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Relations among Oral Reading Fluency, Silent Reading Fluency, Retell Fluency, and Reading Comprehension

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Abstract

The aim of this research was to reveal the relations among fifth-grade Turkish students' silent reading fluency, oral reading fluency, retell fluency, and reading comprehension. With this aim, the study used correlational survey design and the study sample consisted of total 389 fifth-grade Turkish elementary students studying in elementary schools. The schools were located in middle socioeconomic status and the students' families had middle socioeconomic level. The informed consent letters obtained from all the students before the study began. For assessment process, the appropriate grade level texts were chosen and the students' fluency skills were measured through one-on-one sessions in the suitable place in the elementary schools, provided by the school principals. After this process, the reading comprehension tests related to the grade level texts read was administered to all the students. The data obtained from testing process were analyzed and the findings were presented in respond to research aims. According to these results, the conclusions were drawn and some recommendations fitted with the results and conclusions were made for future research

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1. Introduction

Reading is very sophisticated structure and includes many skills that require simultaneous coordination to successfully complete many reading tasks (Logan, 1997). Learning to read is perhaps child's greatest school accomplishment (National Institute of Child Health and Human Development [NICHD], 2000; Rasinski & Padak 2008). It comprises a wide of skills and is not accomplished quickly or easily (Paris & Jacobs, 1984), so learning to read is valued by many societies and the ability to read is considered most important aim of education (Strommen & Mates, 2004).

Developmental model of reading comprehension assume that the ability to read for understanding is based on students' developing social, cognitive, and linguistic systems. According to this model, reading comprehension requires fluent decoding, word-level skills and fluent, automatic higher order process, as well as ability to use the automatic skills actively and consciously when the reading task demands it (Connor et al., 2011).

Given that the ultimate goal of reading is the construction of meaning, it is important to assess fluency's role in reading comprehension process (Kuhn & Stahl, 2004). Reading fluency refers to the reader's ability to develop control over surface-level text processing so that he or she can focus on understanding the deeper levels of meaning

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embedded in the text (Rasinski, 2004). Reading fluency is one of the defining characteristics of good readers, and a lack of fluency is a common characteristic of poor readers. Differences in reading fluency not only distinguish good readers from poor, but a lack of reading fluency is also a reliable predictor of reading comprehension problems (Stanovich, 1991).

It is also argued that 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; NICHD, 2000).

Oral reading fluency is widely used to carefully watch students' reading performance in the early elementary grades due to its strong empirical relations with reading comprehension. Most research reveals that there is a robust and significant relationship between reading comprehension and oral reading fluency in different grade levels (e.g., Good, Simmons, & Kame'enui, 2001; NICHD, 2000; Rasinski, Samuels, Hiebert, Petscher, & Feller, 2011; Rasinski, Padak, McKeon, Krug-Wilfong, Friedauer, & Heim, 2005; Rasinski, Rikli, & Johnston, 2009). Given the literature about reading comprehension and fluency, few studies have empirically examined relations among oral reading fluency, silent reading fluency, and reading comprehension (e.g., Fuchs et al., 2001; Kim, Wagner, & Foster, 2011; Yildirim & Ates, 2012). In addition, there is lack of research exploring relations between retell fluency and reading comprehension (e.g., Bellinger & Diperna, 2011; Riedel & Samuels, 2007).

Given the information above, we would say that many researches need to be done to clarify relations among silent reading fluency, retell fluency, oral reading fluency, and reading comprehension. Therefore, this study attempted to provide more information by investigating oral reading fluency and silent reading fluency, retell fluency and their relations with reading comprehension. We hope that this study will also make more contribution to researchers to be conducted many empirical studies in this area.

2. Method

1.1. Subjects

This research took place in spring semester, 2012, in Turkey's Kirsehir province. A total of 399 fifth-grade students from three public elementary schools participated in the study. The subjects were relatively homogeneous and of middle socio-economic status. They ranged in age from 11 through 12 years.

2.2. Instrumentation

2.2.1. Reading comprehension test

We used three different kinds of comprehension tests for measuring reading comprehension levels of the fifth-grade students as the indicators of the reading comprehension. These are cloze, sentence verification technique, and question-answer. The texts in the comprehension tests were chosen from fifth-grade Turkish language arts course textbooks and their readability levels (fifth-grader) were confirmed by RoTMoNE (2005).

2.2.2. Silent reading fluency

Two kinds of measures were used to assess silent reading fluency skills of the students. In one of them, it was given a text to students and asked them to draw lines separating words with no spaces and punctuations, and printed in uppercase in three minutes. In other one, the students were presented a text with unrelated words without spaces and punctuations, and printed in uppercase. Then, it was asked students to draw lines by separating unrelated words in three minutes. The score was the number of words identified in there minutes for the two measures.

2.2.3. Oral reading fluency

In the present study, measures of the three fluency components were determined from students' oral reading of a fifth-grade text. Students were asked to read the text in their "best" voice and that they would be asked to retell what they had read following their reading. During the oral reading, the researcher administering the test marked any uncorrected word recognition errors made the student as well as marking the text position of the student after 60 seconds.

2.2.3.1. Accuracy

Accuracy was defined as the percentage of words read correctly in the initial 60 seconds of oral reading (Rasinski, 2004). We divided the number of words read correctly by the total number of words read.

2.2.3.2. Automaticity

Automaticity was defined as the number of words read correctly in the initial 60 seconds of oral reading (Rasinski, 2004).

2.2.4. Retell fluency

Retell fluency was assessed in one minute. After the student read aloud the text in the initial 60 seconds of oral reading, the student was asked to tell about what she/he read. Then, it was counted the number of words which the student produced in his/her retell. The number of words, which related to what the student read, which was told accurately by the student, was computed as retell fluency level of the student.

2.2.3.3. Prosody

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, 2004).

2.3. Procedure

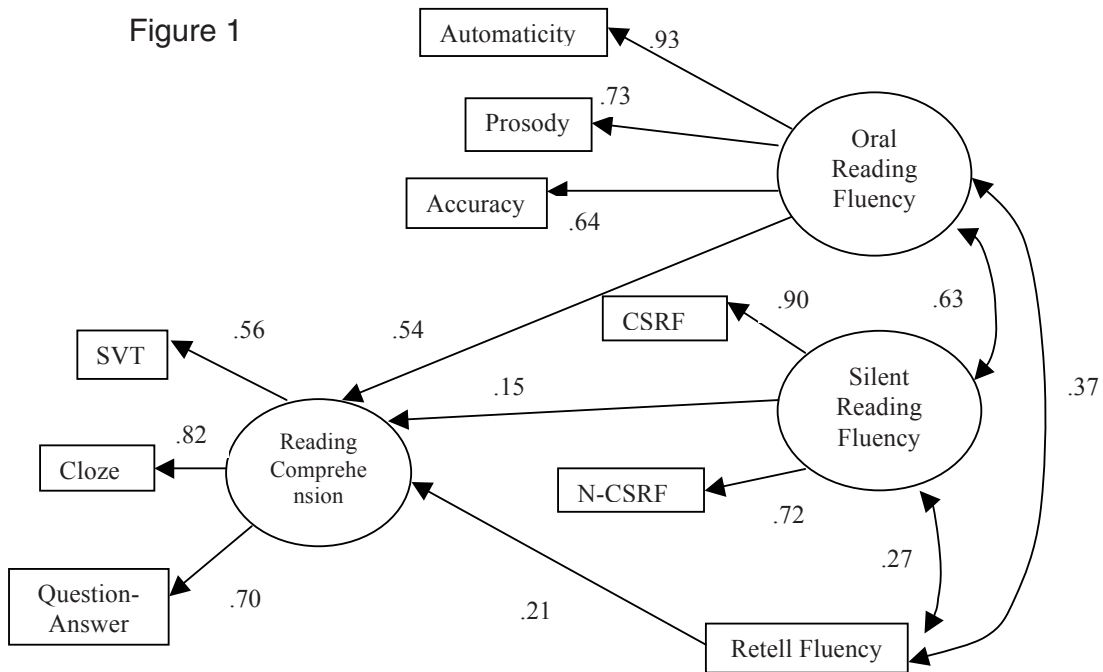
Individual read aloud sessions were organized in order to assess oral reading fluency and retell fluency skills of the students. These sessions took place in quiet settings provided by the administrators of the participating schools, where students would not be distracted and would feel comfortable and safe. During reading, the researchers video recorded each student's reading and later assessed each student's accuracy, automaticity, prosody, and retell fluency skills. The students had not seen or read either text prior to reading it in the test situation. After this process, the reading comprehension tests and the texts arranged for assessing silent reading fluency skills of the students were administered.

3. Findings

Revealing Relations among Reading Comprehension, Silent Reading Fluency, Oral Reading Fluency, and Retell Fluency:

Structural equation model analysis technique was used to figure out the relations among reading comprehension, silent reading fluency, oral reading fluency, and retell fluency (see Figure 1).

Figure 1



Note. SVT = Sentence verification technique for measuring children’s comprehension levels. CSRF = Contextual silent reading fluency. N-CSRF = Non-contextual silent reading fluency. Solid lines represent statistically significant paths. Single-headed arrows represent the impact of one variable on another and double-headed arrows represent correlation between pair of variables.

Figure 1. Standardized structural regression weights among reading comprehension, silent reading fluency, retell fluency, and oral reading fluency for entire sample (N= 399).

For the full sample, the model yielded good fit indices. When reviewed overall model fit summary indices in the structural equation model, the χ^2 test yielded a value of 41.296, which was evaluated with 22 degrees of freedom, had a corresponding *p*-value of .008. The χ^2/df was 1.877. Although the χ^2 value of the model was significant, χ^2/df value did not exceed 3.0. In the psychometric literature, It has been suggested that a model indicates reasonable fit if the statistic adjusted by its degrees of freedom does not exceed 3.0 (Kline, 2004). Additionally, the RMSA was .047. The TLI was .976 and CFI was .986. Moreover, SRMR was .029. We would say that all of the indices suggested that the model appeared by the structural equation model analysis was a good fit to the data. The model explained approximately 57% of total variance in reading comprehension. As presented in Figure1, all variables explaining variance in the model were highly related to each other (*p* < .001). With both highly correlated predictors in the model, oral reading fluency made a strong contribution to prediction of reading comprehension ($\beta = .54, p < .001$) when compared to silent reading fluency and retell fluency [$(\beta = .15, p < .05)$ ($\beta = .21, p < .001$)] respectively.

4. Conclusion

In the study, we aimed to explore the relations among reading comprehension, silent reading fluency, oral reading fluency, and retell fluency by using structural equation modeling. The research findings revealed that the underlying factors (indicators) of reading comprehension, silent reading fluency, and oral reading fluency were significant. The predictors of reading comprehension, including silent reading fluency, oral reading fluency, and retell fluency were positively and highly related to each other (*p* < .001) in the model. For the present study, the model (oral reading fluency, silent reading fluency, and retell fluency) explained approximately 57% of total variance in reading comprehension. Oral reading fluency was the strongest predictor of reading comprehension (*p* < .001) compared to

retell fluency and silent reading fluency [$(p < .001)$, $(p < .05)$] respectively. The overall model fit indexes appeared quite good.

Given the present study aim and findings, it would be argued that the present research provides strong insights into relations among reading comprehension, silent reading fluency, oral reading fluency, and retell fluency from Turkish language context and makes more contribution to literature concerning relationship reading comprehension and a variety of fluency skills.

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