestion, underlined that "students who receive pre-school education are more successful in learning literacy skills both in distance education and face-to-face education, and suggested that parents should send students to pre-school education".

Among the suggestions made under the general suggestions title, the most expressed were "providing equal opportunities for students (f:5)", "integrating the curriculum with distance education (f: 3)", "implementing hybrid education (f: 2)", Suggestions such as "reducing the teaching hours", "giving flexibility to the teachers", "reducing the lesson time" and "providing the necessary professional development activities to the teachers" were also put forward.

The opinion of two participating teachers on this issue are as follows:

"For example, we applied the flipped learning method, I was already doing similar studies before for support purposes, but we were not doing it fully. They must send a video, send an interesting song, and if they can prepare games with web-two tools, they attract the attention of children and they both play and learn."

"Teachers need to use technology very well. We have colleagues who do not know or want to learn about Zoom, I think they should improve themselves. There are things I do not know, too; children know more than us. My advice to my colleagues is that they learn from the child as well."

CONCLUSION, DISCUSSION AND RECOMMENDATIONS

It is known that basic literacy skills form the basis of cognitive, social and language development. Individuals learn by reading and writing and improve themselves in this way. In this long and demanding effortful process, initial reading and writing education not only increases language skills, but also cognitive skills such as thinking, understanding, research, questioning, and evaluation. Innate intelligence does not mean that individuals will have high mental abilities. Accordingly, it can be said that it is quite difficult to develop language and cognitive skills without quality education. For this reason, it is aimed to teach children to read and write from an early age, to develop basic skills, to continue learning throughout their lives, and to shape their future (Güneş, 2021). Reading and writing are very important skills in the success of the individual both in his social life and in his school life. Acquiring this skill properly begins in the first grade of primary education; the use and development of the skill continues throughout life (Akyol & Temur, 2008). The fact that such important reading and writing skills have been taught online for about 1.5 years since March 2020 due to the Covid-19 Pandemic has brought to mind the question of whether the students have acquired these skills at the expected level and whether the teachers have been able to perform the necessary teaching. In this context, this study was carried out to reveal how distance reading and writing teaching is done during the pandemic period, the current situation, problems, and solution suggestions based on teacher opinions.

The findings obtained as a result of the teachers' opinions in the study showed that although there are positive aspects regarding the first literacy teaching with distance education, the negative aspects are. Among the negativities, the most mentioned issue was "problematic writing of the students". In contrast, situations such as "not being able to contact the students", "indifference of the parents", "not obeying the classroom rules such as speaking without permission and raising a finger", "lack of motivation" were highlighted. Findings similar to this one were found in the related literature. The findings of the study conducted by Akın Köstereliоğlu and Kaya Durna (2021) illustrated that teachers have both positive and negative perspectives on distance education applied during the pandemic process. The main problems experienced by teachers are internet connection problems, students' lack of devices, and students insufficient participation. In the study of Başaran, Doğan, Karaoğlu, and Şahin (2020), the negative points according to the opinions of teachers regarding distance education are: “Limited interaction, students cannot actively participate in the lesson, distance education is not suitable for individual differences, there are problems in entering the lesson due to technical problems”. In another study with similar findings on this issue, Özdoğan and Berkant (2020) sought the opinions of Provincial Directorate of National Education officials, school administrators, teachers, school psychological counselors, faculty members, students, and parents as stakeholders of distance education during the pandemic period.

According to the opinions of the stakeholders, among the disadvantages of distance education are stated as "low motivation of students, insufficient measurement and evaluation, inadequacy of resources and devices such as internet and computers, inequality of opportunity in education, insufficient communication and interaction between students and teachers, technical problems and disruptions, the process creating an obstacle to the socialization of students and being caught unprepared for the distance education process".

While the positive aspects of teaching reading and writing through distance education by the participating teachers were mostly "the ease of presentation of visual materials" came to the fore, as well as "parents' more one-on-one attention to their children in this process", "use of interactive games", "using technological or digital tools" and "using web 2 tools" were also stated. According to the findings of the study conducted by Özdoğan and Berkant (2020), the views of the participating teachers on the advantages of distance education include "the fact that it is mostly independent of time and place, the lessons can be watched many times, the need for education can be met with distance education during the pandemic period, it helps to protect against the transmission of the disease, technology is in education. There were positive opinions such as the importance of technology and the development of technological skills. In the study of İncetaş and Kaf (2022), teachers generally saw the advantages of distance education as "access to students, technology-supported education, and the development of students' technology use skills".

In the study, the problems encountered in the teaching of reading and writing in the distance education process are presented under four main headings. These were: "Problems originating from parents, technical problems, problems related to the learning-teaching process, and problems related to the learning environment". The participants claimed that within the scope of "parent-related" problems, especially "parents are involved in the lesson". In addition, it was stated that "students or parents keep teachers busy by sending too many messages on the same subject" and "reflection of parents' daily lives on the screen causes discomfort". In addition, "technical problems" experienced during this process, "problems in entering live classes," and "not every student can attend the lesson" were emphasized. Among the problems experienced in the learning-teaching process, the most important one is "the students' writings are not correct". Within the scope of the problem related to the learning environment, attention was drawn to the problems of "the television being on at home/in the room" and "other children participating in the live lesson in the same room and this causing noise". In the study of Orhan and Beyhan (2020), the most important problems experienced by participating teachers in the distance education process in the Covid-19 period are as follows: "The ineffectiveness of distance education, ineffective communication with students, ineffective classroom management, inability to make eye contact with students, not getting feedback from students, it is not possible to learn by doing and experiencing. In the study by Vasiliki, Dimitrios, and Mano (2021), the biggest difficulty that the participating teachers faced in the distance education process were the difficulties in communicating with their students.

Another issue discussed in the study and included among the findings is how the participating teachers overcome the problems they encounter or produce solutions. According to the findings, the solution that teachers used the most in this regard was to try to involve parents more in the process. Indeed, perhaps one of the most important factors in the learning and motivation of students in the distance education processes carried out under pandemic conditions is parental support. In this respect, it is a very correct approach for teachers to try to solve problems by involving parents in the process and communicating with them closely. Apart from this, it is noteworthy that teachers resort to ways such as making up for deficiencies and correcting mistakes, calling children to school and meeting face-to-face, increasing control in online lessons, and dividing the class into groups in order to overcome the problems when face-to-face education is started. While it was seen that the participants preferred to talk to the parents the most for the problems caused by the parents, it was seen that they tried to find a solution in order to solve the technical problems experienced in this process, such as delivering homework to the students who could not attend, informing the students by calling them to their own home, or giving homework and documents.

The advantages and disadvantages of teaching reading and writing through distance education are also among the findings of this study. According to the opinions of the participants, the ease of presentation of visual materials in distance education courses was considered the most advantageous situation. One of the skills the distance education process, which was put into practice out of necessity, gained teachers was accessing digital resources and using them and other visual teaching materials effectively in their lessons. This situation is very important in making the learning and teaching activities more effective and enjoyable, as well as enabling the students to learn more concretely and permanently. In addition, the other aspects that the participants saw as an advantage in the distance education process were that the distance education process increased technological literacy, parents were next to the students, as well as providing flexibility in the teaching process and increasing

the learning responsibilities of the students, as one teacher said.

On the other hand, it was seen that the most disadvantageous issue in the distance education process by the participating teachers was the situation of the parents being with the students. Three teachers considered it a positive situation for parents to be with their children, both during live lessons and during other learning-teaching activities. In comparison, it was considered a disadvantage by the other three teachers. As the participant teachers mentioned, it is very important for parents to support their children's education. Parental support plays an important role in reducing students' failures in lessons, building self-confidence, and increasing their attitudes towards school and lessons. However, in the distance education and teaching activities carried out at home, it is necessary for the parents to be involved in the process (class), especially during the live lessons, to do the homework of their students, and deal with various things in the room where the student is teaching. situations, on the other hand, are negative situations that disrupt the harmony of the learning-teaching process and interrupt the process. Apart from this view, other situations that participant teachers see as negative; are the planning of the lesson is more difficult than face-to-face education, the houses are not suitable for education, technical problems are experienced, students are exposed to too many screens, not every student can attend the lesson, etc. identified as disadvantages. It can be said that the above-mentioned disadvantages are especially evident in student groups with various socio-economic disadvantages. As Warschauer (2021) highlights, the digital divide has come into sharp focus during the Pandemic. The sudden transition to a virtual space has been overwhelming for everyone, but unfair internet access and lack of computers have made it nearly impossible for some students to interact and learn remotely. Those with special needs and those learning language skills had a hard time getting the services they needed (Cited in Harriman, 2021). In this context, it can be said that face-to-face education and training processes are very important so that basic knowledge and skills, especially the first reading and writing teaching, can be taught effectively by teachers and learned by students.

Another result obtained from the study is the opinions about whether distance education is suitable for literacy teaching. According to the participants' opinions, it was determined that the use of distance education in the teaching of reading and writing skills is not generally appropriate. Participants expressed different views on this issue and emphasized the importance of face-to-face education in teaching reading and writing. In this regard, 4 (four) teachers stated that distance education is not suitable at all for teaching literacy, 1 (one) teacher is partially suitable, 1 (one) teacher is useful as a necessity, 4 (four) teachers say that hybrid education is more appropriate has suggested. In fact, teacher guidance is very important in both reading and writing teaching so that children can learn better, the teacher can give their mistakes and deficiencies feedback, and they can read and write better. For example, it is obligatory for the teacher to provide feedback and corrections for children to read letters, syllables, and words correctly and to write letters and words correctly and perfectly. The environment where this guidance is best provided is undoubtedly the classrooms where face-to-face education takes place. Therefore, it can be said that face-to-face education is a must in the teaching of skill-based subjects and acquisitions such as reading and writing, except for mandatory conditions such as the Pandemic. As Ludewig et al. (2022) pointed out, these international findings show that the distance education application carried out during the pandemic period cannot replace face-to-face education in teaching reading and writing at the primary school level

The suggestions made by the participating teachers were combined under four (4) themes. These are: “Suggestions for teachers, those for the learning and teaching process, those for parents, and those for general”. Among the suggestions put forward, the most common opinion was “to involve the parents in the distance education process”. Accordingly, the participants think that it is very important for parents to take an active role in their children's education processes. In addition, the participants stated that teachers should create digital games or use existing games in distance education lessons, teachers must come prepared to the lesson, pay attention to the participation of students, follow them, provide equal opportunities for students, integrate the curriculum into distance education, implement hybrid education, change lesson hours. suggested their reduction. Besides, the participants emphasized that teachers should be given flexibility, necessary professional development activities should be provided to teachers, methods such as flipped classrooms should be used in this process, interactive activities should be used, and students should be alone in the room during distance education lessons. Moreover, they pointed out the importance of guiding parents to send their children to pre-school education, since students who receive pre-school education are more successful in learning literacy skills both in distance education and face-to-face education. In the study of Başaran, Doğan, Karaoğlu and Şahin (2020), teachers expressed that the infrastructure, content, and material context of distance education platforms should be developed and improved, and the inequality of opportunity should be eliminated as solutions to the negativities experienced in the distance education process. According to the findings of Özdoğan and Berkant's (2020) study, the solution proposals of the stakeholders participating in the study generally consisted of the

following topics: "To carry out measurement and evaluation activities in the distance education process, to ensure equal opportunities as much as possible, to increase the participation and interaction level of the students, to strengthen the internet and distance education infrastructure and to reduce the number of courses".

In line with the findings of the present study, in order for the distance or hybrid education activities to be effective in the event of the resumption of the Covid-19 Pandemic or similar pandemics and the complete or partial closure of schools in the upcoming education-training periods, all students must have access to the internet and computers, tablets, etc. It is very important to ensure that they have equipment. Also, the Ministry of National Education and schools should provide pedagogical support to teachers in order for teachers to develop themselves more individually in distance education, especially the implementation of interactive course activities. In addition to this, the following points are also very important that parents should be supported in order to give more importance to the education of their children during the distance education process and to help them in the right way. In addition, necessary measures should be taken to increase the motivation levels and participation of students in both live lessons and other learning-teaching activities more and more actively, and the measurement and evaluation processes should be carried out in a more objective, more pedagogical, and fairer way. During the pandemic period, it is inevitable for students to suffer from learning losses, especially in literacy, language, and mathematics lessons. Many international studies or reports on this subject have reported that primary school students suffer from significant learning loss (Bao et al., 2020; Lewis & Kuhfeld, 2021; Lewis, Kuhfeld, Ruzek & McEachin, 2021; Ludewig et al., 2022; UNESCO, 2021). In this regard, well-planned make-up training programs must be implemented during and after an emergency, and compulsory distance education activities carried out in extraordinary situations such as pandemics. Considering that primary school students who start the first step of formal education are more affected by this process and that it is very important to acquire basic knowledge, skills, and habits at an early age, As Robert A. Slavin (Cited in Bolant, 2021) says, “success in the early grades does not guarantee success throughout the school years and beyond, but failure in the early grades almost guarantees failure in later education”. Based on this saying, it is very important to teach the basic lessons, especially reading and writing, which have the power to affect the future lives of individuals, in an effective and efficient manner at the primary school level.

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