

How Well Do First Grade Students, Learning to Read and Write by Distance Education During the Pandemic Period, Write? ¹

Nurhan AKTAŞ² Selva BAKKALOĞLU³

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Abstract:


The aim of this study was to examine the handwriting legibility and writing errors of first grade primary school students who were learning early literacy through distance education during the pandemic period, according to various variables. The research was designed according to the survey method, and the study group consisted of 211 students studying in the first grade of primary school. The "Multidimensional Legibility Scale", "Writing Errors Form", "Dictation Text" and "Copying Text" were used as data collection tools in the research. For the analysis of the research data, the legibility of the first grade primary school students' handwriting was analysed according to the "Multidimensional Legibility" scale. According to the results of the research, female students wrote more legibly than male students. Students made more writing errors in the dictation writing task than in the copying writing task. Students at state schools made more errors in their writing than students at private schools. Considering that the distance education process will also be a part of education life in later periods, research studies on the adequacy of the distance education process for fostering basic skills can be included in order to advance this process more beneficially, especially in primary school. The effect of distance education on handwriting legibility and writing errors at other grade levels can be investigated. Within the framework of the results obtained, different activities can be designed for writing skills in distance education.


Keywords: Handwriting Legibility, Writing Errors, Primary Education, Pandemic

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² Asst. Prof. Dr. Nurhan AKTAŞ, Selcuk University, Faculty of Education, Department of Primary Education Konya, Turkey. nurhan.aktas@selcuk.edu.tr,  Orcid ID: 0000-0003-0264-5120

³ Asst. Prof. Dr. Selva BAKKALOĞLU, Selcuk University, Faculty of Education, Department of Primary Education Konya, Turkey. selva.bakkaloglu@selcuk.edu.tr,  Orcid ID: 0000-0002-2025-4169

INTRODUCTION

Writing is a human need. As a matter of fact, the ability to write is used in accordance with certain rules in order to express one's beliefs, ideals, expectations, feelings and thoughts. There are many definitions in the literature about writing, which we use not only in the education process but in all areas of life.

Writing is the individual's explanation of his/her thoughts, imaginings and experiences through script (Göçer, 2018; Sever, 2004). Considering the definitions of writing (Göçer, 2018; Sever, 2004; Güneş, 2007; Barthes, 2007), it is seen that writing is a complex and multifaceted process between the reader and the writer. Therefore, writing skill is not an innate skill, but is a skill acquired through education (Duran & Akyol, 2010).

Writing, which is one of the basic skill areas in an individual's education life, is taught in the first grade of primary school together with the reading skill. In the teaching of writing, which is carried out in parallel with reading, the spelling of the sounds is taught simultaneously with their pronunciation (Arslan, 2012). In this sense, the purpose of early literacy teaching is to foster appropriate reading and writing skills based on skills such as speaking and listening that students have acquired in their out-of-school lives (Yılar, 2015). Writing skill is not random, and it is carried out in accordance with the language rules within a certain time schedule (Duran & Akyol, 2010).

In writing, both the quality of the text content and the grammar, visuality and spelling rules are of great importance. The last step in a text whose content has been planned properly is the legibility of that text. If a piece of writing is not legible, its content cannot be related in the desired way, nor can it be understood by the reader (Akyol, 2010). Legibility demonstrates the adequacy of the letters in the handwriting presented to the reader and constitutes an important dimension of handwriting assessments (Ediger, 2001). In assessments of legibility, the focus is on formal characteristics rather than features like spelling, word use, and grammar (Graham, Berninger & Weinraub, 1998). The form of the letters, the spacing between the letters, the slope of the letters, and writing by staying on the line are elements related to the formal features of letters, in other words, to legibility (Tok & Erdoğan, 2017). In fact, Tompkins (2005) explained legibility in six dimensions: the shape of the letters, the size of the letters and the ratio of upper- and lower-case letters, the spacing between letters and words, the slope, staying on the line, and the quality of the lines forming the letters.

According to Akyol (2006), a student who acquires the ability to write legibly should be able to write the letters correctly, make the extensions of the letters appropriately, place the hand and arm on the desk correctly during writing, hold the pencil correctly, write at an appropriate speed, keep the paper on which he/she writes clean and tidy, and keep to the lines correctly. For students to be able to learn all these writing rules, dictation and copying exercises should be frequently included in writing teaching (Akyol, 2006). By definition, dictation is the shaping of the sounds heard through speech and converting them into

concrete form through writing (Hengirmen, 1990). Dictation, which includes some sub-skills such as observing the spelling rules and punctuation marks, as well as developing listening skills such as listening carefully and listening without missing the main idea (Taşkaya, 2019), is of great importance not only in terms of the acquisition of writing skills, but also with regard to taking notes in all areas of life in the long term (Zhytska, 2013). In the dictation technique, the teacher asks the student to write a text appropriate for his/her grade level by reading it out in a way and at a speed that the student can understand. During the process or at the end of the process, the teacher contributes to the development of the student's writing skills by providing feedback by checking writing, spelling and punctuation errors (Yurdakul & Susar, 2020). Copying, on the other hand, means that the student looks at a text given to him/her and writes the text again.

Especially in the first grades, it is important in both educational and social terms for children to acquire the ability to write at an appropriate pace, in an orderly way, and legibly (Yıldız & Ateş, 2010; Ziviani & Watson-Will, 1998). For this reason, legibility is seen as an important criterion in the development of handwriting (Akyol, 2008; Galanis, 2008), and it is a subject that should be emphasised at every grade level. In fact, when the studies on legibility are examined, it is seen that besides studies conducted in the first grade, when the literacy process begins to be fostered (Graham, Weintraub & Berninger, 2001; Vlachos & Bonoti, 2006; Öğüt, 2018; Ulu, 2019; Gök & Baş, 2020; Okatan & Özer, 2020), the legibility of students' writing is also examined at other grade levels (Yıldız & Ateş, 2010; Schweltnus, Carnahan, Kushki, Polatajko, Missiuna & Chau, 2012; Ghorbani, Yadolahzadeh, Shakki & Noohpiseh, 2020).

In addition to being a factor that affects the writing skill, legibility is also affected by many factors. Elements such as the student's sitting position, muscle development, writing direction, hand preference and pencil grip, the position of the paper, the letters, writing speed, and staying on the line all affect the writing and the elegance and legibility of the writing. If these elements are not taken into consideration, the desired legibility cannot be achieved and writing errors occur. Indeed, in her study in which she examined the handwriting legibility of first grade primary school students, Ulu (2019) concluded that as the students' legibility increased, their writing errors decreased. It is possible to classify writing errors as omitting letters, omitting syllables, omitting words, misplaced writing, confusing letters, compound writing, separating syllables, adding words, writing words incorrectly, spelling mistakes, writing slowly, and inability to write (Erden, Kurdoğlu & Uslu, 2002). In order to prevent the aforementioned writing errors, guiding the student correctly, especially during the writing education given in the first grade of primary school, is an important process in reducing writing errors and ensuring that the student writes correctly. Studies (Ulu, 2019; Babayiğit, 2019; Balkan, 2015; Memiş & Harmankaya, 2012; Akyıldız, 2011) have shown that the types of mistakes made by first grade primary school students are similar, and that similar errors also appear to be encountered at other grade

levels (Koçak Demir, 2003; Yıldız & Ateş, 2010). Therefore, the importance of writing education given in the first grade of primary school comes to the fore.

The student who is to acquire the writing skill, the teacher who is to guide this process, and the programme that structures the framework and content of the process are the general elements that directly affect the writing process. In addition to this, it is possible to discuss certain variables that indirectly affect writing education. It can be said that in recent times, one of the variables affecting writing education, as in other learning domains, is the distance education process.

Due to the COVID-19 pandemic process, which began to be experienced in our country in March 2020, certain changes had to be made in education, and students interrupted their face-to-face education and began the distance education process. Distance education activities, which are preferred due to Covid-19, have been carried out through various digital platforms (EBA, Zoom, Skype, etc.). The content prepared for each of the speaking, listening, reading, writing and grammar learning areas in the EBA education programme, which is the most widely used in the distance education process at the primary education level, is insufficient especially in the areas of listening and writing (Tanrıku, 2017). Studies show that these contents do not comply with the Turkish course curriculum (İskender, 2016). In addition, situations such as lack of technological equipment, weak internet connections and lack of interaction in teaching materials affect the distance education process negatively (Kesik & Baş, 2021).

One of the situations that negatively affect the distance education process is the differences in the socioeconomic level of families. One of the most reliable ways of examining students' access to the distance education process and its reflections on education in terms of socioeconomic level is to compare state school and private school students. Private schools are educational institutions that are preferred by parents with high socioeconomic status for their children, and where education and training services are offered with a paid and more intensive programme. It is seen that the education given in public schools and private schools, especially during the pandemic process, causes differences in terms of student success. As a matter of fact, in the study conducted by Yıldız, Aksoy, Eryılmaz, and Korkmaz (2021), students' learning losses during the epidemic were examined in terms of reading skills. As a result of the research, it was seen that socioeconomic level was effective in the development of reading skills and learning losses in the Covid-19 period. In a similar study, Vural (2007) stated that the socioeconomic level of the family affects the literacy performance of the student; he stated that while students with a high socioeconomic level and studying in private schools did not have reading problems, students at middle and lower socioeconomic levels had reading problems.

Purpose of the research

It can be said that it would be beneficial to examine the early literacy teaching process in distance education, and to revise it by investigating its deficiencies. It is seen that most of the studies in the field of education during the COVID-19 pandemic process have been aimed at examining the views of teachers and students (Bakioğlu & Çevik, 2020; Bayburtlu, 2020; Bozkurt, 2020; Demir & Özdaş, 2020; Özdoğan & Berkant, 2020). On the other hand, it can be said that the studies (Erkoca, 2021; Solak, Ütebay & Yalçın, 2020) conducted to

measure the proficiency of students in this process are limited. Especially in the literature, studies on teacher views on teaching literacy during the pandemic process (Erbaş, 2021; Gürbüz & Yılmaz, 2021; Kargın & Karataş, 2021; Sağırılı, 2021) have intensified. While computer-assisted primary literacy teaching positively affects the development of children's reading skills and reading speed, it does not have the same effect in terms of the development of dictation skills (Gürol & Yıldız, 2015). From this point of view, it is important to examine the effect of distance education on students' reading and writing skills, because writing skill is the last link in the chain of basic language skills (Demirel & Şahinel, 2006; Ünalın, 2006) and is an analytical skill that includes evaluation and problem-solving processes (Sharples, 1999). For this reason, writing is generally perceived as a skill that students shy away from and are unsuccessful in (Aydın, 2017; Özbay and Barutçu, 2013; Yalçın, 2002). Evaluation of the situation of writing skill, which has such difficulties even in face-to-face education, in the distance education process is worth researching in terms of its potential to obtain different results. From this point of view, the research shows how well first-year students who learned to read and write with distance education during the pandemic period wrote; it was designed to examine writing legibility and writing errors according to various variables. For this purpose, answers to the following questions were sought:

Sub-problems

1. Do the writing skills of first grade primary school students who learn to read and write through distance education differ significantly according to their copying and dictation studies?
2. Does the handwriting legibility of first grade primary school students differ significantly according to gender?
3. Does the handwriting legibility of first grade primary school students differ significantly according to school type?
4. Do the writing errors of first grade primary school students who learn to read and write through distance education differ significantly according to their copying and dictation studies?
5. Do first grade primary school students' writing errors differ significantly according to gender?
6. Do first grade primary school students' writing errors differ significantly according to school type?

METHOD

Research Model

This research, which aims to examine the written texts of first grade primary school students in terms of legibility, was designed with the survey model, which is one of the quantitative research methods. Survey studies are studies in which participants' views, or characteristics such as their interests, skills, abilities or attitudes related to a subject or event are determined, and are studies generally conducted on relatively larger samples compared to other studies. The main purpose of these studies is to define the characteristics of a group and to reveal how these characteristics are distributed within the group (Frankel, Wallen &

Hyun, 2012). In this research, the survey model was used because the aim was to examine the writing of first grade primary school students in terms of legibility and writing errors.

Participants

The study group of the research consists of a total of 211 students who continued their education in four primary schools (two state and two private) located in the city centre of Konya in the 2020-2021 academic year. The convenience sampling method was utilised to determine the study group. In convenience sampling, the researcher chooses a case that is close at hand and easy to access, thus gaining speed and practicality for the research (Yıldırım & Şimşek, 2013). Epidemic measures were taken into account in the selection of the sampling method. With this method, data were collected with the least mobility. The descriptive data of the study group are included in Table 1.

Table 1

Descriptive Statistics of Study Group

Gender School Type	State		Private		Total	
	F	%	f	%	f	%
Female	72	56.25	38	45.7	110	52.13
Male	56	43.75	45	54.2	101	47.86
Total	128	60.66	83	39.33	211	100

According to Table 1, the study group of the research consists of 211 first grade primary school students, 128 from state schools and 83 from private schools. It is seen that approximately 52% of these students are girls and 48% are boys.

Data Collection Tools

In the research, the “Multidimensional Legibility Scale”, “Writing Errors Form”, “Dictation Text” and “Copying Text” were used as data collection tools in order to examine the handwriting legibility and writing errors of the first grade primary school students.

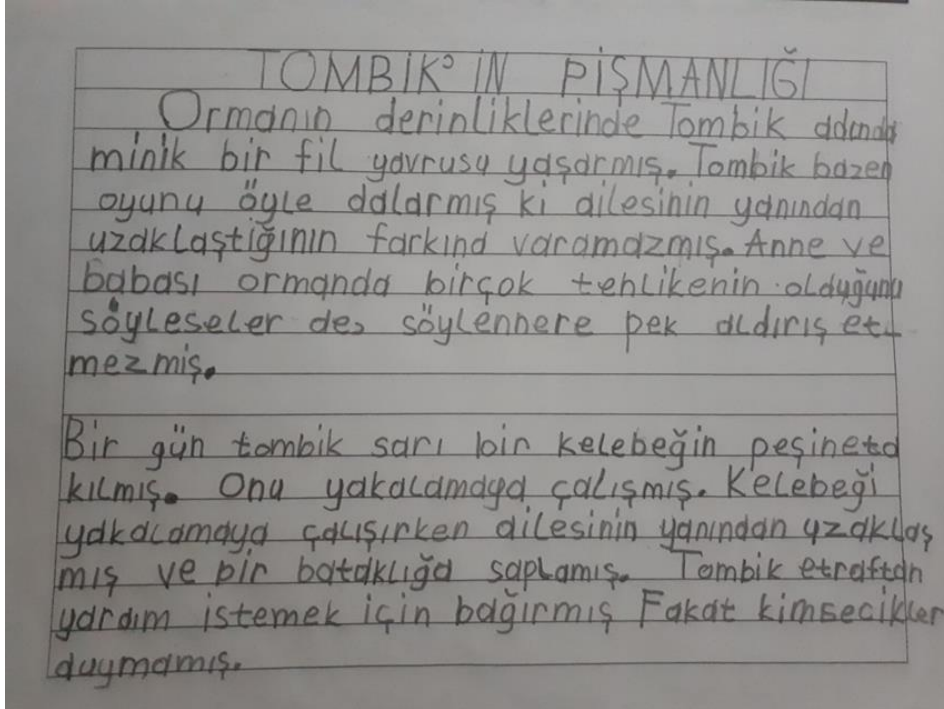
Multidimensional Legibility Scale: In the study, the “Multidimensional Legibility Scale” developed by Yıldız and Ateş (2010) was used to examine the written texts of the first grade primary school students in terms of legibility. The scale was developed in the years when cursive handwriting was taught as the compulsory and only style. The researchers who developed the scale made arrangements in some dimensions of the scale according to manuscript letters. The prepared scale form was requested from the researchers via e-mail.

The “Multidimensional Legibility Scale” consists of three categories: “completely competent” (3), “moderately competent” (2) and “not at all competent” (1). The legibility criteria in the rubric prepared according to the analytical evaluation approach are slope, spacing, size, shape and staying on the line. In this direction, students’ manuscript writing

was handled separately for each sub-dimension in the research. Considering that the lowest score that can be obtained from this scale is 5 and the highest score is 15, students' written texts with a total score of 5 - 8.3 were assessed as illegible, students' written texts with a total score of 8.4 - 11.7 were evaluated as moderately legible, and students' written texts with a total score of 11.8 - 15 were assessed as legible. Examples of scoring of students' written texts according to the multidimensional legibility scale are given in Figure 1 and Figure 2.

Figure 1

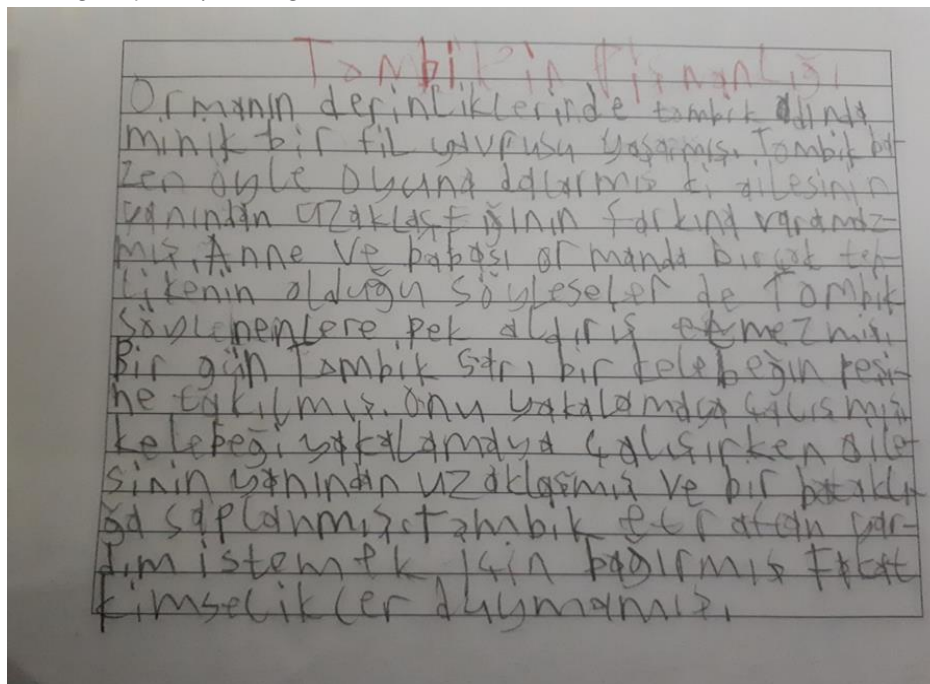
Example of a legible piece of writing (State school, female student)



When the sample of writing shown in Figure 1 is analysed in terms of legibility, the total of 14 points obtained in terms of slope (2 points), spacing (3 points), size (3 points), shape (3 points) and staying on the line (3 points) indicates a competent level of legibility.

Figure 2

Example of an illegible piece of writing (Private school, male student)



When the sample of writing shown in Figure 2 is analysed in terms of legibility, the total of 7 points obtained in terms of slope (2 points), spacing (1 point), size (1 point), shape (1 point) and staying on the line (2 points) indicates an inadequate level of legibility.

Writing Errors Form: The types of errors used in the research conducted by Erden, Kurdođlu and Uslu (2002) were taken into account.

1. Letter Omission/Insertion: This is related to not writing letters that appear in the word or writing letters that do not appear in the word.
2. Syllable Omission/Insertion: This is related to not writing syllables that appear in the word or writing syllables that do not appear in the word.
3. Misplaced Writing: This concerns changing the places of some letters or syllables in words.
4. Letter Confusion: This is concerned with writing a letter that has a similar sound or shape to the correct one in words. The f-v, m-n, b-p, b-d, d-t, c-ç, t-k pairs of letters can be given as examples.
5. Writing Words Adjacently/Separately: This is related to not leaving the necessary spaces or writing words separately.
6. Syllable Separation at the End of the Line: This is the splitting of words in the wrong place at the end of a line.
7. Word Omission/Insertion: This is related to not writing words that appear in the text or writing words that do not appear in the text.
8. Writing the Word Incorrectly: This is the incorrect transcription of the word.
9. Spelling Mistakes: These are errors made in the use of punctuation marks.

Examples of scoring of students' written texts in terms of writing errors according to the writing errors form are given in Figure 3 and Figure 4.

Figure 3

Example showing letter omission/insertion, the most common type of error (State school, male student)

Yazma Formu Cinsiyet: Kız Erkek

1. Öğretmeninizin okuduğu metni aşağıya yazınız.

DEDEMLE BİR BAYRAM GÜNÜ.
 Babam akşam eve geldiğinde çok keyifliydi.
 Dedem arife günü sabah erkeden geldi.
 Koşarak dedemin sarıldım. Bayram sabahı
 hepimizi yüzünde heyecan ve gülümseme
 vardı. Dedem ve amcam, bana ve kardeşime
 bayram harçlığı verdi. O gün dedem ve
 amcamla uzun uzun konuştuk. Akrobalarımız bayramlaş-
 maya geldiler. Günümüz çok eğlenceli geçti.

When the writing sample seen in Figure 3 is analysed in terms of writing errors, it has a total of 27 error points in terms of letter omission/insertion (11 times), syllable omission/insertion (2 times), misplaced writing (none), letter confusion (2 times), writing words adjacently/separately (none), syllable separation at the end of the line (2 times), word omission/insertion (9 times), writing the word incorrectly (1 time), and spelling mistakes (none). The most common type of error seen is letter omission/insertion.

Figure 4

Error-free example (Private school, female student)

Yazma Formu Cinsiyet: Kız Erkek

1. Öğretmeninizin okuduğu metni aşağıya yazınız.

DEDEMLE BİR BAYRAM GÜNÜ
 Babam akşam eve geldiğinde çok keyifliydi.
 Dedem bayramda bize geliyor dedi. Kardeşim Ezgi
 ve ben bu habere çok sevindik.
 Dedem arife günü sabah erkenden geldi. Koşarak dede-
 min bayramına sarıldım. Bayram sabahı hepimizin yüzünde
 heyecan ve gülümseme vardı. Dedem ve amcam, bana
 ve kardeşime bayram harçlığı verdi. O gün dedem ve
 amcamla uzun uzun konuştuk. Akrobalarımız bayramlaş-
 maya geldiler. Günümüz çok eğlenceli geçti.

When the writing sample seen in Figure 4 is examined in terms of writing errors, no writing errors can be seen. It has 0 error points in terms of writing errors.

Dictation and Copying Texts: In order to determine the writing skill levels of the students, four different text samples were determined by considering the subject content, length of text and number of words appropriate for the grade level. While deciding on the most appropriate text, opinions were obtained from eight first grade teachers. Six of the teachers decided on the texts named “A Feast Day with My Grandfather” and “Tombik’s Regret”. In line with the opinions received from the teachers and by also seeking the views of three academicians who are experts in the field of classroom education, the texts named “A Feast Day with My Grandfather” and “Tombik’s Regret” were selected as dictation and copying texts, respectively (Appendix 1).

The text named “Tombik’s Regret” was taken from the story book called “I Understand What I Read with Tales and Stories” (Bolat, Cebeci & İşbakan, 2018). The text named “A Feast Day with My Grandfather” was taken from the coursebook of Cem Publications, which was deemed appropriate to be used as a first grade primary school Turkish coursebook by the Ministry of National Education (Aksoy, Hamurcu, Akkuş & Ziya, 2019).

The research data were collected in the second semester of the 2020-2021 academic year, at the end of the second semester after the first grade students had completed their first literacy education. A total of 211 first grade primary school students participated in the research. The writing form was handed out to the students, and they were asked to write the text named “Tombik’s Regret” on the upper part of the form within 1 lesson period. Following the copying task, they were asked to dictate the text named “A Feast Day with My Grandfather” under the guidance of their classroom teachers at a different lesson time. Prior to the data collection process, the classroom teachers were interviewed, and it was explained that they were not to intervene in the students’ writing process. The researchers accompanied the classroom teachers during the data collection process. The two texts, namely dictation and copying, were used for all students.

Data Analysis

For the analysis of the research data, the legibility of the first grade primary school students’ handwriting was analysed according to the “Multidimensional Legibility” scale. It was tested whether the data obtained from the sub-dimensions of the scale met the parametric test assumptions. The conformity of the data to normal distribution (the kurtosis and skewness values should be between -1 and +1) was examined using descriptive statistics and parametric test assumptions. Kurtosis and skewness coefficients that are in the range of -1 and +1, and an arithmetic mean, mode and median that are coincident (equal or close) are the most important indicators of normal distribution (Can, 2013, p.82-89). Accordingly, the arithmetic means and standard deviation values of the data were checked and the skewness

and kurtosis coefficients were taken into account. The central tendency measures and normality values of the data are shared in Table 2.

Table 2

Central Tendency Measures and Normality Values of Data

Variables	n	Lowest	Highest	(X)	(SD)	Skewness	Kurtosis
Legibility	211	10	30	18.72	5.19	.361	-.434
Writing Errors	211	0	98	13.71	12.6	2.30	9.56

When Table 2 is examined, it is seen that the data are normally distributed in the legibility dimension, but that the skewness-kurtosis coefficients and indices in the writing errors dimension are not within the desired range, and the graphics do not show a distribution related to normality, so the distribution of the data is not normal. Accordingly, the parametric "t-test for independent samples" was used for legibility, while the "Mann-Whitney U test" for non-parametric statistics was used to analyse writing errors.

Validity and Reliability

For the reliability of the research, the writings of the students were evaluated independently by two different researchers using the multidimensional legibility scale and writing errors forms. Then, the scores given by both researchers were compared. In cases where the researchers disagreed, the writing samples were evaluated together and the final decision on the scoring was made. The reliability of the study was calculated using the $\text{Reliability} = \text{Consensus} / (\text{Agreement} + \text{Disagreement})$ formula and it was seen that reliability was achieved with 90% agreement. According to this formula, values of 70% and above are considered sufficient (Miles & Huberman, 1994).

Ethical considerations

During the research process, first of all, necessary permissions were obtained from the ethics committee of Selcuk University Education Faculty and Konya Provincial Directorate of National Education. In this study, all rules stated to be followed within the scope of "Higher Education Institutions Scientific Research and Publication Ethics Directive" were followed. None of the actions stated under the title "Actions Against Scientific Research and Publication Ethics", which is the second part of the directive, were not taken.

Ethical review board name: Selcuk University Faculty of Education Scientific Ethics Evaluation Board

Date of ethics review decision: 22/02/2021

Ethics assessment document issue number: E-16343714-605.02-31355

In addition, the students were informed that participation in the research was on a voluntary basis and that the data obtained would not be shared with third parties.

FINDINGS

In this part of the research, the handwriting legibility and writing errors of the first grade primary school students are examined according to the independent variables of copying and dictation tasks, gender, and school type, and an attempt is made to present them in the form of tables. Table 3 shows the t-test results for the copying and dictation variables of students' legible writing skills.

Table 3

T-test Results of Students' Scores for Sub-Dimensions of Legibility According to Writing Task

Sub-Dimensions of Legibility	Copying		Dictation		t	P
	X	S	X	S		
Slope	2.05	.58	2.03	.55	.255	.79
Spacing	1.66	.65	1.59	.63	1.13	.25
Size	1.82	.65	1.84	.68	-.36	.71
Shape	1.79	.74	1.73	.73	.72	.47
Staying on the Line	2.16	.67	2.01	.68	2.13	.03*
Total	9.49	2.67	9.23	2.71	.97	.32

*p<0.05

When Table 3 is examined, it is seen that the students' scores for the sub-dimensions of legibility of the copying task are slightly higher than those of the dictation task in all dimensions except size, but that the difference between them in total is not statistically significant (for slope (t(211)= .255; p>.05), for spacing (t(211)= 1.13; p>.05), for size (t(211)= -.36; p>.05), for shape (t(211)= .72; p>.05), and for staying on the line (t(211)= 2.13; p<.05). Only in the staying on the line sub-dimension of legibility was a significant difference found between the copying and dictation exercises. The t-test results for the gender variable of the students' legible writing skills are given in Table 4.

Table 4

T-test Results of Students' Scores for Sub-Dimensions of Legibility According to Gender

Sub-Dimensions of Legibility	Female		Male		t	P
	X	S	X	S		
Slope	4.21	1.08	3.95	1.02	1.83	.06
Spacing	3.46	1.17	3.02	1.14	2.71	.00*
Size	3.78	1.23	3.55	1.26	1.31	.18
Shape	3.70	1.39	3.34	1.39	1.83	.06
Staying on the Line	4.36	1.27	3.98	1.26	2.19	.03*
Total	19.52	5.03	17.86	5.24	2.35	.02*

*p<0.05

Looking at Table 4, it is seen that there is a statistically significant difference between the handwriting legibility scores of female students and the handwriting legibility scores of male students, except for the slope, size and shape dimensions (for slope (t(211)= 1.83; p>

0.05), for spacing ($t(211) = 2.71$; $p < 0.05$), for size ($t(211) = 1.31$; $p > 0.05$), for shape ($t(211) = 1.83$; $p > 0.05$), and for staying on the line ($t(211) = 2.19$; $p < 0.05$). It is seen that the scores of female students are higher than the scores of male students in all sub-dimensions of legibility. The t-test results for the school type variable of the students' legible writing skills are given in Table 5.

Table 5

T-test Results of Students' Scores for Sub-Dimensions of Legibility According to School Type

Sub-Dimensions of Legibility	State		Private		t	P
	X	S	X	S		
Slope	4.04	1.14	4.15	.91	-.73	.46
Spacing	3.16	1.21	3.39	1.10	-1.41	.15
Size	3.71	1.25	3.60	1.25	.65	.51
Shape	3.47	1.40	3.61	1.40	-.09	.48
Staying on the Line	4.10	1.39	4.30	1.07	-1.10	.27
Total	18.50	5.48	19.07	4.70	-.77	.44

* $p < 0.05$

When Table 5 is examined, although the mean scores of the students studying in private schools are higher than those of the students studying in state schools in all sub-dimensions of legibility (except size), there is no statistically significant difference between them ($p > 0.05$).

In the study, the "Mann-Whitney U" test was used to analyse whether the data obtained from the writing errors of first grade primary school students learning to read and write through distance education showed a significant difference according to the copying and dictation exercises. The evaluation results of the students' writing errors are given in Table 6.

Table 6

Mann-Whitney U Test Results of Students' Writing Error Scores According to Writing Task

Error Type	Writing Task	n	Mean Rank	Rank Sum	U	P
Letter omission/insertion	Copying	211	217.5	45906.5	20980.5	.287
	Dictation	211	205.4	43346.5		
Syllable omission/insertion	Copying	211	220.1	46456.5	20430.5	.066
	Dictation	211	202.8	42796.5		
Misplaced writing	Copying	211	209	44099.0	21733	.092
	Dictation	211	214	45154.0		
Letter confusion	Copying	211	201.7	42568.5	20202.5	.057
	Dictation	211	221.2	46684.5		
Writing adjacently/separately	Copying	211	209.4	44202.5	21836.5	.240
	Dictation	211	213.5	45050.5		
	Copying	211	207.5	43782.0		

Syllable separation at the end of the line	Dictation	211	215.5	45471.0	21416	.352
Word omission/insertion	Copying	211	185.1	39076.0		
	Dictation	211	237.8	50177.0	16710	.000*
Writing the word incorrectly	Copying	211	207	43682.5		
	Dictation	211	215.9	45570.5	21316.5	.276
Spelling mistakes	Copying	211	189.4	39971.5		
	Dictation	211	233.5	49281.5	17605.5	.000*
Total	Copying	211	194	40934.0		
	Dictation	211	229	48319.0	18568	.003*

*p<0.05

When Table 6 is examined, there are significant differences for word omission/insertion ($U=16710$; $p<0.05$) and spelling mistakes ($U=17605.5$; $p<0.05$) according to the students' writing tasks. When the mean ranks are examined, it is seen that letter omission/insertion and syllable omission/insertion types of errors are more common in the copying task, while in the dictation task, misplaced writing, letter confusion, writing adjacently/separately, syllable separation at the end of the line, word omission/insertion, writing the word incorrectly, and spelling mistakes are the types of errors that were made more frequently. There is also a significant difference between writing tasks in terms of total error scores ($U=18568$; $p<0.05$). The evaluation results for the gender variable of the writing errors of the students are given in Table 7.

Table 7

Mann-Whitney U Test Results of Students' Writing Error Scores According to Gender

Error Type	Gender	n	Mean Rank	Rank Sum	U	P
Letter omission/insertion	Female	110	104.57	11502.5		
	Male	101	107.56	10863.5	5397.5	.719
Syllable omission/insertion	Female	110	104.96	11545.5		
	Male	101	107.13	10820.5	5440.5	.778
Misplaced writing	Female	110	104.38	11481.5		
	Male	101	107.77	10884.5	5376.5	.250
Letter confusion	Female	110	103.12	11343.0		
	Male	101	109.14	11023.0	5238.0	.452
Writing adjacently/separately	Female	110	103.93	11432.0		
	Male	101	108.26	10934.0	5327.0	.162
Syllable separation at the end of the line	Female	110	104.35	11478.5		
	Male	101	107.80	10887.5	5373.5	.628
Word omission/insertion	Female	110	98.30	10812.5		
	Male	101	114.39	11553.5	4707.5	.053
Writing the word incorrectly	Female	110	102.43	11267.5	5162.5	
	Male	101	109.89	11098.5		.288

Spelling mistakes	Female	110	102.40	11264.5		
	Male	101	109.92	11101.5	5159.5	.357
Total	Female	110	100.73	11080.0		
	Male	101	111.74	11286.0	4975.0	.190

* $p < 0.05$

Looking at Table 7, there is no significant difference between male and female students in all error types ($p > 0.05$). When the mean rank is examined, it is seen that male students made more writing errors than female students in all error types, and the writing errors of the students do not show a significant difference according to gender ($U=4975.0$; $p > 0.05$). The evaluation results for the school type variable of students' writing errors are given in Table 8.

Table 8

Mann-Whitney U Test Results of Students' Writing Error Scores According to School Type

Error Type	School Type	n	Mean Rank	Rank Sum	U	P
Letter omission/insertion	State	128	123.06	15752.0		
	Private	83	79.69	6614.0	3128.0	.000*
Syllable omission/insertion	State	128	106.92	13686.0		
	Private	83	104.58	8680.0	5194.0	.766
Misplaced writing	State	128	107.27	13730.5		
	Private	83	104.04	8635.5	5149.5	.284
Letter confusion	State	128	126.16	16149.0		
	Private	83	74.90	6217.0	2731.0	.000*
Writing adjacently/separately	State	128	103.55	13255.0		
	Private	83	109.77	9111.0	4999.0	.050
Syllable separation at the end of the line	State	128	113.16	14484.0		
	Private	83	94.96	7882.0	4396.0	.012*
Word omission/insertion	State	128	109.91	14069.0		
	Private	83	99.96	8297.0	4811.0	.241
Writing the word incorrectly	State	128	110.68	14167.5		
	Private	83	98.78	8198.5	4712.5	.097
Spelling mistakes	State	128	112.11	14349.5		
	Private	83	96.58	8016.5	4530.5	.063
Total	State	128	122.18	15638.5		
	Private	83	81.05	6727.5	3241.5	.000*

* $p < 0.05$

When Table 8 is examined, it is seen that among the writing errors according to the type of school attended by the students, letter omission/insertion ($U=3128.0$; $p < 0.05$), letter confusion ($U=2731.0$; $p < 0.05$) and syllable separation at the end of the line ($U=4396.0$; $p < 0.05$) error types differ significantly. When the mean ranks are examined, it is seen that the writing adjacently/separately error type was made more frequently by students studying in private schools, while the other types of errors were made more frequently by students

studying in state schools. In terms of total error scores, there is also a statistically significant difference according to school type ($U=3241.5$; $p<.05$).

DISCUSSION AND CONCLUSION

The general purpose of primary literacy teaching is to enable students to acquire qualified literacy knowledge and skills that they will use throughout their lives. In addition to the factors that directly affect the writing process, there are some variables that indirectly affect the writing education. It can be said that one of the variables affecting writing education recently, as in other learning areas, is the distance education process. In this study, it was aimed to examine the writing legibility and writing errors of first-year students who learned to read and write with distance education during the pandemic period, according to various variables. This research; It was designed with a survey model, one of the quantitative research methods. In the analysis of the research data, the "Multidimensional Legibility" scale was used.

As a result of this study, which examined the handwriting legibility and writing errors of first grade primary school students who were learning to read and write through distance education during the pandemic period, it was concluded that the students' handwriting legibility differed significantly according to gender, but that there was no significant difference according to the writing task (copying-dictation) or school type (state-private). It is also seen that students' writing errors differed significantly according to writing task (copying-dictation) and school type (state-private), but that they did not differ significantly according to gender. While the significant differences seen in students' handwriting legibility by gender are similar to those found in some previous studies (e.g., Graham & Weintraub, 1996; Ziviani & Watson-Will, 1998; Graham, Weintraub & Berninger, 2001; Vlachos & Bonoti, 2006; Cordeiro, Castro & Limpo, 2018; Arslan Özer & Bağcı, 2018; Demiroğlu Memiş, 2018; Gök & Baş, 2020), they also differ from the results of other studies (e.g., Schwellnus, Carnahan, Kushki, Polatajko, Missiuna & Chau, 2012; Ghorbani, Yadolahzadeh, Shakki & Noohphiseh, 2020). As a result of their research in which they examined the legibility and writing speed of 372 students between the ages of 7-14, Ziviani and Watson-Will (1998) stated that girls were better than boys in terms of legibility and that the legibility of their texts differed significantly according to their gender, while they also found a low correlation between speed and legibility. In the study by Graham et al. (2001), in which they examined the letter legibility of 300 students from the first to the third grade, it was concluded that the gender factor affected the legibility of the students' writing. Vlachos and Bonoti (2006), on the other hand, examined the effect of age and gender on writing performance in children aged 7-12, and stated that age had a significant effect on writing performance, that girls wrote better and more legibly than boys, and that gender was important in the trend towards writing proficiency. Similarly, in her study, Demiroğlu Memiş (2018) stated that as the writing disposition increased, legibility increased and that female students wrote more legibly in relation to their writing disposition. In their study

examining the handwriting legibility of primary school students according to various variables, Gök and Baş (2020) worked with 136 first-year students, and as a result of the research, they concluded that female students scored higher in several dimensions of legibility (size, spacing, and shape) and overall, while socioeconomic level and the type of notebook used did not have an effect on the legibility of handwriting. Contrary to this, Schwellnus et al. (2012), in their study conducted with 120 fourth grade students, examined the effect of students' pencil grip position on writing speed and legibility, and as a result of the study, it was stated that the students' ways of holding the pencil did not have an effect on their legibility and writing speed, and that the female students wrote faster than the male students, but that the girls and boys had similar scores for legibility and no significant difference emerged. Again, as a result of the research conducted by Ghorbani et al. (2020), in which they examined the quality and speed of second and third grade students' handwriting, it was concluded that gender differences did not have a significant effect on handwriting legibility and writing speed. In these differences between researchers, it can be said that with the fact that writing skills are specific to each student, female students are developmentally better than male students in fine motor skills (Unutkan, 2006; Başaran, 2020) and that this affects the legibility of handwriting.

According to the results obtained in the research, the handwriting legibility of the first-grade primary school students did not differ significantly according to the writing tasks. The fact that students wrote by listening (dictation) or by looking (copying) did not make a significant difference to the legibility of the text. In some studies, on the legibility of writing (Okatan & Özer, 2020), different results can be seen. In their study in which they examined the writing skills of first grade primary school students, Okatan and Özer (2020) evaluated the writing exercises of 25 first grade students and concluded that the students' handwriting legibility scores in the copying exercise were higher than their handwriting legibility scores in the dictation and free writing exercises.

According to another result obtained in the research, the handwriting legibility of the first-grade primary school students did not differ significantly according to the type of school. The fact that students were educated in a private or state school did not make a significant difference to their handwriting legibility. This situation can be interpreted as the fact that teachers gave importance to the content rather than to the formality of the writing in the distance education process during the pandemic.

According to the results of the research, the writing errors of the first-grade primary school students showed a significant difference depending on the writing task (copying-dictation). When the types of errors made by the students were evaluated in general, it was concluded that the most common types of errors were letter confusion, word omission/insertion and spelling mistakes, and that these types of errors were much more common in the dictation task. In studies on the writing errors of first grade primary school students (Ulu, 2019; Babayiğit, 2019; Balkan, 2015; Memiş & Harmanakaya, 2012; Akyıldız, 2011), the most common types of errors made by the students show similarity. As a result

of the study in which she examined the handwriting legibility and writing errors of first grade primary school students Ulu (2019) stated that the students mostly made spelling mistakes, followed by letter omission/insertion, syllable omission/insertion, letter confusion, and word omission/insertion errors, respectively. Likewise, in his study, Babayiğit (2019) classified students' errors as inappropriate spacing between letters, missing letters, excess letters, changing letters, not writing letters in alignment, and adding syllables. According to the research results, the reason why first grade primary school students who learn to read and write in the shadow of the pandemic make more mistakes in their dictation exercises can be interpreted as not being able to adequately practise the writing knowledge they have acquired in the distance education process and inability to allocate much time to the teachers' dictation exercises. In dictation studies, which require a much higher cognitive process than the copying (writing by looking) writing task, the extent to which the writing knowledge has been acquired gains importance here since students are content with just hearing. This is because dictation studies are regarded as studies that are used to understand students' writing levels and to check whether a rule has been learned or not (Nas, 2003).

Another result obtained in the study is that the writing errors of first grade primary school students did not show a significant difference according to gender. It can be said that male and female students made mistakes in their written texts at similar rates. Similar results (Öğüt, 2018) were obtained in some studies made with regard to writing errors, whereas different results were obtained in others (Balkan, 2015). In her study examining the writing errors and legibility of primary school students, Öğüt (2018) concluded that first grade students made mistakes in their written texts in letters, words, sentences and in the overall text at similar rates, regardless of gender. Contrary to this, Balkan (2015) conducted a study with first-year primary school students, and it was determined that when writing cursive script, first-year students studying in mixed classes formed according to their birth months made more errors in writing the letters on the lines and in combining letters that should not be combined. In general, it was determined that as age increased, writing errors decreased, that the errors of students who had received preschool education were fewer in number, and that female students made fewer errors than male students.

According to the results obtained in the research, the writing errors of the first-grade primary school students showed a significant difference according to the type of school (state-private). The fact that students studied in a private or state school created a significant difference in writing errors. When evaluated in terms of error types, it is seen that the type of school was effective on students' writing errors in letter omission/insertion, letter confusion, syllable separation at the end of the line, and total error score. This can be interpreted as the fact that students studying in private schools make fewer errors due to having more opportunities (greater number of course hours, better access to distance education, etc.), and that because there are fewer students in classes compared to state schools, they receive more frequent feedback from their teachers about their writing due to the opportunity to deal with students one-on-one.

In general, when both the legibility and writing errors were evaluated, it was seen that the students' writing skills were not at a sufficient level as a result of the research. This situation gives a clue about the effect of distance education on the development of writing skills. As a matter of fact, in the research conducted by Karakuş, Esendemir, Ucuzsatar and Karacaoğlu (2021) on the views of parents on primary education literacy teaching during the pandemic period, parents stated that the least supported skill area in the distance education process was writing skill. Kaplan and Gül den (2021), in their study on the evaluation of Turkish education in the distance education process, stated that the majority of teachers found that writing skills were most negatively affected during the epidemic. They stated that the reason for this was that the activities for writing skills could not be adequately controlled. In another similar study, teachers stated that since the studies on writing skills were carried out with limited opportunities in the distance education process, it was not possible to determine the mistakes and work on these mistakes again adequately (Günaydın, 2021).

As a result, although the results obtained in this study are similar to the results of other researches on writing legibility and writing errors carried out in the face-to-face education process, it is seen that the pandemic process has had a devastating effect. Considering that the distance education process will also be a part of education life in later periods, research studies on the adequacy of the distance education process for fostering basic skills can be included in order to advance this process more beneficially, especially in primary school.

LIMITATIONS AND RECOMONDATIONS

This research has some limitations like other researches. This research is limited to the writing task, school type and gender variables of handwriting legibility and writing errors of 211 first grade primary school students studying in two state and two private schools in the city centre of Konya. At the same time, two narrative texts common to all students were used.

In this study, students' handwriting legibility and writing errors were discussed according to various variables. In future studies, handwriting legibility and writing errors can be discussed and examined together with factors affecting writing skills such as visual perception skills, pencil grip position, and attention deficit. The research was carried out with first grade primary school students who were learning to read and write through distance education during the pandemic period. The effect of distance education on handwriting legibility and writing errors at other grade levels can be investigated. Within the framework of the results obtained, different activities can be designed for writing skills in distance education. Only quantitative data were analysed in the study. In future studies, the framework of the research can be expanded by considering the views of teachers and parents.

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APPENDICES

Appendix 1. Dictation and Copying Texts

A FEAST DAY WITH MY GRANDFATHER

My father was very happy when he came home in the evening.

“Your grandfather is coming to visit us during the holidays”, he said. My sister Ezgi and I were very happy with this news.

My grandfather came early in the morning of the day before the feast. I ran and hugged my grandfather. On the morning of the feast, we all had excitement and smiles on our faces. My grandfather and uncle gave me and my sister holiday pocket money. We had a long talk with my grandfather and uncle that day. Our relatives came to celebrate the feast with us. We had a lot of fun that day.

Cuma KARATAŞ

(First grade Turkish coursebook)

Abridged.

TOMBIK’S REGRET

In the depths of the forest lived a tiny elephant calf named Tombik. Tombik sometimes got so caught up in a game that he didn’t even realise he had wandered away from his family. Although his parents said that there were many dangers in the forest, Tombik did not pay much attention to what was said.

One day, Tombik was chasing a yellow butterfly. He tried to catch her. While trying to catch the butterfly, he wandered away from his family and got stuck in a swamp. Tombik shouted around to ask for help. But no one heard him.

(I Understand What I Read With Tales and Stories)

Abridged.

Biographical notes:

Nurhan Aktaş: is assistant professor in the department of Primary Teacher Education at Selçuk University. Nurhan's work focuses on teaching of reading and writing, story writing, reading comprehension, motivation in reading and writing, digital writing and screen reading.

Selva Bakkaloğlu: Research assistant at Necmettin Erbakan University between 2008-2015; she worked as an assistant professor doctor at Karamanoğlu Mehmetbey University between 2018-2020. As of 2020, she started to work at Selçuk University. The researcher has studies on Teaching of Primary Reading and Writing.

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