Reading Fluency beyond English: Investigations into Reading Fluency in Turkish Elementary Students

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Abstract
Reading fluency is one of the underlying factors of successful language curricula and it is also one of the defining characteristics of good readers. A lack of fluency is a common characteristic of struggling readers. There is a growing body of research that demonstrates proficiency in reading fluency is important for success in learning to read English. While the role of reading fluency is increasingly recognized as important for literacy acquisition in English, less is known about the role that fluency plays in literacy acquisition in other languages. The present manuscript aims to shed light on the impact of reading fluency in the Turkish language context, and also to provide some practical implications for Turkish stakeholders in education system to improve Turkish children’s reading fluency and thereby also improve Turkish children’s overall reading proficiency.

Keywords: Reading fluency, Reading comprehension, Reading instruction, International literacy

Introduction
Today, more than ever, the ability to read and comprehend what is read is crucial to becoming successful in global and information-driven society (Connor et al., 2011). reading programs must lead students to acquire essential reading skills that enable them to learn and enjoy from printed materials (Torgesen, 2002). There are certain English reading proficiencies that include phonemic awareness, phonics, reading fluency, vocabulary, and reading comprehension that have been confirmed through research to be needed in order to become a proficient reader. Lack of one of these skills may lead to difficulties in acquiring

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proficiency in reading English (Chafouleas, Martens, Dobson, Weinstein, & Gardner, 2004; Therrien, 2004).

A growing body of evidence points particularly to reading fluency in English as an important factor in student reading success. Reading fluency is primarily defined as how fast and accurately with appropriate prosody or expression a person reads a passage (Hudson, Lane, & Pullen, 2005). In school settings, judgments about reading ability are often made on the basis of students’ oral reading fluency. Thus, teachers, researchers, parents, and children alike generally are keenly aware of reading fluency and its importance for proficient reading (Rasinski, 1989; Rasinski, 2003; Rasinski, 2004a; Rasinski & Hoffman, 2003).

Oral reading fluency reflects overall reading competence and the ability to read connected text fluently is one of the essential requirements for successful reading comprehension (Fuchs, Fuchs, Hosp, & Jenkins, 2001; National Institute of Child Health and Human Development [NICHD], 2000). Fluent readers are effortless or automatic in their recognition of words in print, thus freeing cognitive capacity for the more important task in reading – comprehension. Oral reading fluency has also been widely used to monitor students’ progress in reading, particularly in elementary grades because of this its relations with reading comprehension (Kim, Wagner, & Foster, 2011). Oral reading fluency has been shown to be highly correlated with silent reading comprehension; thus it may be assumed that reading fluency is a reading competency that exists beyond oral reading and into silent reading.

Fluent reading occurs at different levels, including sublexical, lexical, and connected text (context oral reading fluency) (Hudson, Lane, Pullen, & Torgesen, 2009). Isolated word reading fluency (word-level fluency or list reading fluency) has been measured by having students read list words as quickly and accurately as possible, but, by contrast context reading fluency is assessed by having students read words in a connected text as quickly and accurately as possible.

There is a growing body research showing that connected text reading fluency in English makes more contribution to reading comprehension than isolated word reading fluency (list reading fluency) (Fuchs et al., 2001; Kim et al., 2011; Klauda & Guthrie, 2008). Connected text reading fluency is affected by a variety of oral language skills beyond word decoding.

While there is a growing recognition of the importance of fluency in English, the research on fluency of connected text reading and reading comprehension in different language contexts is limited. Most of the recent research into reading fluency has been conducted with students who are learning to read English. Little is known about the extent to which reading fluency is a significant competency in learning to read languages other than English. In this paper we report on our work in fluency with elementary students who are learning to read Turkish.

Understanding that reading fluency is an important reading competency in Turkey may lead to a better understanding that reading fluency may be a more universal variable across many written languages.

Studies of Reading Fluency among Turkish Elementary Students

Both the Turkish and English languages have alphabetic writing systems. Turkish, however, has a more transparent orthography. The sounds and symbols of Turkish language have a stronger correspondence to one another than in English. Because of this level of orthographic transparency, Turkish words can be more easily identified by sounding out the letters across the word; there is a one-to-one correspondence between phonemes and graphemes. Thus, it normally takes a relatively short time period to learn how to read
English language is made up of 26 graphemes and 44 phonemes. Turkish, however, has 29 graphemes and 29 corresponding phonemes. In terms of vocabulary, however, English and Turkish languages are similar. Both languages have large lexicons that students must learn in order to understand written texts. Successful reading requires readers to not only decode (sound) the words in print; they must also access the meaning of the words they decode. Although word decoding is easier in Turkish than English, if readers are not automatic in their word recognition, Turkish readers, like readers of English, must employ their cognitive resources for word recognition that could otherwise be used for higher level comprehension tasks. However, given the greater transparency of the Turkish orthographic system, it may be the case that most Turkish students achieve fluency in reading relatively easily and thus it may not be an important instructional variable in learning to read Turkish. A growing body of studies conducted in Turkey have begun to examine the nature of Turkish reading fluency and its impact on overall reading performance.

In the spring 2012, 399 fifth-grade students from three public elementary schools in Turkey’s Kirsehir province participated in a study of reading fluency in Turkish. The students were generally of middle socio-economic status and ranged in age from 11 through 12 years. Each student was administered a series of tests that measured various reading competencies. These included a test of reading comprehension of texts taken from fifth-grade Turkish reading language arts textbooks; a test of word recognition that involved having students read a list of words in isolation as quickly and as accurately as possible in one minute; and three measures of reading fluency were taken from students reading a fifth-grade text orally in their “best” or most expressive voice. From the oral reading measures word recognition accuracy (percentage of words decoded correctly), word recognition automaticity (number of words read correctly during the initial 60 seconds of reading, and prosody or oral expression were taken. Prosody was measured by the evaluator listening to a student read the grade-level passage and then rating the prosodic quality of the oral reading using a rubric that describes levels of competency on various elements of prosody, including expression and volume, phrasing, smoothness, and pace (Rasinski, 2004b).

All testing was done in individual read aloud sessions in quiet settings provided by the administrators of the participating schools where students would not be distracted and would feel comfortable and safe. During reading, the researchers video recorded each student’s reading to provide a permanent and verifiable record of each student’s reading that could be referred back to insure reliability and validity of the measurements. The students had not previously seen or read either text prior to reading it in the test situation. After the oral reading, the comprehension tests were administered to the students.

The goal of this research was to determine the relationships that may exist between the various measures of reading fluency and the ultimate goal of reading – comprehension. We found that all measures of word recognition and fluency correlated individually, significantly, and substantially with reading comprehension. Moreover, when the variables were combined into an integrated model of reading, the various fluency and word recognition measures accounted for nearly half of the variance in reading comprehension (Yildirim, Ates, Can, & Turkyilmaz, 2012).

In another study of over 100 fifth grade Turkish students, Yildiz, Yildirim, Ates, Rasinski, Fitzgerald, and Zimmerman (2014) found significant and substantial independent correlations between measure of both word recognition automaticity and prosody and reading comprehension. Both word recognition automaticity and prosody independently predicted students reading comprehension. Students who demonstrated greater
automaticity in their reading and whose oral reading was judged to be prosodic or expressive tended to also exhibit better reading comprehension over students who exhibited lower levels of automaticity and prosody.

Similarly, Yildirim (2013) examined the relationship between oral reading fluency, silent reading fluency, retell fluency, and isolated word reading fluency with reading comprehension. Word recognition automaticity (reading speed) was used to assess the students’ oral reading fluency. To assess silent reading fluency, a passage was printed in uppercase and whose spaces and punctuations between words were omitted. The students were asked to draw lines between boundaries of words in 3 minutes as they read the passage silently. Scoring silent reading fluency consisted of counting the words the students identified correctly in 3 minutes. Retell fluency was assessed by having the students recall as much as she/he could remember in one minute after having read a text aloud. The number of words which referred to the text that was read constituted the retell fluency score. To measure the students’ reading comprehension, a sentence verification technique (SVT) was employed.

The research results revealed strong relationships between measures of Turkish reading fluency and reading comprehension. The correlations among fluency-based skills were significant and, more importantly, the fluency-based reading measures together explained or accounted for 24% of the variance in reading comprehension. Interestingly, silent reading fluency made a more significant contribution to prediction of reading comprehension.

Research conducted by Yildirim and Ates (2012) also examined the relationship between silent and oral reading with reading comprehension in Turkish elementary students. A total of 100 fifth-grade students were asked to read grade appropriate texts silently and orally. The findings of the study showed that silent and oral reading fluency were moderately related to one another and both maintained significant correlations with reading comprehension. Together they explained 23% of the variance in reading comprehension and silent reading fluency had a greater contribution to the prediction of reading comprehension than oral reading fluency.

Bastug and Akyol (2012) examined the relationship between measures of reading fluency and reading comprehension in Turkish elementary school students from second grade to fifth grade. Correlational and multiple regression analyses were used to determine the relationship. The results revealed that there were substantial and significant correlations between measures of reading fluency and reading comprehension at all grade levels. In addition, prosody, one of the reading fluency components, was the strongest predictor of reading comprehension.

These studies appear to suggest that reading fluency, the ability to read texts accurately, automatically, and with appropriate expression that reflects meaning when reading orally, is an important instructional variable in languages other than English such as Turkish. Interestingly, the several of these studies involved students in the upper elementary grades. In most models of reading development (e.g. Chall, 1996) reading fluency is viewed as an important variable primarily in the lower elementary grades. The fact that fluency-related variables accounted for nearly half of students’ performance on the comprehension suggest that the impact and import of fluency goes well beyond the initial stages of reading.

Although prosody or the use of meaningful expression during oral reading is recognized as an important element of reading fluency (Schreiber, 1980). Appropriate and meaningful phrasing and expression reflects and enhances the meaning of the text being read. Although studies of students learning to read English have found significant and substantial correlations between prosody and silent reading comprehension (e.g. Daane, Campbell,
Grigg, Goodman, & Oranje, 2005), instruction in prosody has not been a priority in English reading classrooms (Rasinski, 2012). As a result, research into prosody among English reading students has found that many students, even beyond the elementary grades, have not achieved sufficient levels of prosody in their reading (Rasinski, Rikli, & Johnston, 2009). Yildiz, Yildirim, Ates, and Çetinkaya (2009) examined the prosodic quality of the oral reading of grade level texts for 70 4th grade Turkish students’ from a public school in Ankara. They found that nearly half (40%) of the fourth grade students exhibited concerns in their prosodic reading. Given the correlations between prosody and reading comprehension, such difficulties in prosody are likely to impair students’ comprehension of Turkish reading material.

Yildirim, Yildiz, Ates, and Cetinkaya (2009) investigated the effects of prosodic reading on listening comprehension of Turkish texts. A total of 72 fifth grade students were enrolled in the study in which the students in the intervention group were asked to listen and attend to the prosodic qualities of a text that was read by an independent proficient adult reader. The researchers found that students who experienced prosodic reading of Turkish text exhibited higher levels of listening comprehension than students who listened to texts that were less prosodic.

In a study of fluency’s relationship with other reading variables, Yildirim, Rasinski, Ates, Fitzgerald, Zimmerman, and Yildiz (2014) explored the relationship between reading fluency and vocabulary in fifth grade Turkish students. The findings of the study confirmed that measures of reading fluency were associated with different levels of vocabulary in the fifth grade students. Automaticity in word recognition \( r = .51 \) had the highest relationship with vocabulary; prosody \( r = .50 \) and word recognition accuracy \( r = .38 \) were also significantly correlated with vocabulary. The authors hypothesized that proficiency in reading fluency of Turkish texts allows students to engage in more reading than less fluent students. Greater exposure to written texts will lead to greater exposure to new words in a meaningful context and this, in turn, will lead to increased vocabulary, another reading variable associated with proficiency in comprehension.

Reading fluency may be a reading competency that extends beyond reading comprehension. Yildiz (2013) examined the effects of reading motivation, reading fluency, and reading comprehension fifth grade Turkish students’ school success. School success was determined by combining students’ course grades in mathematics, science, Turkish language arts, and social studies. The research findings confirmed that reading motivation, reading fluency, and reading comprehension explained 63 % of variance in students’ overall school success.

These studies demonstrate that reading fluency has captured the attention of literacy scholars in Turkey. The studies of Turkish reading fluency have focused primarily on elementary grades and have investigated the relationship between reading various fluency-based competencies and reading comprehension. This body of research does indeed suggest that fluency is a reading competency that is important for success in reading Turkish texts.

Although the research we cite in this paper is a strong beginning, there is still research that is needed. For example, although current research suggests a strong impact of fluency on comprehension in the elementary grades, little is known of the relationship of reading fluency to reading comprehension in the middle and secondary grades, as well as at the college level and even adults who struggle in achieving full literacy. Given the apparent importance of fluency, norms for fluency at various grade levels need to be established so that teachers can monitor Turkish students’ progress in reading fluency. Moreover, research
is needed to examine the effects of instructional practices in fluency on students learning to read Turkish.

Teaching Reading Fluency in Turkey

Although studies of reading fluency among Turkish students are in their infancy, it seems clear that the elements of reading fluency, word recognition automaticity and prosody, are associated with overall reading achievement and that a significant number of students have not achieved fluency in their reading through the upper elementary grades. The obvious implication from this research into Turkish language reading fluency is that fluency does indeed matter and that students in Turkey should receive fluency instruction. The fact of the matter, however, is that fluency instruction, like in much of the English speaking world, is not viewed as important (Cassidy & Grote-Garcia, 2014).

Reading is one of the learning strands in the national language arts curriculum for the elementary grades in Turkey. Reading instruction for elementary students includes teaching foundational reading competencies first. Attention is given to having students acquire certain competencies such as readiness for reading, word recognition, and vocabulary. Then, after some degree of proficiency is achieved in these foundational competencies, objectives related to reading comprehension skills are taught. Moreover, a variety of reading purposes such as reading for recreation, independent reading, critical reading, informative reading, and so forth are also presented to students in instructional settings (Republic of Turkey Ministry of National Education [RoTMoNE], 2005).

Reading fluency, however, has only recently received some degree of attention in the Turkish language arts course of study. Given this recent recognition of fluency in the Turkish educational system, a solid body of research that explores this competency among Turkish children does not exist. Moreover, existing elementary school curriculum programs in reading and language arts in Turkey have not made reading fluency an instructional priority (RoTMoNE, 2005), although reviews of research from studies on reading acquisition in English show that reading fluency is a critical reading competency for children’s reading success and that teaching students to become fluent readers improves their overall reading outcomes (Rasinski et al., 2011). Given the growing recognition of the importance of fluency in reading and its lack of instructional emphasis among students in Turkey, it is clear that a need for research focusing on fluency, its various components, and its relationship to reading comprehension in Turkish students exists. Such work would help to validate fluency as an important competency for Turkish readers. It would also contribute to the recognition that fluency is a universal literacy competency beyond English.

Effective instructional strategies, programs, and practices to improve reading fluency skills of students, which have been proven their effectiveness with empirical-based studies of readers of English, should be put into the Turkish language arts curriculum. Given the literature on reading fluency, there are several effective practices used to improve students reading fluency skills that could easily be implemented in Turkish classroom. Among these are repeated reading, assisted reading, phrased reading, modelling reading, guided reading, echo reading, paired reading, shared book reading, fluency development lesson, fast start, and readers’ theatre (Chomsky, 1976; Dee Nichols, Rupley, & Rasinski, 2009; Padak, & Rasinski, 2005; Rasinski, Homan, & Biggs, 2009; Rasinski, Padak, & Sturtevant, 1994; Rasinski, Padak, & Fawcett, 2010; Samuel, 1979; Topping, 1989; Young, & Rasinski, 2009).

Indeed, some initial studies have examined the impact of fluency instruction on the reading outcomes of Turkish students. Yildirim, Turan, and Bebek (2013) examined the effect of fluency development lesson (Rasinski, 2010) on third grade Turkish students’ reading fluency, reading comprehension and listening comprehension. The intervention consisted of
students engaging in daily opportunities for listening to fluent readings of Turkish texts, repeated readings of grade appropriate Turkish texts, and assisted reading activities where students read a text while simultaneously hearing it read to them. The intervention included daily lessons, each lesson lasted 15 minutes, for four consecutive weeks. Nursery rhymes and poems appropriate for the grade level were used in the intervention. A control group of students continued its regular routine classroom activities. Students engaged in the fluency instruction intervention demonstrated significant greater gains in reading fluency, reading comprehension, and listening comprehension over students in the control group that continued regular classroom reading instruction.

In another study, Ates (2013) explored the effects of a repeated reading fluency intervention with performance based feedback on a student with reading difficulty. The results demonstrated that there was a significant improvement in the students’ fluency skills. Duran and Sezgin (2012a, 2012b) examined the effects of guided reading and echo reading on the students’ reading fluency and reading comprehension. In the guided reading intervention, the teacher matched the students with texts appropriate for their reading levels. In the small groups, the teacher introduced the text to the students. Then, the students in the groups listened to and supported each other’s reading and rereading of the text. The teacher then engaged the students in conversations about the text they had just read. In the echo reading procedure, the teacher read the text aloud while visually tracking the print for students. After the text has been read aloud, the students imitated or echoed the teacher. Both studies showed that guided and echo reading increased both the reading fluency and reading comprehension of the students. The instruction also resulted in a decrease of word recognition miscues during oral reading. Both strategies allowed the students to practice proper phrasing and expression to develop their prosodic reading skills.

Fluency beyond English and Turkish Reading

We chose to examine the role of fluency in reading Turkish even though the nature of the Turkish orthography suggests that reading fluency may not be a major concern for developing Turkish readers, Turkish scholars have increasingly recognized the potential importance of reading fluency as a necessary reading competency and that fluency instruction, as in the United States (Allington, 1983), has been and continues to be a relatively neglected goal of the Turkish reading curriculum. The research we have reviewed on Turkish reading fluency suggests that it is indeed an important variable that must be considered in developing reading curriculum and instruction as well for assessing reading progress and diagnosing reading difficulties.

Given the strong relationships that have been found between reading fluency and comprehension in English and Turkish, it seems that reading fluency is likely to be an important reading variable in languages other than English and Turkish. We hope that this article may inspire literacy scholars of other languages to begin investigations of reading fluency in the reading of their own languages.

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**References**


