

Is Vocabulary a Strong Variable Predicting Reading Comprehension and Does the Prediction Degree of Vocabulary Vary according to Text Types

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Abstract

The purpose of this study was to explore whether there was a significant correlation between vocabulary and reading comprehension in terms of text types as well as whether the vocabulary was a predictor of reading comprehension in terms of text types. In this regard, the correlational research design was used to explain specific research objectives. The study was conducted in Ankara-Sincan during the 2008-2009 academic years. A total of 120 students having middle socioeconomic status participated in this study. The students in this research were in the fifth-grade at a public school. Reading comprehension and vocabulary tests were developed to evaluate the students' reading comprehension and vocabulary levels. Correlation and bivariate linear regression analyses were used to assess the data obtained from the study. The research findings indicated that there was a medium correlation between vocabulary and narrative text comprehension. In addition, there was a large correlation between vocabulary and expository text comprehension. Compared to the narrative text comprehension, vocabulary was also a strong predictor of expository text comprehension. Vocabulary made more contribution to expository text comprehension than narrative text comprehension.

Key Words

Vocabulary, Reading Comprehension, Text Types.

Reading comprehension is defined as a complex process in which many skills are used (Cain, Oakhill, & Bryant, 2004). As researchers (Palincsar & Brown, 1984; Samuels, 1983) report that there are many factors affecting this process, Snow (2002) argues that these factors are in relation to the reader, text, work, and context. Another variable seen as a main factor in reading comprehension and also related to these factors is vocabulary (Nagy, 1998 as cited in Bauman, 2009a).

Reader factor includes prior knowledge, linguistic skill, and metacognitive awareness. The text factor encompasses genre, structure, and content of reading material; work factor includes aim of reading effort; and context factor involves socio-cultural environment and quality of reading instruction (Block & Parris, 2008; Israel & Duffy, 2009). Vocabulary is associated with all of these factors since all practices differentiate during the reading process for determining word meanings according to the reader's background knowledge, ability, metacognitive skills, and motivation. On the other hand, the text chosen according to the reading purpose will make the reader face texts that have different content and words. In that regard, the reader's learning and using these words, which she/he faces, are affected by the socio-cultural environment and the quality of reading instruction.

Nagy and Scott (2000) contend that a child should know 90%-95% word meanings in a text to be able to derive meaning from the text. The National

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Reading Panel [NRP] (2000) reported that comprehension process cannot be defined regardless of vocabulary development and instruction in detail. In addition, even though Stahl and Nagy (2006) argued that the correlation between comprehension and vocabulary ranges from .85 to .95, other researchers argued that vocabulary is the strongest variable associated with comprehension, so scholars (Baumann, 2009b; Rosenshine, 1980) require focusing on vocabulary.

As it was argued, there is a strong correlation between reading comprehension and vocabulary. Baumann (2009a) stated that all research about reading comprehension and vocabulary, including correlational, factorial, and readability, has showed that vocabulary is an essential component of reading comprehension. On the other hand, Ryder and Graves (1994) contend that a lack of vocabulary is one of the reasons for failure in school. In addition to this, Stahl and Fairbanks (1986) report that students who have wide vocabulary knowledge, get higher grades than students who have a lack vocabulary. From this perspective, it can be said that vocabulary is a distinction between good readers and poor readers. Proficient readers differentiate according to drawing inferences, deriving word meanings, monitoring comprehension, and using variety of strategies as well as in using general vocabulary knowledge compared with poor readers (Parker, Hasbrouck, & Denton, 2002).

Children who have reading and reading comprehension problems have limited vocabulary. Particularly as these children read expository texts, they have difficulty in comprehending these texts due to the fact that these texts include very difficult words compared to narrative texts (Biemiller & Boote, 2006; Rupley & Nichols, 2005). Duke (2000) states that students have a lack of experience with expository texts in early school years and it is expected that students have more experience with the expository texts at upper grade levels and to learn from these expository texts more. Regardless of the level of efficiency of the students, the students struggle to comprehend expository texts because expository texts include new and difficult words (Dymock & Nicholson, 2010). Additionally, some research (as cited in Kelley & Calusen-Grase, 2010) has revealed that using text books followed in terms of grade levels and in that regard obligation of reading expository texts make children struggle with expository texts. As thought for Turkey, according to the Head Council of Education and Morality's

elementary education (1-5. grade levels) textbooks investigation and evaluation standards, there is an expository text, a narrative text, and a poem, and also one more from any of three text types in every theme in Turkish course textbook ("İlköğretim Türkçe ders", 2010). However, elementary school students must be prepared for frequent and purposeful use of expository text. By the time they enter middle school, students are expected to skillfully maneuver through expository text; in fact, 75% of texts used in sixth grade and beyond is expository. Furthermore, the majority of reading and writing done by adult readers are informational in nature. Approximately 95% of the sites commonly visited on the Internet contain expository text (as cited in Ness, 2011).

Cain et al. (2004) states that since there is little research, there is no enough information about factors which are effective for reading, have contributions to cognitive processes and skills. Numerous researches (Joshi, 2005) have found that vocabulary is an important variable affecting reading comprehension and most of research has also revealed that the relation between reading comprehension and vocabulary is affected by text types (Diakidoy, Stylianou, Karefillidou, & Papageorgiou, 2005; Graves, 2009; Kelley & Clausen-Grase, 2010). In Turkey, there are studies investigating reading comprehension in terms of text types (Sidekli & Buluç, 2006; Temizyürek, 2008; Yıldırım, Yıldız, Ateş, & Rasisnki, 2010; Yıldız, 2008). However, there is no research explaining effects of vocabulary knowledge on reading comprehension according to text types.

Method

In this research, the correlational method was used. The aim of researcher in educational studies was to relate variables each other instead of manipulating variables like in experimental research (Cohen, 1988; Creswell, 2005; Fraenkel & Wallen, 1996). Thus, the correlational method was used in this research.

Subjects

The research was conducted in 2008-2009 academic years. The subjects in this study were 120 elementary school students attending the fifth grade in Sincan, Ankara.

Texts

The chosen texts were judged by six classroom teachers in accordance with a rubric. This rubric's score interval ranged from 1 through 5. In development of the rubric, some research concerning selection of appropriate books and texts for children was reviewed (Benjamin & Schwaneflugel, 2010; Haris, 2008; Padak & Rasinski, 2007; Zeece, 2010). The rubric included prior knowledge, word difficulty, sentence structure, punctuation, grammar, clarification and organization of ideas to be evaluated. According to judgments of the classroom teachers, seven texts, which fitted at fifth-grade level, were chosen. For the judgments done by the classroom teachers were computed inter-rater agreement. The inter-rater agreement among the classroom teachers ranged from .77 to .96. These indices showed that the inter-rater agreement among the classroom teachers was high (LeBreton & Senter, 2008; Şencan, 2005).

Instruments of the Research

In the research, the vocabulary and the comprehension tests were used to collect the data. The reading comprehension test, which was developed by Yıldız (2010) according to the objectives in Turkish Course Curriculum (Milli Eğitim Bakanlığı [MEB], 2005), encompassed twenty eight questions. Kuder-Richardson (*KR20*) reliability coefficient was computed as .76 for this test. This coefficient indicated that the comprehension test a homogeneous. Having administered the comprehension test to the students in the actual sample, *KR20* reliability was calculated on the test scores all over again. This coefficient also showed that the scores obtained from actual sample were reliable. Researchers cannot contend that test is reliable or not according to the data metric approach. Instead, a researcher can use reliability concept for test scores obtained from research sample, so reliability coefficient need to be calculated all over again when sample changed. Because of this reliability can be used only for test scores (Dimitrov, 2002; Thompson & Vacha-Haase, 2000). In this regard, we computed *KR20* coefficient for scores the research subjects obtained from reading comprehension test. The vocabulary test, which was used in this study, was developed by Yıldırım (2010). We use condensed form of the vocabulary test, including 60 items. Firstly, the vocabulary test was rated by two raters according to a rubric including several standards related to test development. Cohen's kappa, which is a statistical measure of agreement

coefficient, was calculated between two raters. Cohen's kappa coefficient ranged from .80 through 1.00 for 50 questions in the vocabulary text. Most of research argues that Cohen's kappa coefficient is over .70 regarded as excellent (Pallant, 2007; Salkind, 2007). According to these analyses, a total of ten questions were taken out. Secondly, the test, including total 50 questions, was administered to 172 students for item-test analyses. After this process, more five questions were taken out from the test. Consequently, *KR20* reliability coefficient of the final test, including total 45 questions, was computed as .78. Having administered the vocabulary test to the students in the actual sample, *KR20* reliability was calculated on the test scores all over again. This coefficient showed that the scores obtained from actual sample were reliable as well.

Results

The findings obtained from the data revealed that there was a significant correlation both between vocabulary and comprehending expository text as well as vocabulary and comprehending narrative text. The findings also showed that the vocabulary is a predictor of comprehending narrative and expository texts. Particularly, vocabulary is a stronger predictor of comprehending expository text than the narrative text.

Discussion

The correlation analyses showed that there was a medium relation between vocabulary and comprehending narrative text and a large relation between vocabulary and comprehending expository text. Most of research has showed that vocabulary is a determining factor for reading comprehension (Boulware-Gooden, Carreker, Thornhill, & Joshi, 2007; Jenkins, Stein, & Wysocki, 1984; Marzano, 1984; NRP, 2000; Rupley, Logan, & Nichols, 1999; Stahl, 1986). Wasik (2010) states that vocabulary is a keyword in one's learning to read, reading comprehension and school success. Morgoisen, Pascarella, and Pflaum (1982) found that vocabulary had high correlation between vocabulary and comprehension, and the factors related to word meaning account for most of variance of comprehension. Daneman (1991) also contends that a reader needs to know most of the words in a text to extract a meaning. Moreover, Rupley (2005) and Sadoski (2005) emphasize that vocabulary has a very important role in the development of reading comprehension and reading skills. As seen, the present

research findings are consistent with research in literature. That is, the result, which vocabulary is related to comprehension of expository and narrative texts is consistent with many researches (Davis, 1944, 1968; Diakidoy, Mouskounti, & Ioannides, 2011; Miller & Veatch, 2010; Morgoisen et al., 1982; Rupley et al., 1999; Santoro, Chard, Howard, & Baker, 2008; Stahl & Fairbanks, 1986).

It is assumed that a reader's vocabulary affected his/her life and others' experiences. The reader uses this vocabulary to connect with writers and to construct a comprehension process (Rupley, 2005). In that regard, these experiences the reader has form background knowledge to be used in the comprehension process. Researches show that the prior knowledge related to text improves comprehension (Anderson & Pearson, 1984; Block & Pressley, 2002; RAND Reading Study Group [RRSG], 2002). Also, vocabulary affects the comprehension process similar to how prior knowledge impacts the process (McKeown & Beck, 2004; RRSRG, 2002). Rosenblatt (1985) argued that according to the transactional reading model, a reader responds to text in the light of knowledge obtained from his/her own and others' experiences. In this process, the reader's experiences and connections between new words and concepts are very important to explain the comprehension structure (Lenski, 1998).

Another finding concluded from this present study is that vocabulary significantly predicted reading comprehension. As it took into account the text types, vocabulary predicted the comprehension of expository text more than narrative text comprehension. A number of research studies have shown that when evaluated in terms of text types, vocabulary is more effective to comprehend expository texts (Anders & Bos, 1986; Dymock, 2005; Gardner, 2004; Harmon, Hedrick, & Fox, 2000; Heisey, 2009; Nelson-Herber, 1986; Ness, 2011; Pierce & Fontaine, 2009; Taylor & Beach, 1984). From this point of view, this result of the study is similar to previous research findings.

In the present study, the reason why vocabulary was the strongest predictor of expository text comprehending was because expository texts included complex structures, scientific concepts, words and topics that were not derived from children's daily life contexts, and children would meet these words first time in their lives. Numerous researches have showed that it is expected of students to meet expository texts more at upper grade levels (as cited in Kelley & Clausen-Grase, 2010). However, these texts are so difficult to derive a meaning from be-

cause they include difficult words, complex topics, and a variety of textual structures and text features. Many researches argue that students meet expository texts less at early elementary school years and at home prior to schooling (Duke, 2000; Yopp & Yopp 2000, 2006). According to Fisher and Blachowicz (2005), all these deficiencies mentioned before make vocabulary more important for comprehending expository texts. Since students could not have multiple exposures to words in expository texts and these words are repeated less, the students struggle when they want to learn and internalize these words (Harmon, Hedrick, & Wood, 2005). As Bintz (1997) and Harmon et al. (2000) state that since there are more expository texts in different content areas (science, mathematics, social studies etc.), the texts and textbooks in the subject areas include more new and difficult words/concepts as vocabulary gets more important for these subject areas. Some researchers (Armbruster & Nagy, 1992) argue that new words in narrative texts met for the first time do not make it difficult for students to derive a meaning, but since new words, which are met in expository texts for first time, represent basic concepts, they make it difficult for students to construct a meaning.

Lastly, according to some other researches (Fisher & Blachowicz, 2005; Bintz, 1997), a lack of vocabulary can be an explanation for a failure in developing effective reading capabilities. The research done by Becker (1997) reviewed studies conducted from elementary through high school on vocabulary and found that the main reason of school failure was a lack of vocabulary knowledge. Boote (2006) also argues that children's vocabulary in early school years is a predictor of their comprehension in upper grades.

Recommendations

Teachers should encourage students to read more. Contents of texts, which children meet, would be difficult and complex. However, research shows that Children who read less, have many deficiencies in terms of reading success, attainment of reading task, and lack of vocabulary when they are compared with their peers (Allington, 2001; NRP, 2000).

Teachers should make students get involved in selecting good books substantially contributing them to read more and learn new words. In particular, some studies argues that reading aloud activities with books children select, practiced by teachers,

have great impact on students' reading comprehension and vocabulary (Santoro et al., 2008).

In classroom settings, greater effort is needed to instruct meanings of new words to students. Hence, teachers should provide not only explicit instruction but also teach some vocabulary strategies to make students learn independently meanings of new words. Carr (1988) concluded from his study that if students choose important words and try to learn their meanings, monitor their leanings, and make some connections on their own, then can improve their vocabulary while they read.

Studies contend that socio-economic and education levels of family are important factors, affecting vocabulary development of children. Children especially coming from lower socio-economic status have vocabulary below their grade level (Chall & Snow, 1988). Teachers can raise these children's vocabulary level to their grade level by presenting rich learning environments.

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