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The Role of Early Literacy Skills in Beginning to Read in Turkish: Longitudinal Findings from First Graders

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The aim of this longitudinal study is to investigate the effects of early literacy skills on beginning to read in a transparent orthography, viz. Turkish. In line with this aim, a total of eighty-four participants were followed from preschool to the end of the first grade and the extent to which participants' early literacy skills in the preschool period predict their future reading performances was examined. All the data gathered in the study were collected individually at one-year intervals. The participants' early literacy skills were tested by the "Test of Early Literacy (TEL)", reading comprehension skills was obtained with a text containing 162 words and 10 multiple choice questions, reading fluency performances were calculated with the formula of correct number of words per minute. Data were computed through correlation analysis, and hierarchical regression analysis. Results suggest that regarding phonological awareness, early literacy sub-skills, especially those contributing to or serving oral comprehension had positive effects on reading fluency and reading comprehension at the end of the first grade. Valuable conclusions have been drawn from this finding about the role of phonological awareness, and its contribution to reading in an agglutinative orthography such as Turkish. Obtained results are discussed in relation to the literature.

Introduction

An important milestone for all children is starting school. At the beginning of primary school, children are expected to gain a lot of knowledge and skills, reading in particular. Although reading acquisition is seen as the primary aim of first grade, the basics of this skill are based on pre-school period. It is an important finding, with strong scientific evidence, that children who acquire the basic prerequisite skills for beginning to read before moving to

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primary school face much less difficulty in learning to read (Pears, Kim, Fisher, & Yoerge, 2016; Pfof, 2016; Phillips & Meloy, 2012). When the basic prerequisite skills come to the fore, the concept of early literacy appears.

Early literacy is defined as the prerequisite skills for proper literacy acquisition in the preschool period (Wilcox, Gray & Reiser, 2019). In terms of its scope and implementation, it corresponds to skills children acquire between the ages of 0-6, in other words during early childhood education. Research has indicated that these skills are among the most important criteria in determining whether the child has achieved sufficient readiness to beginning to read/ to learn how to read (Pears et al., 2016; Pfof, 2016; Phillips & Meloy, 2012). Early literacy is a framework that includes a number of sub-skills. These are; a. Print Awareness, b. Letter Knowledge, c. Vocabulary Knowledge, d. Phonological Awareness and e. Oral Language Comprehension (NELP, 2008). It is stated that some of these skills (e.g. phonological awareness, letter knowledge, vocabulary) directly make important contributions to the word decoding step of reading (e.g. Durgunoğlu & Öney, 1999; Güldenoğlu, Kargin & Ergül, 2016; Hulme, Bowyer-Crane, Carroll, Duff, & Snowling, 2012; Savage, Pillay & Melidona, 2008), while some of them (e.g., vocabulary knowledge, oral language comprehension) contribute to both word decoding and reading comprehension (e.g. Elliott & Olliff, 2008; Hjetland, Ellen, Halaas, Eriksen & Melby-Lervag, 2019; Kendeou, Van den Broek, White, & Lynch, 2009; Lai, Benjamin, Schwanenflugel & Kuhn, 2014; Myers & Ankrum, 2016; Oakhill & Cain, 2012; Tarchi, 2010). This study will focus on three of them (vocabulary, linguistic comprehension and phonological awareness,), which are considered to be the best predictors of reading acquisition (NRP, 2000; NELP, 2008).

First of all, when vocabulary knowledge is examined, it is frequently emphasized that there is a significant relationship between the vocabulary knowledge that children have in the early period and their future reading comprehension skills (Byrnes & Wasik, 2009; Biemiller & Boote, 2006; Inoue, Georgiou, Parilla & Kirby, 2018; Lai et al., 2014; Myers & Ankrum, 2016; Tarchi, 2010). A study conducted by Hart and Risley (2003) showed that there was a strong relationship between the vocabulary children had at the age of 3 and their comprehension skills at the end of the 3rd grade and suggested that although children are successful in grapheme to phoneme conversion process during the word decoding stage, if they cannot find a pairing in their own vocabulary for the words they decode, they will not reach the message to be given in the written text and as a result the reading task will not go beyond pronunciation. However, at this point, it should be indicated that although vocabulary is an important variable in the process of reading, it cannot be the sole determinant, especially for level of comprehension. In other words / to be more specific, if reading is defined as the process of transferring written language to oral language and making sense of it, it is not enough to comprehend only the words in sentences, it also is necessary to comprehend the linguistic features (syntax, morphology and morpho-syntactic structures) of the read language. This perspective brings up the oral language comprehension skills, which can be defined as understanding the semantic and syntactic structures of the oral language (Lonigan, Schatschneider & Westberg, 2008).

Oral language comprehension is a high-profile language comprehension concept that acts as a bridge in combining vocabulary and linguistic features of the language. It is evaluated with listening comprehension activities in the early literacy process. As there is no formal reading within the scope of early literacy, listening comprehension activities are used to evaluate and support the ability to comprehend oral language. Because of this feature it is frequently emphasized in the literature that listening comprehension is one of the earliest predictors of

future reading comprehension performance (Goodrich & Lonigan, 2017; Kendeou et al., 2009; Mancilla-Martinez & Lesaux, 2010, 2017; Skibbe, Bindman, Hindman, Aram, & Morrison, 2011; Ukrainetz, 2017; Wise, Sevcik, Morris, Lovett & Wolf, 2007). In line with this point, raising children's awareness and helping them gain the linguistic features of their spoken languages early as possible should be a priority.

Another sub-skill that attracts the most attention and work among early literacy skills is phonological awareness (phonological awareness- PA) (e.g. Araújo, Reis, Petersson, & Faisca, 2015; Durgunoglu & Oney, 1999; Landerl et al., 2018; Norton & Wolf, 2012; Pfof, 2015, 2016). PA is stated as the capacity to manipulate the phonological segments in spoken words (Pfof, 2015). Looking at its scope, the process starts from identifying structures consisting of rhyming, syllable awareness, and phonemes in the oral language, and goes to manipulating (from identification, through segmentation, and blending to more conscious manipulation) the phonemes that make up words (Anthony & Lonigan, 2004; Fricke et al., 2016; Gottardo, Pasquarella, Chen & Ramirez, 2016). It is widely accepted that PA is the strongest predictor of learning to read, especially for the decoding stage, and form a solid basis for establishing matches between the phonological representations of the spoken language and orthographic representations of its written form (Kjeldsen, Kärnä, Niemi, Olofsson & Witting, 2014; Melby-Lervag, et. al., 2012; NRP, 2000; NELP, 2008; Rakhlin, Cardoso-Martins & Grigorenko, 2014).

The Importance of Early Literacy in The Reading Process

Reading is a complex task involving many cognitive and linguistic skills (Tunmer, 2008). In the light of Simple View of Reading (Gough & Tunmer, 1986), reading, as the procedure of taking out meaning from written symbols, basically varies depending on proficiency in two areas. The first of these is word decoding, while the other is the comprehension. Word decoding can be characterized as the ability to create a mental representation from written material (Lonigan, Burgess & Schatschneider, 2018). It serves as an important prerequisite for sufficient reading (Makhoul, 2017; Steensel, Oostdam, Gelderen & Schooten, 2016). For this reason, decoding always takes a big share at the beginning of formal reading instruction. Recently, it has been frequently emphasized that children can grasp the decoding stage more easily during beginning to read when they are equipped with sufficient phonological awareness as early as possible (Abou-Elsaad, Ali & El-Hamid, 2015; Cardoso-Martin, Mesquiata & Ehri, 2011; Kjeldsen, Educ, Saarento-Zaprudin & Niemi, 2019; Kjeldsen, et al, 2014; Makhoul, 2017; NRP, 2000; NELP, 2008; Rakhlin, Cardoso-Martins & Grigorenko, 2014; Sun, Branum-Martin, Peng & Tao, 2018). In addition, some researchers state that the phonological awareness to be gained in the early period will be an important priority in resolving reading problems in the near future (Goodman, Libenson & Wade-Woolley, 2010; Torgesen & Hudson, 2006). However, as mentioned earlier, studies conducted in a transparent orthography such as Turkish are very limited and it is clear that additional research is needed to make these kinds of generalizations.

The second stage, reading comprehension, is a more complex process including decoding (Tunmer, 2008). In this process, it is important for the readers to reach a sufficient level in both word decoding fluency and comprehension of basic linguistic structures (vocabulary, syntax, morphology, and morpho-syntactic structures) of the read language (Catts, 2018; Lonigan et al., 2018; Snow, 2018). In line with this view, it is frequently emphasized in recent research that language comprehension skills, which are examined within the scope of early literacy, are the most important predictors that should be handled as a priority for reading



comprehension (Goodrich & Lonigan, 2017; Mancilla-Martinez & Lesaux, 2010, 2017; Skibbe, et al., 2011; Ukrainetz, 2017). Especially, while the written materials contain more simple linguistic structures in the first years of school, the decoding stage seem to be more prominent for well-developed reading comprehension during these years/this period. However, as the grade level increases, because of more complex language structures in the written materials, it was observed that the role of linguistic comprehension skills come to the fore (Language and Reading Research Consortium, 2015a, 2015b; Tilstra et al., 2009). Considering the relationship between them in the process of reading comprehension, it can be stated that the shift to the dominance of linguistic comprehension appears to occur once decoding has become faster and more automatic because automaticity in decoding frees up resources that can then be allocated to reading comprehension (Dickinson, Golinkoff, & Hirsh-Pasek, 2010; Makhoul, 2017; Steensel, et al.,2016).

Consequently, taking into consideration all the information presented above, it could be said that early literacy contributes to the reading acquisition process positively and readers should be equipped with an acceptable level of early literacy skills for a successful reading performance.

The present study

Although there is plenty of research on the role of early literacy in beginning to read, the number of studies conducted with children who are beginning to read in Turkish is restricted. (Altun, 2019; Babayigit & Stainthorp, 2007; Durgunoglu & Oney, 1999; Güldenöglu, Kargin & Ergül, 2016; Işıtan, Saçkes & Biber, 2020; Kargin, Güldenöglu & Ergül, 2017; Raman, 2006; Raman et al., 2004). This gap seen in the literature is one of the most important reasons for the current study. Additionally, it is thought that this study can make valuable contributions to the importance of early literacy skills in beginning to read in transparent orthographies and findings may be a guide for developing an early literacy curriculum in languages with orthographically transparent characteristics. For all these reasons, in the present study, it is aimed to investigate the predictability of early literacy skills in beginning to read in Turkish. For this aim, the fundamental research questions have been investigated: (a) Is there a significant relationship between early literacy skills and reading fluency and comprehension? (b) What are the basic skills that predict reading comprehension at the end of first grade?

Method

Participants

In this longitudinal study, the participants' early literacy skills were evaluated at the end of the kindergarten; then their reading performance (fluency and comprehension) at the end of the first grade. The initial sample comprised 90 preschool children. A year later, data were collected from 84 first-grade children due to families changing their cities, contact numbers, and so on. Both evaluations were carried out in May and June, corresponding to the end of the formal school period with one-year intervals. During the establishment of the research group in the preschool period, variables such as the socio-economic status (SES), age, gender, the absence of any known disability and the native language being Turkish were taken into account. The SESs of the participants was controlled with the regions of the schools and the demographic information form developed by the researchers. In this process, first of all, the school administrators were interviewed and asked which SES corresponds to

their school, considering the profile of the families of their students. Secondly, the demographic information form containing the family's education level, income, etc. was filled out for each participant. As a result, it was ensured that all participants showed a similar distribution in terms of SES (29 of them from low SES, 26 of them from medium SES and 29 of them from high SES), age (between 60-72 months) and gender (34 girls and 50 boys).

Materials

Demographic information form

This form was used to obtain demographic and personal information of children and their parents. It consists of two parts. In the first part, there are questions about identity information, demographic characteristics of children (age, gender, whether kindergarten education is received) and in the second part, information about their parents (educational status of parents, income level, working condition and age, and alike.).

Test of Early Literacy (TEL)

In this study, Turkish. Test of Early Literacy (TEL) was used to evaluate early literacy skills of children (Kargin, Ergül, Buyukozturk, & Guldenoglu, 2015). TEL is a standard measurement tool developed to evaluate the early literacy skills of Turkish children between 60-72 months (For details, see Kargin et al., 2015). In this study, vocabulary, phonological awareness and listening comprehension tests in TEL were used

Vocabulary. This test has two subtests named receptive and expressive vocabulary. Both of them have a total of 15 items and the highest score that can be taken from each dimension is 15. In receptive vocabulary subtest, four pictures were presented to the children and the tester said a word to represent one of them. Afterwards children were asked to show to the wright picture of the word. In the expressive vocabulary subtest, pictures were presented to the children, and they were asked to verbally express what the object or who the person was, they saw in the picture.

Phonological awareness. This test has eight subcategory and there are 32 questions in total, 4 questions in each subcategory. In the rhyming and matching initial/final sound categories, four pictures, one of which was the target word, were presented to the children and according to the feature of the subtest they were asked to point the correct picture with the target word. The other five were orally presented to the children and asked to give their answers the same way according to the nature of the categories.

Listening comprehension. This test consists of a story and a total of 6 comprehension questions. During the application of this test, the examiner first read the story to the children and asked them to listen carefully. After reading, she presented questions related to the story and asked the children to answer the questions orally. The application duration of each subtest varied between 5 and 20 minutes, for the vocabulary subtest between 5 to 10 minutes, for phonological awareness 15 to 20 minutes, and the listening comprehension was 5 to 8 minutes.

Reading Fluency and Comprehension

During the evaluation of students' reading fluency and reading comprehension skills at the end of the first year, a text and its comprehension questions were used (Erdogan, 2009). This text made up total of 162 words and 10 multiple choice questions with three options. Each correct responses were scored as 1 and the wrong ones as 0. The highest score was 10. The reliability coefficient of the text was 0.82. The duration of reading the text and answering the questions varied between 5 and 9 minutes. Reading fluency of students was calculated with the formula of correct number of words per minute [(total word reads - number of errors) X 60 / reading time (seconds)] and reading comprehension scores were calculated with the total number of correct answers given to 10 questions.

Procedure

First stage: Evaluation of early literacy

Before starting the first data collection phase of the study, all children been planned to participate in the study were interviewed individually and the implementation phase was started only with those who volunteered to participate. All the applications were carried out with individual sessions of 30-35 minutes in an environment determined within the children's own schools. In all sessions, firstly vocabulary, then phonological awareness, and finally listening comprehension subtests were applied respectively. Before each application, basic needs of children (hunger, toilet, etc.) were met and applications were started with their approvals of readiness.

Second stage: Evaluation of reading fluency and comprehension

In the second stage, the families of the participants included in the first stage were contacted and the information of the schools where their children attend the first grade was obtained from them. Then all the schools were listed, and the data collection process was started from the closest schools first and then from the more distant ones according to their addresses. All applications were carried out in an environment determined within the participants' own schools, with approximately 10-15 minutes of individual sessions. At the beginning of all sessions, the participants were informed that this was not an exam, it was only a continuation of the study done last year. Then the practice was started with only the approvals of their readiness. During the applications, the participants were asked to read the text aloud and then to answer the questions carefully. As the participants started reading the first word, the examiner started the voice recorder and stopped the recording with the participants reading the last word. In this way, the correct number of words read per minute was calculated at the end of each application. Finally, after the participants completed all the tasks, they were thanked, and the application was terminated.

Data Analysis

Data were analysed in four stages. In the first stage, data was cleaned in terms of the missing and extreme values. In the second stage, the relationship between the variables was calculated with the Pearson Correlation Coefficient and found to be significant ($p < .05$). In the third stage, it was analyzed whether the data met the prerequisites (such as normality, homogeneity, etc.) for regression analysis, and was obtained that the data was suitable for regression analysis. In the fourth stage, the extent to which early literacy skills predicted the reading process was tested by hierarchical regression analysis. In the regression analyses, the

strongest predictor of decoding (Babayiğit & Stainthorp, 2007; Güldenöğlü et al., 2016; Kjeldsen, Kärnä, Niemi, Olofsson & Witting, 2014; Vellutino, Fletcher, Snowling & Scanlon, 2004) and comprehension skills (Kargin et al., 2017; Kendeou, Lynch, van den Broek, Espin, White, & Kremer, 2005; Ouellette, 2006; Wise, Sevcik, Morris, Lovett & Wolf, 2007) was first included into the model (Field, 2018), and then the other variables were entered hierarchically. Since hierarchical regression is emphasized as the most appropriate technique to clarify the dependent variables (reading and reading comprehension) with the interrelated independent ones (early literacy skills) (Lewis, 2007), we used this technique for the analysis of data.

Results

In this longitudinal study, data on early literacy skills were gathered at the end of preschool, and on reading fluency and comprehension were collected at the end of first grade. During the analysis, firstly the descriptive statistics were calculated and then the relationships between the variables were computed by Pearson correlation coefficients. The results obtained from the analyzes are presented in Table 1.

Table 1. Descriptive statistics of variables and correlation analysis results

Variables	Time	x	sd	RV	EV	LC	PA	RF	RC
RV		10.79	2.69	-	.55**	.46**	.36**	.27*	.37**
EV	End of	6.92	3.54	.55**	-	.41**	.36**	.24*	.35**
LC	Preschool	3.25	1.68	.46**	.41**	-	.34**	.43**	.44**
PA		11.85	4.87	.36**	.36**	.34**	-	.21*	.28**
RF	End of	39.61	15.47	.27*	.24*	.43**	.21*	-	.28**
RC	1st Grade	6.02	2.41	.37**	.35**	.44**	.28**	.28**	-

RV: Receptive vocabulary, EV: Expressive vocabulary, LC: Listening Comprehension, PA: Phonological awareness; RF: Reading fluency, RC: Reading Comprehension *p<.05; **p<.01

According to the results of the correlation analysis, there is a positive and significant relationship between all variables examined in the study.

Secondly, hierarchical regression analyses were conducted to examine whether early literacy sub-skills predict the reading fluency and comprehension at the end of first grade. During the analysis, firstly reading fluency and then reading comprehension were analyzed respectively. In the regression analysis of reading fluency, according to the previous literature, phonological awareness in the first step, vocabulary in the second, and the listening comprehension in the final step were included into the model as predictor variables. Whereas in RC analysis reading fluency was assigned as control variable and listening comprehension in the first, vocabulary in the second and the phonological awareness in the final step were included. Results gathered from regression analysis were given in Table 2 and 3.

Predictors of reading fluency

Models creating to predict the reading fluency by phonological awareness, vocabulary (receptive and expressive vocabulary) and listening comprehension were found to be significant; [Fmodel 1 (1, 83) = 4.03 p < .05; Fmodel 2 (3, 83) = 2.85, p < .05; Fmodel 3 (4, 83) = 4.87, p < .01]. The first model with phonological awareness explained 4 % of the total variance of the reading fluency scores. Including the receptive and expressive vocabulary to



the model, the explained variance increased significantly by 9%, and with the listening comprehension, the rate went up significantly to 19%. At the end the explained variance increased by 15% in compared to the first model (Table 2).

Table 2. Predictors of reading fluency

Variables	B	SE B	t	R ²	R ² change
(Constant)	31.46	4.38	7.16	.04*	-
PA	.68	.34	2.00		
(Constant)	21.44	7.04	3.04	.09*	.05
PA	.36	.37	.99		
EV	.97	.75	1.25		
RV	.47	.58	.80		
(Constant)	21.70	6.67	3.25	.19**	.10
PA	.17	.35	.49		
EV	.33	.74	.45		
RV	.15	.56	.27		
LC	3.42	1.08	3.15		

RV: Receptive vocabulary, EV: Expressive vocabulary, LC: Listening Comprehension, PA: Phonological awareness. *p<.05; **p<.01

Predictors of reading comprehension

All three models were found to be significant; [Fmodel1 (2, 83) = 13.92, p < .01; Fmodel 2 (4, 83) = 8.29, p < .01; Fmodel 3 (5, 83) = 6.67, p < .01]. The first model with listening comprehension explained 25 % of the total variance of the reading comprehension, with the second model with the receptive and expressive vocabulary the rate increased to 29%, and with the last one with the phonological awareness to 30%. At the end the explained variance increased by 5% in compared to the first model (Table 3).

Table 3. Predictors of reading comprehension

Variables	B	SE B	t	R ²	R ² change
(Constant)	2.84	.66	4.24	.25**	-
LC	.04	.01	2.49		
	.47	.15	3.10		
(Constant)	1.57	1.01	1.55	.29**	.04
LC	.03	.01	2.32		
EV	.32	.16	1.92		
RV	.11	.10	1.08		
	.09	.08	1.13		
(Constant)	1.41	1.04	1.35	.30***	.004
LC	.03	.01	2.27		
EV	.30	.16	1.80		
RV	.10	.10	.96		
PA	.08	.08	1.00		
	.03	.05	.66		

RV: Receptive vocabulary, EV: Expressive vocabulary, LC: Listening Comprehension, PA: Phonological awareness, RF: Reading Fluency *p<.05; **p<.01



Discussion

The aim of this study is to clarify the role of early literacy in the beginning to read in a fully transparent orthography such as Turkish. For this purpose, a longitudinal study was designed and the early literacy skills of 84 participants were evaluated when they were in preschool and their reading fluency and comprehension skills were assessed when they were at the end of the Grade 1. The results showed that early literacy generally has positive long-term impacts on Turkish reading fluency and comprehension.

One of the most striking findings obtained from this study is the limited effect of phonological awareness on Turkish reading measurements including reading speed, accuracy, and comprehension at the end of Grade 1. This point is in contrast with the findings in the literature, especially studies in English in which phonological awareness is widely emphasized as the strongest predictor of reading outcomes (Caravolas, Volin & Hulme, 2005; Carlisle 2000; NELP, 2008; NRP, 2000; Kjeldsen, et al., 2014; Rakhlin, et. al., 2014; Schatschneider, et. al., 2004; Ziegler & Goswami 2005). Turkish according to its extreme regularity in the grapheme-to-phoneme relationship is an entirely transparent orthography. Therefore, that's why findings gathered from this study should be discussed against the existing knowledge about the role of phonological awareness on English reading literature. Moreover, our weaker results for phonological awareness in reading fluency and comprehension gathered from this study is in line with previous studies conducted in transparent languages, e.g. German, Finnish, Dutch, Turkish (Aro & Wimmer, 2003; Babayiğit, 2006; Babayiğit & Stainthorp, 2007; Milankov, Golubovic, Krstic & Golubovic, 2021; Oney & Durgunoglu, 1997; Parpucu & Dinç, 2017; Spencer & Hanley, 2003; Wimmer & Mayringer, 2002; Zugarramurdi, Fernandez, Lallier, Valle-Lisboa & Carreiras, 2022).

In a fully transparent orthography such as Turkish, even if a child did not gain sufficient phonological awareness in the early period, if he/she could pass the grapheme to phoneme conversion process (letter sound correspondence) successfully, decoding will not be a problem for him/her and he/she can decode with high accuracy at the end of first grade (Güldenöğlü et al., 2016; Oney & Durgunoglu, 1997). In the extreme transparency of Turkish, so long as mappings of the letters with their corresponding sounds are acquired, the remaining task for the child is to combine them and reach syllables. As soon as he/she gained the ability to create and analyze syllables, a child can decode any Turkish word. From this point of view, one of the most important conclusions to be obtained from the study is that the orthographic characteristics of Turkish might have left no space for phonological awareness to make any significant effect and it shapes the weak relationship between phonological awareness and reading measurements at the end of Grade 1. This conclusion is in line with previous studies (Babayiğit & Stainthorp, 2006; Durgunoglu & Oney, 1998; Georgiou, Torppa, Manolitsis, Lyytinen & Parilla, 2012; Oney & Durgunoglu, 1997) and supports that in highly transparent orthography, rather than phonological awareness, teaching letter sound correspondence and syllable types assumes a central role for sufficient word decoding. Similarly, in another cross-linguistic study conducted by Ziegler et al. (2010), it was tested 1263 second graders in five orthographies with increasing degrees of complexity and indicated that impact of phonological awareness was weaker in consistent (more transparent) orthographies than more opaque ones. On the other hand, over the limited PA effect obtained in this study, it should not be concluded that phonological awareness has no effect on beginning to read in Turkish. On the contrary, we would like to point out that PA alone may not be decisive predictor on beginning to read in Turkish, but instead due to its positive relationship with reading fluency and comprehension it can be considered as a facilitator that supports the transition to recognition the phonological structures that make up the words.



Besides phonological awareness, the vocabulary and listening comprehension and their reflections to reading performance at the end of grade 1 were also investigated in this study. Research was frequently emphasized that with higher level of language competency, readers can decode the words more accurately and fluently and in the long run they will be more successful in reading comprehension which is the optimum aim of literacy (Goodrich & Lonigan, 2017; Mancilla-Martinez & Lesaux, 2010, 2017; Inoue et al., 2018; Lai et al., 2010; Myers & Ankrum, 2016; Skibbe, et al., 2013; Ukrainetz, 2017). We admit that word decoding is the main prerequisite factor for reading comprehension but on the other hand, it is obvious that, without sufficient oral language comprehension, only with successful decoding skills the reading task will not go beyond pronunciation and will not achieve its intended purpose. In connection with this view, previous research indicated that in order for children to be successful comprehenders, they must have acquired language comprehension skills such as sufficient vocabulary and grammar (syntactic and morphological features of the language) knowledge of the read language (Dickinson et al., 2010; Storch & Whitehurst, 2002). Our results also confirmed these conclusions and showed that, rather than phonological awareness, the vocabulary and listening comprehension development at an early stage positively contributes to both reading fluency and comprehension by the end of grade 1.

From a theoretical perspective, beginning to read has often been edited under two core skills named word decoding and oral language comprehension (Gough & Tunmer, 1986; Tunmer, 2008; Torppa, Georgiou, Lerkkanen, Niemi, Poikkeus & Nurmi, 2016). It was indicated that for a successful reading performance, both of them are important but none of them is sufficient alone (Ryder, Tunmer, & Greaney, 2008; Tunmer, 2008). Word decoding has been emphasized as the most important step for beginning to read in all reading programs. Because of its priority first-grade teachers fully concentrate on teaching of phonology and in this period, they expect from children to access sufficient phonological awareness level. This phonological based approach is an acceptable process in beginning to read in opaque languages (e.g., English, French, Hebrew etc.) which require a high level of phonological awareness skills. However, as far as Turkish is concerned, this process takes a little bit differently. The highly transparent structure of Turkish allows first grade students to pass the word decoding step quite quickly and easily, even if they have limited phonological awareness skills, approximately after three months of schooling they can decode any Turkish words with a high accuracy (Babayigit & Stainthorp, 2006; Durgunoglu & Oney, 1998; Oney & Durgunoglu, 1997). On the other hand, the orthographic transparency of Turkish does not contribute to students' reading comprehension in the same way because of its complex morphological and syntactical language characteristics. Turkish is an agglutinative language with complex grammatical compounds as suffixes. Therefore, when we look at the sentence structure, it is seen that the words that make up the sentences are intensely morpho-syntactically connected with each other (Aksu-Koc, 2010). This linguistic feature of Turkish also increases the complexity of sentence structures in written materials and requires a high level of oral language comprehension proficiency to comprehend them. As a result of this, even if children have the sufficient decoding skills, if they cannot develop adequate oral language comprehension skills in the early period, it will be inevitable for them to experience limited reading comprehension performance during the formal reading instruction at Grade 1. From this point of view, it should be noted that it is important to provide oral language proficiency to children in preschool period to make them to be sufficient comprehenders at the end of first grade. Our findings also support this conclusion and showed that when word decoding is combined with adequate oral language comprehension skills dealt with in early literacy it predicts reading performance at the end of first grade with a higher level.

In conclusion, this study showed that early literacy skills have positive effects on beginning to read in Turkish. Although due to the unique linguistic structure of Turkish, findings related to phonological awareness are incompatible with the literature, it is clear that the language comprehension skills gained in the early period positively contribute to the future reading performances. Based on our findings, it would be appropriate to present some practical implications for early literacy intervention programs in Turkey. Firstly, our results suggest that, in Turkish, a strong emphasis on phonological awareness in early literacy program may not be at the centre because the systematicity of the written forms of oral language word decoding proficiency develops very early. Secondly, instead of focusing on phonology, our prior aim should be bringing children together with picture story books as early as possible to enrich their language experience. Only in this way can we provide children an enriched language environment to increase their language proficiency. Otherwise, even if we raise students with well-equipped in word decoding poor comprehenders will always appear at the end of the process.

The present study had some limitations. First, the participants were limited to 84 children. Future studies should diversify the sample to validate the generalizability of our findings. Second, this study was tested only the role of phonological awareness, vocabulary and listening comprehension and other possible factors (working memory, attention, narrative skills, and language samples etc.) were not included; other studies should analyse the effects of these factors to better understand reading comprehension failure and develop suitable interventions. It can be suggested that the number of books in the child's home, the frequency with which the parents read, and the moment the youngster first encountered the book can all be added as study variables.

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