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The Reading Speed of Elementary School Students on the All Text Written with Capital and Lowercase Letters

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Abstract The aim of this research is to examine the speed of reading the uppercase and lowercase texts of primary school students. This research is the survey of quantitative research methods. The survey population of the research is the primary school students who are educated in the primary schools in the Sorgun district of Yozgat province. Cluster sampling used for sampling. The sample primary school students' number is 732. As a means of collecting data, a text was used from the textbook. The data were collected in three primary schools in the Sorgun district of Yozgat province in March 2018. The number of words a pupil reads in a minute is noted. Reading speed of text written with lower case letters is more than reading speed of text written with capital letters at all grade levels. The scores varied for the capital letters and lower case letters. At an alpha of .05, the analysis indicated a statistically significant difference among reading rate of the capital letters and lower case letters, ($t=23.13$, $p<.01$), effect size .28 SD. The speed of reading lowercase letters text is 13% higher than the speed of reading capital letters character text. The text with lower case letter reading aloud score significantly higher mean scores than text with capital letter reading aloud score ($\lambda=.278$; $F= 92{,}536$; $p<.001$; $\eta 2=.70$. Secondary school students' reading aloud text with lower case letter score significantly higher than primary school students' aloud reading speed text with capital letters ($p<.001$). Suggestions were made within the scope of the research results.

Keywords Elementary Education, Capital Letter, Lowercase Letter, Reading

1. Introduction

In the countries of the world, lowercase letters are used mostly in teaching reading and writing. Capital (uppercase) letters and lowercase (small) letters are taught to students at the same time. At the beginning of this research, firstly, the concepts of letters and alphabets are explained. Then, Latin letters and Turkish alphabet topics are mentioned. It is explained how small letters appeared. Later on, the small letters are explained. Finally, the importance of reading speed in primary education is mentioned.

The letter indicates the voice on the speak [12] and each of the signs forming the alphabet is defined as code [29]. Capital letters used in places such as sentence headings with special names [29]. The alphabet is the collection of letters the signs that meet the voices on the speak [12]. The letters do not only consist of transcribing voices and creating alphabets, but they also provide for the realization of reading and writing activities. The letters are also used for writing and reading. In addition to letters, there are numbers, punctuation marks and symbols in a text. However, the most basic element of the writing is the letters [14].

Firstly, the history of lowercase letters and capital letters is emphasized. Before the presentation of word division, original copy duplicates came translated in capitalized letters without void area. Old capital lettering was changed into the medieval little or lower case letter a long time before the general acknowledgment of room between words. With the development of the printing press, books are made generally accessible to the bigger populace [21]. The lowercase letter and uniform partition of words were immovably settled [26]. The consequent creation of the letters in order (a word got from the initial two letters of the Greek letter set, alpha and beta) was a noteworthy advance forward in human correspondences. A letters in order is an arrangement of visual images or characters used to speak to the basic hints of a talked dialect. They can be associated and joined to make visual setups connoting sounds, syllables, and words articulated by the human mouth. The several signs and images required by cuneiform and hieroglyphics were in the long run supplanted by twenty or thirty effectively learned basic signs [20]. The Latin letters in order went to the Romans from Greece by method for the old Etruscans, a people whose human progress on the Italian landmass achieved its stature amid the 6th century BCE [20]. Each

of the Latin letters emerged as purely simple characteristic signs. Basically, each anatomy of a letter is based on geometrical shapes such as square, triangle, circle [10]. In ancient times, people used tools such as stone, pottery, bowls, tree bark, and predatory animal breeds to write. The writings were made by drawing a rough picture or figure on these tools with a pointed bony or lighter stone. These figures have formed over time. Writing has become easier with the development of paper, pens and technology. Different forms of the writing have appeared with small letters [14]. The artists have created the Renaissance humanism thought and the writing that will become a model for small letters [16]. For a model, the conventional written work content of the late classical time frame was chosen, joined with Celtic developments, including the utilization of four rules, ascenders, and descenders, and formed into an arranged uniform content called Caroline tiny. The Caroline infinitesimal is the herald of our contemporary lowercase letters in order. Letterforms were pragmatic and simple to compose. Characters were separate rather than joined, and the quantity of ligatures was diminished. Much written work had turned into a slurred scribbling; the new letters in order reestablished clarity [20]. The cutting edge Latin letters in order comprises of 52 upper and lowercase letters with ten numerals and an assortment of different images, accentuation checks and accents that are utilized by different diverse dialects. Lowercase letters created from cursive (signed up) renditions of the capitalized letters [1]. An example of the small letters that first appeared with Caroline minuscule is shown in Figure 1.

Figure 1. Caroline minuscules from the Alcuin bible, ninth century CE [20]

The Latin alphabet was born from the Greek alphabet. The Latin alphabet has been used in different geographies in the writing of Turkic languages since the fourteenth century. The writing of the Turks in the Latin alphabet is found from the beginning of the twentieth century. Europeans have produced various Turkish texts in Latin alphabet since the beginning of the fourteenth century [12]. When the Turkish alphabet was created, the basic letters of the Latin alphabet were taken. In addition, the basic letters were changed and new letters were created. In order not to create a complicated alphabet consisting of a large number of different letters, the vowel are shown with separating signs on top of some Latin letters [11]. In Turkish alphabet used today, there are twenty nine letters determined according to the voices of the Turkic. There is no difference in the reading of upper and lower case letters. However, there are differences in terms of writing. There are different rules for using small and capital letters. Apart from these rules, most of the text uses small letters [14]. The Turkish alphabet was accepted by the Letter Revolution in 1928 and started to be implemented in 1929 [12].

Secondly, the reading speed of lowercase letters and capital letters is emphasized. In general, the reading of texts written in all uppercase letters is more difficult than the reading of texts written in lowercase letters. For this reason, it is necessary to avoid writing a complete text in all capital letters [35]. In our age, communication and time have become important. The narration, the presentation of the information, must be done in a short way and in the correct way. To tell a lot of things in a few words, it is necessary to reach people who have limited time with these scripts in a short time. For this reason, it is important to make the texts easy to read. In texts, small letters are used, because all letters are the same high in capital letters. The power of distinguishing them is diminishing. Since the lowercase letters are different in size and shape, the letters can be easily selected and read [14]. The words in small letters are better known and read quickly. Words with small letters make our minds work faster and make sense [14]. Various shapes, lines and dots are used for writing upper and lower case letters. These are called body, legs, feet, extensions, accents and dots. These features of the letters increase the distinction in small letters and the words written in small letters contribute to the definition. However, when the capital letters are equal to each other, the word capitalized appears as a rectangle. This makes it difficult to recognize words written in capital letters. The text written in small letters is read 14% faster than the text written in capital letters [14]. Lowercase letters are easier to combine into a gestalt than a string of capital letters. On the other hand, although the capital is a safe script for young children for writing purposes, a text constructed solely with capitals is unreadable [23], [15].

Lower case letters are easy to learn by capital letters and are legible. In most countries, text is taught in small letters from kindergarten to university students [14]. Nowadays, most of the countries of the world are taught to read lowercase letters first, followed by uppercase letters [14]. However, in the literacy teaching in Turkey, the uppercase letter is followed by the letter of the lowercase letter [19]. Creating text with all uppercase letters distorts the rhythm and flow of the text. If a strong emphasis is required, the use of capital letters is a very remarkable emphasis. Capital letters should only be used for very important words or expressions that have long been discussed or referenced in the text [28]. Suitable for increasing reading speed are lower case letters. Lowercase letters are read faster than uppercase letters [14]. If text is set entirely in capital letters, it suffers a loss of legibility

and the reader is placed at a significant disadvantage. Text set in lowercase letters forms words that are distinct, based upon their irregular word shape and internal pattern. A variety of letter shapes, ascenders, and descenders provides rich contrasts that assure satisfactory perception. Once a specific word shape is perceived, it is stored in the reader's memory until the eye confronts it again while reading. A reader can become confused if a word takes on an appearance that differs from the originally learned word shape [6]. Some of the capital letters are very similar to each other. This similarity is very small in lowercase letters. For this reason, capital letters increase confusion and slow down reading. The capital letters look flat and their shapes look similar. Texts written in capital letters have rhythm deficiency and slowness [14]. Small letters make it easy to remember. Words in small letters are easily placed in the mental dictionary because of their visual recognition advantage. For example, the eyes that are encountered with the logo and the writing of 1,500 brands per day take, store, think on the images of the brand in a tenth of a second. In the following days, the writing of this mark is more easily remembered [14]. Children seem to recapitulate in their own development the same path history took. They seem reluctant to endow the void between words with a function and show a preference for the capital letter [26]. Big companies have started to prefer small letters to increase readability and connotation. For example, they write very famous companies names such as 'twitter' and 'Facebook' and their logos in small letters. Some companies also use lowercase letters in their ads. Small letters are an effective force in the field of advertising [14]. Writing words in capital letters makes them reluctant to read because of the stagnation and monotony they create. In addition, capital letters take up more space than words written in small letters [24]. The fact that long texts are made up of capital letters makes the appearance unpleasant. Words appear as a rough rectangle. Small letters, legs and tails show a more distinctive structure than the capital letters. This makes the lowercase letters more readable. Capital letters cause more screening because of more space [18].

Figure 2. Word with capital letters

Figure 3. Word shape with capital letters

Figure 4. Word with lowercase letters

Figure 5. Word shape with lowercase letters

In addition to improving reading skills in primary education, it is important to make reading fast. There is linear relationship between speed of reading and speed of thinking, understanding and inquiry. Texts written in small letters are read faster [14]. The following researches have been done the importance of reading upper and lowercase letters: [1], [6], [10], [16], [20], [24], [26], [28], [35]. Tinker & Paterson [32] tried 3 compose frames all capitals, roman lower case, italics-to 640 subjects. Correlations were made between the speed of perusing the all capitals versus the lower case content and the italics versus the lower case content. The ABBA strategy for arrangement was utilized for each type of the content and each style of sort. A distinction of 13.4% was appeared for bring down case versus capitals; 2.8% for bring down case versus italics. Treiman & Kessler [33] inquired about on kids' spelling has centered around its phonological bases. They analyzed a sort of nonphonologically learning that even youthful youngsters may have information about the qualification amongst upper and lowercase letters. In ponder 1, they examined the upper casing designs utilized by kids in kindergarten through second grade on words that did not contain a capital letter in their ordinary spellings. The more youthful youngsters, particularly, frequently composed with capital letters. They did as such nonrandom, will probably underwrite word-starting letters than later letters. At the point when youngsters embedded a capitalized letter in a no initial position of a spelling, it had a tendency to be a letter whose capitalized shape was particularly natural to the tyke, the underlying letter of the tyke's first name. In contemplate 2, which inspected kindergartners' information of the names of upper and lowercase letters, they discovered additional confirmation that kids' names impact their insight about letters and that a portion of this learning is case particular. Together, the outcomes demonstrate that early spelling includes more than phonology.

When the researches are studied, it is seen that theoretical studies about the typography area are made mostly. The purpose of this research is to examine the speed of reading the uppercase and lowercase texts of primary school students. Research is important in terms of contributing to the field of reading education. The results of the research are thought to be useful for teachers

working at primary level. It is also thought to contribute to publishing houses.

The main problem of this research is;

Is there a meaningful difference between primary school students' speed of reading all uppercase and lowercase texts?

Within the scope of the main problem mentioned, the following sub-problems were searched;

1. What is the speed with which primary school students read aloud all upper case and all lower case texts at class level?
2. Is there a meaningful difference between primary school students' speed of reading all upper case and all lowercase texts?

2. Materials and Methods

2.1. Research Design

This research, which examines the speed of voice reading of uppercase and lowercase texts of primary school students, is the survey of quantitative research methods. Surveys are the most used method among quantitative research methods [22]. Survey researches of participants' opinions, interests, skills, abilities, attitudes, [3], [8], [5] in which the characteristics are quantitatively determined [9].

2.2. Sample

The survey population of the research is the primary school students who are educated in the primary schools in the Sorgun district of Yozgat province. Cluster sampling used for sampling. Cluster sampling that groups of individuals are identified from the population and subjects are drawn from these groups [17]. In order to determine the sample, all primary schools in Sorgun district of Yozgat province were written on separate papers and thrown into a bag. A randomly selected school was taken as a sample from the torch. The primary school students in the sample gender and grade are presented in Table 1.

Table 1. Sample gender and grade

		f	%
Gender	Boy	398	54
	Girl	334	46
Grade	1	97	13
	2	100	14
	3	88	12
	4	90	12
	5	96	13
	6	88	12
	7	80	11
	8	93	13
Total		732	100

As shown in Table 1, 398 students in the sample are boys and 334 students are girls. 97 students in first grade, 100 students in second grade, 88 students in third grade, 90 students are fourth grade, 96 students in fifth grade, 88 students in sixth grade, 80 students in seventh grade, 93 students in eighth grade.

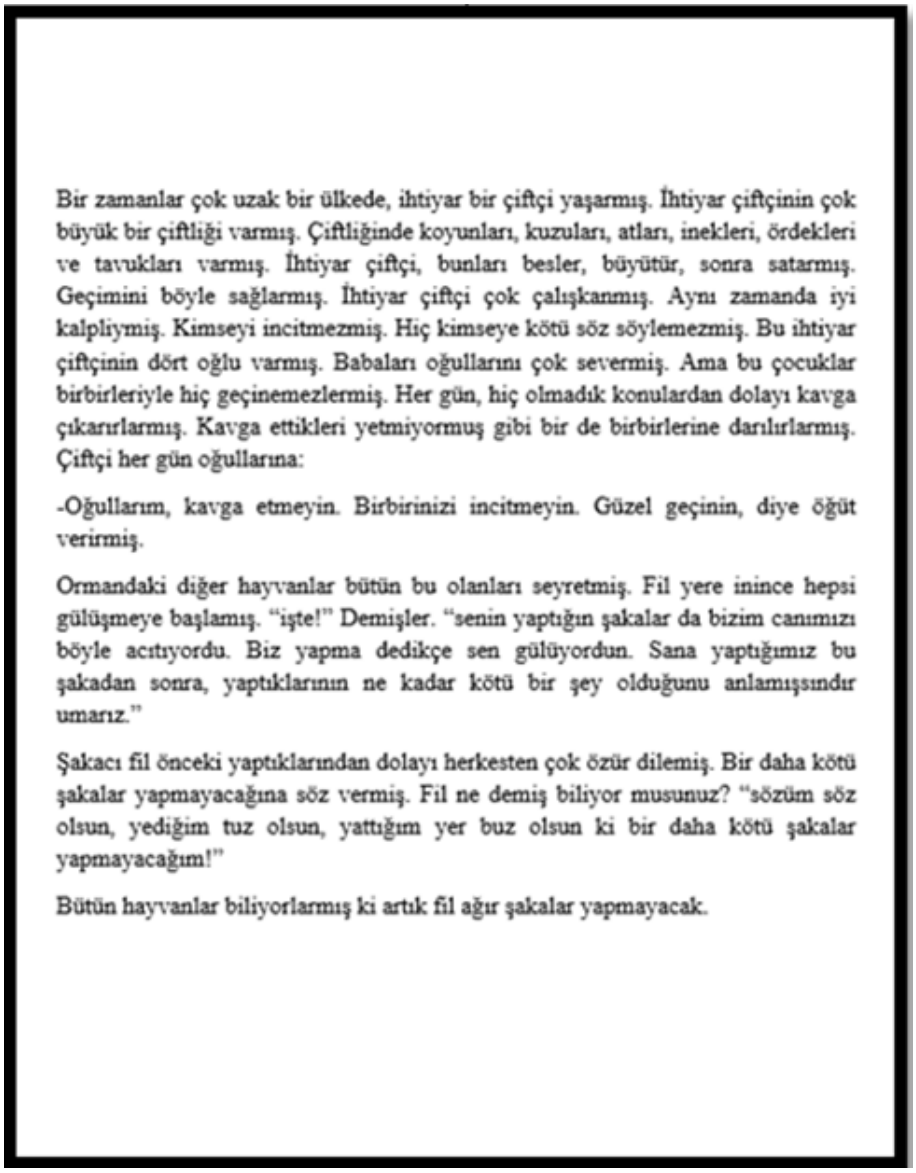
2.3. Data Collection Tool

As a means of collecting data, a text was used from the Turkish textbook which was distributed by the Ministry of National Education to the students free of charge, which primary school students used in their Turkish lessons. Turkish 2 Tutorial Book Student Workbook Text titled "Keloğlan ile Sihirli Tas" in the book was read aloud to the students.

GÜLLERİ ÇOK SEVEN BİR DEDE VARMIŞ. BU YÜZDEN BAHÇESİNİN HER TARAFINA ÇEŞİT ÇEŞİT GÜLLER DİKERMİŞ. GÜLLERE OLAN SEVGİSİ O KADAR BÜYÜKMÜŞ Kİ TORUNUNUN ADINI BİLE GÜLİSTAN KOYMUŞ. GÜLİSTAN DA GÜLLERİ ÇOK SEVERMİŞ. HATTA ANNESİNE VE ÖĞRETMENİNE SEVGİSİNİ ANLATABİLMEK İÇİN SIK SIK GÜL GÖTÜRÜRMÜŞ. BUNDA NE VAR Kİ DİYECEKSİNİZ AMA GELİN BUNU BİR DE GÜLLERE SORUN. ÇÜNKÜ GÜLİSTAN HER SEFERİNDE "EN GÜZEL GÜLÜ BULMALIYIM." DİYEREK GÜZELİM GONCALARI KOPARIP ATIYORMUŞ. GERÇİ ANNESİ VE ÖĞRETMENİ ONU BİRKAÇ KEZ UYARMIŞ. TATLIM, GÜL İÇİN TEŞEKKÜR EDERİM. ANCAK ONLARA ÖZEN GÖSTERMELİ, KOPARIP ATMAMALISIN. ÜSTELİK DE HER GÜN BİR DEMET GÜL GETİRMENE GEREK YOK, DEMİŞ ANNESİ. ÖĞRETMENİ DE: BAK BENİM GÜZEL GÜLİSTAN'IM! SEN BENİM BİRİCİK ÇİÇEĞİMSİN. BANA OLAN SEVGİNİ SÖZLERİNLE VE DAVRANIŞLARINLA DA GÖSTEREBİLİRSİN, DEMİŞ. ARDINDAN DA ŞÖYLE EKLEMİŞ:

—HEM UNUTMA! ONLAR DA BİZİM GİBİ BİRER CANLI. GÜLİSTAN BU SÖZLERE BİR ANLAM VEREMEMİŞ. GÜLLER NASIL CANLI OLABİLİR Kİ, DEMİŞ KENDİ KENDİNE, GÜLİSTAN BUNLARI DÜŞÜNEDURSUN, BİZ GELELİM GÜLLERE. GÜLLER, HER GÜN BAZI ARKADAŞLARININ DALLARINDAN KOPARILIP GÖTÜRÜLDÜĞÜNÜ GÖRÜYOR VE BUNA ÇOK ÇOK ÜZÜLÜYORLARMIŞ. BİR AKŞAM HASGÜL'ÜN ETRAFINDA TOPLANIP ONA DERTLERİNİ ANLATMIŞLAR. ÖNCE BİR GONCA SÖZ ALMIŞ. SAYGIDEĞER HASGÜL! HER GÜN KARDEŞLERİMİZ KOPARILIYOR. BİZ GONCALAR, DAHA AÇILIP GÜL OLAMADAN YOK OLUP GİDECEĞİZ. BU DERDİMİZE BİR ÇARE BULUNUZ LÜTFEN, DEMİŞ. HASGÜL, NE DİYECEĞİNİ DÜŞÜNÜRKEN BİR BAŞKA GONCA ATILMIŞ ÖFKEYLE: BUNUN ÇARESİ VAR KARDEŞİM. DİKENLERİMİZ NEYE YARAR? BİZİ KOPARMAK İSTEYENLERİN ELLERİNE BATIRALIM DA GÖRSÜNLER GÜNLERİNİ, DEMİŞ. GERÇEKTEN DE AZ SONRA GÜL PERİSİ GELMİŞ. GÜLLERİN DERDİNİ DİKKATLE DİNLEMİŞ VE SONUNDA: BEN GÜLİSTAN'I İYİ TANIYORUM. HER GECE UYUYUNCA RÜYA BAHÇESİNE GİDİYOR. BU GECE BEN DE SİZİ ORAYA GÖTÜREYİM. ONDAN SONRA... GÜL PERİSİ SÖZÜNÜ BİTİRMEDEN SUSMUŞ. SONRA DA GÜLLERİN KENDİSİNE YAKLAŞMALARINI İSTEMİŞ.

Figure 6. Text with capital letters



Bir zamanlar çok uzak bir ülkede, ihtiyar bir çiftçi yaşarmış. İhtiyar çiftçinin çok büyük bir çiftliği varmış. Çiftliğinde koyunları, kuzuları, atları, inekleri, ördekleri ve tavukları varmış. İhtiyar çiftçi, bunları besler, büyütür, sonra satarmış. Geçimini böyle sağlarmış. İhtiyar çiftçi çok çalışkanmış. Aynı zamanda iyi kalpliymiş. Kimseyi incitmezmiş. Hiç kimseye kötü söz söylemezmiş. Bu ihtiyar çiftçinin dört oğlu varmış. Babaları oğullarını çok severmiş. Ama bu çocuklar birbirleriyle hiç geçinemezlermiş. Her gün, hiç olmadık konulardan dolayı kavga çıkarırlarmış. Kavga ettikleri yetmiyormuş gibi bir de birbirlerine darılırlarmış. Çiftçi her gün oğullarına:

-Oğullarım, kavga etmeyin. Birbirinizi incitmeyin. Güzel geçinin, diye öğüt verirmiş.

Ormandaki diğer hayvanlar bütün bu olanları seyretmiş. Fil yere inince hepsi gülüşmeye başlamış. "işte!" Demişler. "senin yaptığın şakalar da bizim canımızı böyle acıtıyordu. Biz yapma dedikçe sen gülüyordun. Sana yaptığımız bu şakadan sonra, yaptıklarının ne kadar kötü bir şey olduğunu anlamışsındır umarız."

Şakacı fil önceki yaptıklarından dolayı herkesten çok özür dilemiş. Bir daha kötü şakalar yapmayacağına söz vermiş. Fil ne demiş biliyor musunuz? "sözüm söz olsun, yediğim tuz olsun, yattığım yer buz olsun ki bir daha kötü şakalar yapmayacağım!"

Bütün hayvanlar biliyorlarmış ki artık fil ağır şakalar yapmayacak.

Figure 7. Text with lowercase letters

2.4. Data Collection

Data, Turkish 2 Tutorial Book Student Workbook Text titled "Keloğlan ile Sihirli Tas" in the book was read to the students. The data were collected in March 2018. The data were collected in three primary schools in the Sorgun district of Yozgat province. The researcher first described the process to the classroom teacher. During the practice, the researcher observed the process by sitting next to the classroom teacher. The class teacher sat on the teacher's desk and read the text in turn to the students. During the application, the students were called one by one according to their rank in the class list. The text of classroom instruction is read out one by one to students. The stopwatch was started when the students began to read the text aloud. After a minute, the students' loud readings were stopped. The number of words a pupil reads in a minute is noted. Researcher worked with a classroom every day.

2.5. Data Analysis

Frequency, percentage and mean of descriptive statistics for analysis of data; t-test was used for related samples from inferential statistics [4]. SPSS 20 was used in the analysis process of the data. Students' class levels, gender, number of words they read per minute are entered to SPSS 20. In order to decide whether to perform the inferential statistic in parametric or nonparametric form, it is first examined whether the data are normally distributed or not. The Kolmogorov-Simirnov test was conducted to look for normal distribution. As a result of the Kolmogorov-Simirnov test, $p>.05$ was found. Büyüköztürk [4] states that parametric statistics should be used when the Kolmogorov-Simirnov test is $p>.05$. For this reason, MANOVA, which is used to perform variance

analysis, is used in experiments where more than one dependent variable is found from parametric statistics. The necessary assumptions of MANOVA are normal distribution and homogeneous variant. The necessary assumptions have been checked.

3. Results

Paired sample t-test used in order to examine the speed of reading at primary grade levels. The paired sample t-test results are shown in Table 2 for primary school students' reading speeds for capital and lowercase letters.

Table 2. Mean and standard deviations of loud reading speed scores

	Grade	n	Mean	Std. Deviation
Capital letter	1	97	34,19	10,55
	2	100	70,12	24,27
	3	88	111,45	26,99
	4	90	96,00	24,39
	5	96	142,47	35,54
	6	88	147,56	37,91
	7	80	146,20	36,83
	8	93	156,09	35,32
	Total	732	111,54	51,15
Lowercase letter	1	97	39,72	12,41
	2	100	88,04	28,41
	3	88	120,18	31,58
	4	90	110,83	21,46
	5	96	160,41	32,49
	6	88	162,17	33,50
	7	80	158,20	36,16
	8	93	180,00	33,97
	Total	732	126,05	53,63

As shown in Table 2, primary school students' number is 732. First grade students reading speed of on the all text written with capital letters is 34; second grade is 70; third grade is 111, fourth grade is, 96; fifth grade is 142; sixth grade is 147; seventh grade is 146; eighth grade is 156. First grade students reading speed of on the all text written with capital letters is 39.72; second grade is 88.04; third grade is 120.18, fourth grade is 110; fifth grade is 160; sixth grade is 162; seventh grade is 158; eighth grade is 180. These results are shown in Figure 8.

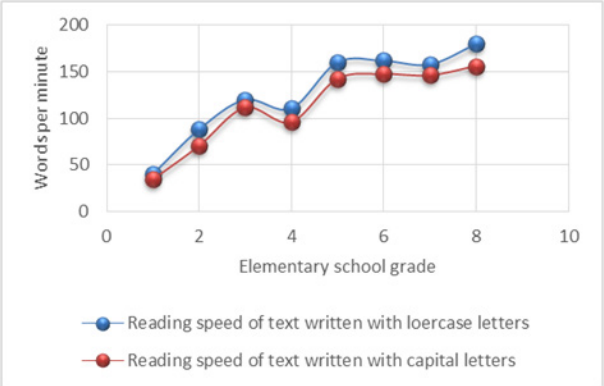


Figure 8. Reading speed of text written with capital letters and lowercase letters graphic

As shown in Figure 8, reading speed of text written with lower case letters is more than reading speed of text written with capital letters at all grade levels.

Paired sample t-test used for primary school students the difference between the speed of readings in capital letters and the small letters. Paired sample t-test results shown in Table 3.

As shown in Table 3, the scores varied for the capital letters and lower case letters. At an alpha of .05, the analysis indicated a statistically significant difference among reading rate of the capital letters and lower case letters, ($t=23.13$, $p<.01$), effect size .28 SD.

The speed of reading small-letter text is 13% higher than the speed of reading large-character text. The manova results for grade levels shown in Table 4.

Table 3. Paired Sample t-test statistics of elementary school students' reading rates

Variable	Mean	Number of Cases	Std. Deviation	Std. Error of Mean	
Capital letter	126.05	732	53.63	1.98	
Lowercase letter	111.54	732	51.15	1.89	
Mean difference=-15,04					
T value	df	2 - Tail Significance	SE of Difference	95% Confidence Interval	Effect Size
23.13	731	.000	.62	Lower:15.74 Upper:13.37	.28

Table 4. Multivariate analysis of variance (manova) results for grade

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	capital	1260421,095[a]	7	180060,156	199,795	,000	,659
	lowercase	1472816,982[b]	7	210402,426	241,761	,000	,700
Intercept	capital	9308254,107	1	9308254,107	10328,427	,000	,934
	lowercase	11837234,134	1	11837234,134	13601,449	,000	,949
grade	capital	1260421,095	7	180060,156	199,795	,000	,659
	lowercase	1472816,982	7	210402,426	241,761	,000	,700
Error	capital	652488,135	724	901,227			
	lowercase	630091,492	724	870,292			
Total	capital	11021346,000	732				
	lowercase	13734979,000	732				
Corrected Total	capital	1912909,230	731				
	lowercase	2102908,474	731				

As shown in Table 4, the MANOVA test shows that text with lower case letter reading aloud score significantly higher mean scores than text with capital letter reading aloud score (λ= ,278; F= 92,536; p<.001; η2=.70. Cohen [7] suggests that if the value of d is less than 0.2, the magnitude of the effect is weak, if it is 0.5, it is medium and if it is greater than 0.8, it can be defined as strong. Statistical comparisons on each grades were made by multivariate analysis of variance (MANOVA), followed by analysis of variance (ANOVA) tests for each grade. Post-hoc tests (the Bonferroni correction was used when the equality of variances assumption holds, and the Dunnett t3 correction was used otherwise) followed in case a significant effect was detected. Secondary school students' reading aloud text with lower case letter score significantly higher than primary school students' aloud reading speed text with capital letters (p<.001).

4. Conclusions

As a result of this study, the average speed of reading the uppercase and lowercase texts of elementary school students was determined. Primary school first grade students reading speed of on the all text written with capital letters is 34; second grade is 70; third grade is 111, fourth grade is, 96; fifth grade is 142; sixth grade is 147; seventh grade is 146; eighth grade is 156. First grade students reading speed of on the all text written with capital letters is 39; second grade is 88; third grade is 120; fourth grade is 110; fifth grade is 160; sixth grade is 162; seventh grade is 158; eighth grade is 180. The scores varied for the capital letters and lower case letters. At an alpha of .05, the analysis indicated a statistically significant difference among reading rate of the capital letters (M=126.05) and lowercase letters (M=111.54), (t=23.13, p<.01), effect size .28 SD. The speed of reading lowercase letter text is 13% higher than the speed of reading capital letters text. This result is the same as done by Tinker & Paterson [32]. Tinker & Paterson [32] state that, the speed of reading the all capitals vs. the lower case text, a difference of 13.4% was shown in favor of lower case vs. capitals. Güneş [14] asserts that, the letterboxes, legs, legs, extensions, accents and dots of the letters increase the distinctive features in lowercase letters and provide a great contribution to the identification of words written in small letters. However, when the capital letters are equal in size, a word written in capital letters looks like a rectangle. This makes it difficult to recognize words written in capital letters. A text in lowercase letters is read 14% faster than a text in capital letters. When a text was set in capital letters it required a slightly longer average reading time than the same text presented in traditional lower-case letters. The differences between reading time for capital and lowercase letters increased with wider characters and longer lines [25]. Poulton & Brown [27], Tullis [34] state that texts written normally in small letters are read 14% faster than texts written entirely in capital letters. Güneş [14] indicates that there are significant differences in visual recognition between upper and lower case letters. Lowercase letters increase the level of visual perception of words and texts, while at the same time increasing the readability of a text. In addition, the use of uppercase letters in texts, and the use of capital letters for attention purposes increase the attention. Generally, texts written in small letters are easier to read, and readers spend less time than text written in capital letters. Text should be written in small letters in order to facilitate reading and to increase reading speed, and texts written in all capital letters should be avoided. This also applies to screen reading. Lowercase letters should also be used in the display texts.

According to Güneş [14] lower case letters are easier to learn and legible. Moving from these researches, students

are taught in small letters to students at all levels from kindergarten to university in most countries. The recognition of words written in small letters is stronger than the ones written in capital letters. The words in small letters have 3 times more distinctive features and are 3 times easier to notice. This increases the speed of reading [13]. Güneş [14] states that visual recognition of small letters facilitates the configuration process in mind. Constructing the mind in small letters helps the student use the images in his or her mind as they face the same words the following days. The student quickly matches the words he/she reads with images in his / her mind, so that the words are easier to perceive, recognize, and read. However, when the words written in capital letters are read, the images are in conflict with the images that the individual has accustomed to and placed in the mind, resulting in a perception and recognition difficulty. In such cases, our mind is spending more effort and energy to read texts in capital letters. In contrast, it is easier to read texts in small letters and to structure their meaning in their minds. Güneş [14] claims that if the entire word is written in capital letters, it appears to be rectangular during reading. Small letters, however, are more characteristic and easier to recognize than words with dotted letters like 'i, ü, ö' with letters like 'y, k' extending down and up. This leads to easier recognition of words in small letters. Words in all capital letters have similar shapes and profiles. Many words cover rather similar areas on the background. However, written with lower-case letters words look quite different. All-capital printing has been shown to markedly reduce the speed of reading [27], [31]. Güneş [14] indicates that our eyes are more familiar with small letters. However, it is necessary to make extra effort to read the texts written in capital letters fast. Some of the capital letters are very similar. For example, P and B are like E and F. There are very small differences between them. This close similarity is less visible in small letters. For this reason, the capital letters increases the scrambling and slows down the reading. Another drawback of the capital letters is that their visual appearance is very flat and their shapes are similar. This situation causes insufficient rhythm and slowness in capitalized texts. Small letters, on the other hand, increase visual recognition and reading speed from the direction such as shape, shadow, and legs.

Text with lower case letter reading aloud score significantly higher mean scores than text with capital letter reading aloud score (λ=.278; F= 92.536; p<.001;, η2=.70. Secondary school students' reading aloud text with lower case letter score significantly higher than primary school students' aloud reading speed text with capital letters (p<.001). There is tried and true way of thinking, bolstered by some proof and rationale inside the fields of typography and psychological science that declares that content set in blended upper and lowercase is more readable than all capitalized (every single capital letter). Typographers by and large point to the way that word shape is more particular with blended and lowercase than it is with all capitalized, a prudence that outcomes from the way that every single capitalized character are a similar stature and have no ascenders and descenders, while lowercase characters, which have the two ascenders and descenders shift in both tallness and normal position, apparently making words built with them more unmistakable because of more variety in the stature of word forms [2]. Lower-case letters have more 'character' as far as variety fit as a fiddle and the differentiating of ascenders and descenders with short letters. This prompts trademark word frames that are considerably less demanding to peruse than words in all capitals [30]. There is an exceptionally sensible contending thought, in any case: that all capitalized content ought to be more neat since the letters are as a rule bigger than in bring down case content. Expanding about any little protest makes it more obvious, obviously, to be sure almost all optical vision helps depend on the upgraded perceivability of amplified items to accomplish better perceivability. Content set in outwardly little sizes as a rule, and low vision perusing specifically, may be relied upon to profit by the bigger letter sizes of capitalized letters [2].

The following suggestions can be made within the scope of the research results:

1. It is recommended that textbooks should be written in lowercase letters as possible. Some newspapers and comics are written in capital letters. It is suggested to write in small letters because it is faster to read in capital letters.
2. In literacy teaching, emphasis should be placed on teaching writing in lowercase letters.
3. This research was conducted at primary level. Surveys conducted by researchers can be used to investigate reading speeds for middle school, high school and university students.
4. This study was conducted with Turkish students and Turkish words. With the surveys to be done, the speed of reading aloud in different countries can be determined.

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