Eurasian Journal of Educational Research 72 (2017) 129-146

Eurasian Journal of Educational Research
www.ejer.com.tr

An Examination of Reading Comprehension and Learning Styles of 5th Grade Students*

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ARTICLE INFO

Article History:
Received: 17 Mar. 2017
Received in revised form: 17 July 2017
Accepted: 30 Sept. 2017
DOI: 10.14689/ejer.2017.72.7

Keywords
Grasha-Reichmann Learning Styles Model,
PISA 2009,
Predictors of Comprehension

ABSTRACT

Purpose: International exam scores of Turkish students, specifically of Project for International Student Achievement, attest that the level of comprehension of Turkish students is not satisfactory. Learning styles can be of use to schools in designing reading programs and materials to help Turkish students to improve their reading achievement. Hence, the primary purpose of this study was to examine 5th graders' reading comprehension scores across some variables, and assess which variables predict their reading comprehension scores.

Research Methods: The participants of the study were 1307 fifth grade students from nine different middle schools of Ankara. Instruments of the study were the Reading Comprehension Test and the Grasha-Reichmann Learning Styles Inventory. We used descriptive statistics, the Kruskal-Wallis H Test, the Mann-Whitney U Test, and regression.

Findings: Comprehension scores of students who have a bookshelf at home are higher than those who do not. Moreover, those who have more books at home and who have read more books are more successful in comprehension. In addition, daily reading time and number of weekly reading exercises also have an impact on comprehension scores. The results of regression analysis show that only one type of learning style (dependent) significantly predicts comprehension scores. This prediction is slight and negative.

Implications for Research and Practice: We suggest that upcoming scholarship on similar topics focuses on conducting similar studies with a more diverse set of predictive variables and different grade levels than 5th grade. We recommend that parents have at least one bookshelf in the home environment since our results show that having a bookshelf significantly increases comprehension scores.

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* This article is adapted from the Master of Arts thesis of the first (corresponding) author under the second author's advisement.

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Introduction

Reading comprehension is one of the most essential learning processes. All students need to master it through their formal education, since studies show that students who have poor comprehension abilities do poorly in school or even drop out and get low-income jobs in their adult lives (Kutner *et al*., 2007 cited in Williams, 2010). It is also believed that individuals without a strong comprehension level negatively affect the whole society socially, economically, and intellectually (Littin, 2001). Thus, comprehension is an important area of study for scholars of education, and it encompasses a wide area in education literature.

The National Reading Panel (NRP) of the United States referred to comprehension as "a multidimensional activity consisting of the context of the message, the reader and the text starting as an inner process leading to an external process" (p. 114, cited in Eastman, 2010, p. 43). In light of this, it can be said that comprehension is an act of constructing meaning from written sources that affects readers throughout all stages of their lives. Hence, it should be an essential and inseparable part of their education. Schools should strive to help students master this vital ability.

In the Programme for International Student Assessment (PISA) 2003, Turkish students achieved an average of 441 in reading literacy, lagging behind the Organization for Economic Co-operation and Development (OECD) average of 494, ranking 28th of 29 OECD countries (EARGED, 2005; Yıldırım, 2012). Similarly, on the PISA 2006, Turkish students had an average score of 447 in literacy, again lower than the OECD average of 492; this time, Turkish students were 29th out of 30 OECD countries (EARGED, 2007; Yıldırım, 2012). Likewise, on the PISA 2009, Turkey had an average literacy score of 464. This score ranked Turkey 39th of the 65 participating countries in the project and 31st of OECD countries (EARGED, 2010). These figures indicate that there is a significant need to improve the comprehension level of students in Turkey.

Reading comprehension is a complex process; hence, there is not a single strategy, instructional method, or solution that can be employed to help all students (Beers, 2003, cited in Williams, 2010). From this, it emerges that we need to take individual differences of students into consideration so that we can help them improve their comprehension. In addition, comprehension literature indicates that time spent reading (individually) is an important factor in student achievement in comprehension (Brozo, Shiel, & Topping, 2007). In this manner, learning styles have an important potential, which can help educators respect individual differences and interests so that they can design school environments to boost students' comprehension by taking these differences and interests into account.

Educators should enhance traditional educational environments and design more individualized environments that consider these differences and interests to help students to improve their comprehension levels (Brozo *et al*., 2007; Eastman, 2010; Maltzman, 2008). Learning styles, the idea of taking students' individual differences and preferences as one of the bases of instructional design, is a worthy concept of

investigation. By studying students' learning styles, educators can help them improve their comprehension. Therefore, there is a need to identify the variables that predict students' comprehension levels. In addition, the NRP (2000) reported that most comprehension studies are concentrated between Grade 3 and 6. In this range, 4th and 5th grades take the lion's share, since studies below 3rd grade are experimental studies for finding new methods, and those above 6th grade are for students who are in need of extra help. Hence, it may be concluded that 4th and 5th grades are the most important grades for reading comprehension.

In this context, the primary purpose of this study is to examine 5th graders' reading comprehension scores across different variables, and assess which variables predict their reading comprehension scores in relation to their learning styles. To achieve this purpose, we strived to answer these specific questions in this study:

1. How do reading comprehension scores of participants differ in relation to their: (a) gender, (b) whether or not they have a bookshelf at home, (c) the number of books they have at home, (d) the number of books they had read by the beginning of the study, (e) the amount of daily time they devote to reading, and (f) the number of reading exercises they do weekly?
2. Which variables predict comprehension scores of participants in terms of (a) characteristics in the first research question, and (b) their learning style dimensions?

Theoretical Background

The first dimension of this study is reading comprehension, which the RAND Reading Study Group (RRSG, 2002) defined as "the process of simultaneously extracting and constructing meaning through interaction and involvement with written language" (p. xiii). In this process, there are three interrelated essential elements that occur in a larger sociocultural context. These three elements, which are both shaped by the reader and shape the reader, are: (a) the reader, (b) the text, and (c) the activity (the purpose of reading).

According to the RRSG (2002), the reader brings some personal attributes to the act of reading, such as cognitive capabilities, motivation, knowledge, and experience. Each reader has different and distinctive characteristics among these attributes. In addition, these attributes even change within the individual herself for different texts and activities (purposes). Hence, it can be easily concluded that the reader is one of the most important elements in the process of comprehension and that every reader constitutes a unique case of comprehension.

It is not surprising that comprehension of a highly technical academic article or essay is considerably different than comprehension of a romantic novel that is read for recreational purposes. Thus, the second element of the act of comprehension is the text. The RRSG discussed that during reading, the reader constructs various representations, such as the surface code, the text base, and the mental models that are embedded in the text.

The activity is the third element of process of comprehension. This element refers to the purpose(s) of reading. As the RRSG (2002) wrote, the initial purpose of reading may change as the reader continues reading. In an educational context, the activity is mainly related to classroom reading that engages students to learn various subject matter in addition to learning to read. This purposeful nature of comprehension also pertains to the outcomes of learning.

The second dimension of this study is learning styles, the most basic proposition of which is that individuals learn in different ways (Pashler, McDaniel, Rohrer, & Bjork, 2008). In this milieu, a good instructional environment is one in which students' learning styles are identified and the learning environment is designed according to the identified styles (Kirschner & van Merriënboer, 2013). Yet, there is no agreement among researchers on the definition and dimensions of learning styles. In fact, Cassidy (2004) discussed that there are as many definitions of learning styles as there are theorists in the area (p. 440). One of the theorists is Grasha (2002) for whom learning style "refers to those personal qualities that influence a student's ability to acquire information, to interact with peers and the teacher, and otherwise participate in learning experiences" (p. 41). Using this definition as the base, Grasha, in collaboration with Reichmann, presented a learning styles model as well as a learning styles inventory for it. The Grasha-Reichmann Learning Styles Inventory includes six learning styles: (a) independent, (b) dependent, (c) competitive, (d) collaborative, (e) participant, and (f) avoidant.

Literature Review

Atchison (1988) conducted a study to determine if there was a relationship between students' learning styles and their reading achievement in the state of Alabama, USA, and she found that a positive relationship did exist. Overall, the study concluded that there was a statistically significant relationship between learning styles and the comprehension levels of participating students.

Likewise, Gary (1990) aimed to identify whether there were significant relationships between learning styles of low-, average-, and high-achieving 6th- and 8th-grade students. He reported that there were significant differences in terms of students' comprehension level and their learning styles. Similarly, Chen (2006) conducted a study to investigate the learning style preferences of 704 students and to determine whether their learning styles were correlated with their mathematics or reading scores in terms of age, gender, and socio-economic status (SES). Statistical tests for the study revealed a significant relationship between all predictor variables and students' achievement scores in mathematics and reading. The results of his study showed that learning styles were significantly related to comprehension scores. Similar to Chen's study, Williams (2010) investigated whether there was a relation between 7th-grade students' comprehension and learning styles and concluded that learning styles affected the comprehension levels of students who participated in the study.

Erginer (2014) aimed to determine whether the learning styles of 4th graders were related to their comprehension levels. The study suggested that there was a slight

correlation between the learning styles and comprehension of 71 participating students. Hence, he concluded that no learning style has a significant effect on reading comprehension.

Method

Research Design

The model for this study is survey research. Fraenkel, Wallen, and Hyun (2012) discussed that there are two types of survey research: cross-sectional and longitudinal. In cross-sectional research, the researchers collect data at one point in time; whereas in longitudinal, researchers collect data from their participants in more than one setting, leaving some time between settings. Since the information for this study was collected at one point in time, this study employed a cross-sectional survey research.

Research Sample

We employed convenience sampling, foreseeing that it would provide two major advantages to us as researchers. First, convenience sampling allowed us to reach a larger group of students than we would have using another sampling technique. Second, it allowed us to reach our participants in a shorter period of time. In this regard, participants of this study were 1307 fifth grade students in nine different middle schools in Ankara. We chose three schools from each of the Mamak, Altındağ, and Çankaya districts of Ankara, for a total of nine schools to represent different SESs of the city. Of the 1307 participants, 49.6% were male students (n=648) while 50.4% were females (n=659).

Research Instruments and Procedures

Two different data collection tools were used in this study. The first of these is the Reading Comprehension Test (RCT), developed by Kutlu, Yıldırım, Bilican & Kumandaş (2011). The second is the Grasha-Reichmann Learning Styles Inventory (GRLSI), designed by Grasha and Reichmann in 1974.

Kutlu *et al*. (2011) conducted a study to identify the importance level of the variables effective in predicting the success of 5th graders' reading comprehension skills. For this study, the researchers designed and developed the RCT which consists of a narrative and informative text by Afet İnan entitled *İlk Köylü Kadın Milletvekili: Satı Kadın (The First Woman Parliamentarian from a Rural Area: Satı Kadın)*. The researchers reported that they took 5th graders' developmental-, age- and grade-levels into consideration while choosing this text for their instrument. Participants were supposed to read this text and then answer five open-ended questions. The researchers developed the questions by using the International Association for the Evaluation of Educational Achievement's (IEA) framework that was employed in the Progress in International Reading Literacy Study (PIRLS) as the theoretical base for the questions. The researchers also obtained feedback from subject specialists in

curriculum development, evaluation, and language to ensure clarity and appropriateness of the questions to the 5th graders' levels of development. Moreover, in the same manner, they designed a rubric to grade students' responses to the test (Kutlu *et al*., 2011). In addition to the text and questions, the first page of the RCT includes directions for students and demographic information for them to complete.

The GRLSI is an inventory of 60 questions, 10 for each learning style: (a) independent, (b) dependent, (c) competitive, (d) collaborative, (e) participant, and (f) avoidant. Hruska and Grasha (1982) reported a reliability value of .76 for the inventory by using the test-retest method (cited in Lang, Stinson, Kavanagh, Liu, & Basile, 1999). Similarly, Snyder (1997) reported a reliability value of .64—.89 for this inventory (including its subdimensions) (cited in Baykul *et al*., 2010). The GRLSI was adapted to Turkish in 2011 by Kılıç. In the adaptation process, the original form was translated to Turkish first; then, it was re-translated to its original language by different language experts. The resulting forms were presented for the scrutiny of experts in the field. After the translation process, Kılıç (2011) conducted a pilot study of the inventory to test it for reliability. The pilot study (N=46) resulted in these reliability values for each sub-dimension of the inventory: independent: .91, dependent: .92, competitive: .93, collaborative: .90, participant: .89, and avoidant: .92 while the reliability value for the total inventory was .91. In order to ensure face and content validity, Kılıç obtained expert opinions on the inventory, the result of which was that initial problems with the inventory were removed. For the construct validity of the inventory, Kılıç conducted a factor analysis on the inventory (KMO=.88, χ^2=8488.42, df=1770 and p=.00). The results of the principal components analysis showed that the adapted inventory, indeed, included six dimensions (learning styles) and the inventory included ten items for each dimension as was the case in the original inventory.

Data Analysis

After the data collection process, we graded the participants' RCTs by using the rubric. In order to ensure a fair and robust grading process, two PhD students in the field of curriculum and instruction also graded the same tests. The intraclass correlation coefficient for the three graders was .98.

After constructing the dataset, we checked the normality distribution in order to choose the correct statistical method(s) for data analysis. Based on normality test results, we decided to use the Kruskal-Wallis H Test and the Mann-Whitney U Test. We also examined the data to see whether they met the assumptions of regression. Our examination revealed that tolerance values were between .50 and .99 (>.20), Variance inflation factor (VIF) values were between 1.005 and 1.971 (<10), and confidence interval (CI) values were between 1 and 24.548 (<30), satisfying the demands of the regression method. Finally, we dummy coded the variables with more than two subgroups to put them into the regression model.

Results

In this study, we aimed at examining reading comprehension scores and learning styles of 5th grade students. Table 1 presents reading comprehension scores of the sample in relation to their gender and whether or not they have a bookshelf at home.

Table 1

Mann-Whitney U Test Results for Reading Comprehension Scores According to Gender and Having a Bookshelf at Home

Gender	**n**	**Mean Rank**	**Sum of Ranks**	U	p
Boy	648	597.67	387289.50	177013.50	.000
Girl	659	709.39	467488.50		
Bookshelf	**n**	**Mean Rank**	**Sum of Ranks**	U	p
Yes	1037	676.55	701586.50	116606.50	.000
No	270	567.38	153191.50		

Table 1 shows that girls' reading comprehension achievement scores were significantly higher than those of boys (U=177013.50, p<.05). This result indicates that 5th-grade girls are better at reading (comprehension) than 5th-grade boys. Table 1 also shows that 1037 participants had bookshelves in their homes while 270 did not. Similarly, the comprehension scores of students who had bookshelves at home were significantly higher than those who did not (U=116606.50, p<.05). In a similar manner, Table 2 includes data on the relation between reading comprehension and number of books at home.

Table 2

Kruskal-Wallis H Test Results for Reading Comprehension by Number of Books at Home

Number of Books at Home	**n**	**Mean Rank**	**df**	χ^2	**p**
0-25	392	565.50			
26-50	302	617.39			
51-75	195	667.28	4	56.60	.000
76-100	195	745.13			
101 or more	223	767.85			

As can be seen in Table 2, as the number of the books in students' homes increases, so do the students' comprehension scores. This is to say that the number of books that students have at home significantly and positively affect their comprehension scores ($\chi^2_{(4,\ 1307)}$=56.60, p<.05). In order to see which groups significantly differ on this variable, we conducted Mann-Whitney U Tests between groups, the results of which indicate that those students who had 101 or more books at home had significantly better comprehension scores than those who had 51-75, 26-50, and 0-25 books (U=18247.00, p=.004; U=26014.50, p=.000; U=30371.50, p=.000, respectively). In addition, students who had 76-100 books tended to significantly perform better than those who had 51-75 books (U=16617.50, p=.031). Table 3 is a display of the change in reading comprehension scores of the sample regarding the number of books they had read.

Table 3

Kruskal-Wallis H Test Results for Reading Comprehension Scores by Number of the Books Students Had Read

Number of Books Students Had Read	n	Mean Rank	df	χ^2	P
0-25	339	506.72			
26-50	312	624.15			
51-75	222	677.42	4	109.64	.000
76-100	217	729.30			
101 or more	217	827.75			

The results shown in Table 3 indicate that the number of books the students had read tended to significantly increase their comprehension scores, since mean rank increases as the number of books read increases ($\chi^2_{(4,\ 1307)}$=109.64, p<.05). The results of the Mann-Whitney U Tests for group differences reveal that reading comprehension scores of students who had read 101 or more books scored significantly higher than those who had read 76-100, 51-75, 26-50, and 0-25 books (U=19808.50, p=.004; U=18121.00, p=.000; U=23308.50, p=.000; U=19332.50, p=.000, respectively). Similarly, the analysis has revealed that daily reading time also influences reading comprehension scores (see Table 4).

Table 4

Kruskal-Wallis H Test Results for Reading Comprehension Scores by Daily Reading Time

Daily Reading Time	n	Mean Rank	df	χ^2	p
Never	24	551.38			
Less Than an Hour	294	595.60			
1-2 Hour(s)	720	688.46			
2-3 Hours	164	702.50	6	30.862	.000
3-4 Hours	45	579.52			
4-5 Hours	28	515.55			
More Than 5 Hours	32	469.42			

It can be seen in Table 4 that 720 of all participants read daily between one and two hours. Moreover, the participants who read between two and three hours had the highest comprehension scores (mean rank=702.50, $\chi^2_{(6,\ 1307)}$=30.862, p<.05). Post-Kruskal-Wallis analyses for between-group differences yielded that students with daily reading time of two to three hours had significantly better comprehension scores than those who read daily for a period of more than five hours or less than one hour (U=1653.00, p=.001; U=20126.00, p=.003, respectively). Results also show that students who read daily for a period of one to two hours had significantly better comprehension scores than those who read more than five hours or less than one hour (U=7793.50, p=.002; U=90745.00, p=.000, respectively). It seems that there is an optimum level of daily reading time (i.e., two to three hours) that increases students' comprehension scores since any time period exceeding or below two to three hours led to lower comprehension scores. A similar situation is also the case between reading comprehension and number of weekly reading exercises (see Table 5).

Table 5

Kruskal-Wallis H Test Results for Reading Comprehension Scores by Number of Weekly Reading Exercises

Number of Weekly Reading Exercises	n	Mean Rank	df	χ^2	p
0-2	167	666.41			
2-4	477	696.92			
4-6	340	635.66	3	13.01	.005
6 and more	323	603.50			

In Table 5, we can see that number of weekly reading exercises significantly affected the participants' reading comprehension. Likewise, participants who did

two to four reading exercises had the highest reading comprehension scores (mean rank=696.92, $\chi^2_{(3,\ 1307)}$=13.01, p<.05). Mann-Whitney U Test results reveal that students who did two to four reading exercises per week had significantly better comprehension scores than those who did four to six or more than six (U=73420.50, p=.021; U=66056.50, p=.001, respectively). Similar to daily reading time, here again, there seems to be an optimum number of weekly reading exercises, two to four, since results show that these students had higher comprehension scores than those who did fewer or more. In the last step of the analysis, we investigated the factors that predict reading comprehension scores. We present results of the analysis of these factors in Table 6.

Table 6

Regression Results for Factors that Predict Reading Comprehension Scores

Variable	B	R	ΔR^2	β	β^2	t	p	Binary r	Partial r
Constant	55.852					10.313	.000		
Number of Books Read (1)	-21.048	.230	.053	-.373	.139	-10.310	.000	-.230	-.275
Gender	7.191	.268	.019	.145	.021	5.575	.000	.152	.153
Number of Books Read (2)	-13.666	.296	.015	-.236	.056	-6.649	.000	-.047	-.182
Number of Exercises (2)	7.041	.317	.014	.137	.019	4.974	.000	.085	.137
Number of Books Read (3)	-10.052	.332	.009	-.153	.023	-4.548	.000	.026	-.125
Number of Exercises (1)	6.409	.342	.007	.086	.007	3.169	.002	.014	.088
Bookshelf	4.753	.351	.006	.078	.006	2.968	.003	.119	.082
Dependent	-.338	.358	.005	-.071	.005	-2.767	.006	-.070	-.077
Daily Reading Time (6)	-12.376	.365	.005	-.072	.005	-2.776	.006	-.050	-.077
Number of Books Read (4)	-5.393	.370	.004	-.081	.007	-2.433	.015	.092	-.067
Daily Reading Time (5)	-8.032	.375	.003	-.059	.003	-2.268	.023	-.036	-.063
R=0.375, R^2=0.140, F=19.22, df=11.1295, p=.000									

Table 6 presents variables that significantly predict reading comprehension scores of the participants. The results of the regression model show that 11 predictive variables are significant yet only slightly related to the reading comprehension scores of this study's participants. These 11 variables explain 14% of the total variance

(R=.375, R^2=.140, p=.000). When we examine these 11 predictive variables in terms of their contribution to the explained variance (ΔR^2), we see that the number of books read (1) constitutes 37.86% of the explained variance. Similarly, gender constitutes 13.57% of the explained variance; the number of books read (2) constitutes 10.71% of the explained variance; the number of exercises (2) constitutes 10% of the explained variance; the number of books read (3) constitutes 6.43% of the explained variance; the number of exercises (1) constitutes 5% of the explained variance; bookshelf constitutes 4.29% of the explained variance; dependent and daily reading time (6) (each) constitutes 3.57% of the explained variance; the number of books read (4) constitutes 2.86% of the explained variance; and daily reading time (5) constitutes 2.14% of the explained variance. In light of the results of the regression model, we may conclude that the reading comprehension scores of students who read more books, girls, students who have bookshelves at home, students whose learning style is not dependent, and students who do not read for more than three hours daily tend to score higher than others.

Discussion and Conclusion

There is a vast area of scholarship in the literacy literature on the effect of gender on reading comprehension. This study contributes to the literature that girls perform better than boys in comprehension (Bleakley, Westerberg, & Hopkins, 1988). Likewise, Brown (1991) conducted a study in which he investigated the effect of gender and SES on reading and mathematics achievement and concluded that, similar to this study, girls are better at reading than boys. However, it should also be borne in mind that there are other studies where there were no significant differences between the performances of girls and boys in reading (e.g., Knickerbocker, 1989; McGregor, 1989). Therefore, we conclude this issue by pointing to the need for additional studies on the subject.

The results of this study yield that students who have bookshelves at home tend to perform better in terms of comprehension than those who do not have bookshelves. Similarly, Izzo (2010) argues that a bookshelf at home significantly contributes to the reading culture at home and, hence, the student's comprehension. In another study, Ngorosho (2011) discussed that not having a bookshelf at home is a significant contributor to low literacy. Furthermore, in this study, we discuss that the number of books in the students' houses significantly and positively affects their comprehension scores. Kennedy and Trong (2010) discuss that number of books at home is a significant factor that affects reading achievement. Similar points have also been discussed in other studies (McQuillan, 2006; Romeo, 2002).

In addition, we purport that the number of books students have read positively influences their comprehension. In their study of 2nd and 5th graders, Anderson, Wilson, and Fielding (1988) write that the best predictor of reading achievement is the number of the books readers have read. Additionally, we claim that students' daily reading time is a significant factor in their comprehension scores in that our results reveal that there is an ideal period of daily reading, two to three hours. The

students who reported that that they read two to three hours daily had the highest comprehension scores of all participants in our study. Watkins and Edwards (1992) argued that a monthly reading time of 79 minutes is a significant predictor of 3rd-, 4th-, 5th-, and 6th-grade students' reading comprehension scores. Similarly, Wu and Samuels (2004) conclude that daily reading time is a significant factor on comprehension. Finally, we report through our analysis of the data that doing two to four reading exercises weekly positively influences students' comprehension scores. Block, Parris, Reed, Whiteley, and Cleveland (2009) discussed that doing reading exercises is an effective means of improving comprehension.

Our regression analysis reveals that only the dependent learning style of the Grasha-Reichmann Learning Style model predicts the comprehension scores of participants. We also note that this prediction is low and negative (ΔR^2=.005, r= -.07). In this sense, despite the various reporting of scholars on the high and significant correlation and prediction between comprehension and learning styles, we report that learning styles are not highly and completely related to comprehension scores of students since independent, competitive, collaborative, participant, and avoidant learning styles do not take place in the results of our regression analysis, whereas only the dependent learning style is a statistically significant yet negative predictor. Hence, we conclude this issue by arguing that learning style is slightly related to comprehension. Erginer (2014) also indicated that comprehension is not significantly affected by learning styles.

Finally, we encourage upcoming scholars who may conduct studies on the same or similar issues to consider the gender factor in comprehension and exert more effort to shed light on this point whether or not there are significant differences between performances of girls and boys in comprehension. Moreover, there may be more variables in predicting students' reading comprehension scores. Thus, we suggest that upcoming scholarship on similar topics focus on conducting similar studies with a more diverse set of predictive variables and different grade levels than 5th grade. In addition, we advise that future studies involve more research to determine whether our finding that there is an ideal amount of daily reading time and weekly reading exercises for better comprehension holds true for their participants. Equally, we suggest that parents have at least one bookshelf in the home environment since our results show that having a bookshelf significantly increases comprehension scores. Similarly, we make the point that the number of books at home is a significant factor increasing students' comprehension scores. Hence, we encourage families and schools to have more books in their environment so that students may benefit from them. As we discussed, the number of books students read is a significant predictor of comprehension. Therefore, educational caretakers and parents should find ways to encourage students to read more books.

References

Anderson, R. C., Wilson, P. T., & Fielding, L. G. (1988). Growth in reading and how children spend their time outside of school. *Reading Research Quarterly, 23*(3), 285-303.

Atchison, M. K. (1988). *The relationship between the learning styles and reading achievement of sixth-grade students in the state of Alabama*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 8821790).

Baykul, Y., Gürsel, M., Sulak, H., Ertekin, E., Yazıcı, E., Dülger, O., Aslan, Y., & Büyükkarcı, K. (2010). A validity and reliability study of Grasha-Reichmann Student Learning Style Scale. *International Journal of Human and Social Sciences, 5*(3), 177-184.

Bleakley, M. E., Westerberg, V., & Hopkins, K. D. (1988). The effect of character sex on story interest and comprehension in children. *American Educational Research Journal, 25*(1), 145-155.

Block, C. C., Parris, S. R., Reed, K. L., Whiteley, C. S., & Cleveland, M. D. (2009). Instructional approaches that significantly increase reading comprehension. *Journal of Educational Psychology*, *101*(2), 262-281.

Brown, B. W. (1991). How gender and socioeconomic status affect reading and mathematics achievement. *Economics of Education Review, 10*(4), 343-357.

Brozo, W. G., Shiel, G., & Topping, K. (2007). Engagement in reading: Lessons learned from three PISA countries. *Journal of Adolescent and Adult Literacy, 51*(4), 304-315.

Cassidy, S. (2004). Learning styles: An overview of theories, models and measures. *Educational Psychology, 24*(4), 420-436.

Chen, H. (2006). *Taiwanese adolescent students' achievement in reading and mathematics by age, gender, learning style and socio-economic status*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 3196297).

EARGED (Eğitim Araştırma ve Geliştirme Dairesi Başkanlığı [Departmant of Research and Development of Education, Ministry of National Education of Turkey (MoNE)]. (2005). *PISA 2003 Projesi-Ulusal Nihai Rapor [PISA 2003-National Final Report]*. Ankara: MEB Eğitimi Araştırma ve Geliştirme Dairesi Başkanlığı [MoNE: Departmant of Research and Development of Education].

EARGED (Eğitim Araştırma ve Geliştirme Dairesi Başkanlığı [Departmant of Research and Development of Education, Ministry of National Education of Turkey (MoNE)]. (2007). *PISA 2006 uluslararası öğrenci değerlendirme programı, ulusal ön rapor [PISA 2006-National Preliminary Report]*. Ankara:

MEB Eğitimi Araştırma ve Geliştirme Dairesi Başkanlığı [MoNE: Departmant of Research and Development of Education].

EARGED (Eğitim Araştırma ve Geliştirme Dairesi Başkanlığı [Departmant of Research and Development of Education, Ministry of National Education of Turkey (MoNE)]. (2010). *Uluslararası Öğrenci Değerlendirme Programı PISA 2009 Ulusal Ön Raporu [PISA 2009-National Preliminary Report]*. Ankara: MEB Eğitimi Araştırma ve Geliştirme Dairesi Başkanlığı [MoNE: Departmant of Research and Development of Education].

Eastman, V. L. (2010). *Small group instruction: Reading instruction utilizing learning style preferences and the reading achievement of first grade students.* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 3403223).

Erginer, E. (2014). A study of the correlation between primary school students' reading comprehension performance and the learning styles based on memory modeling. *Education and Science, 39*(173), 66-81.

Fraenkel, J. R., Wallen, N. E., & Hyun, H. H. (2012). *How to design and evaluate research in education* (8th Ed.). New York, NY: McGrawHill.

Gary, C. M. (1990). *A comparison of the learning styles of low, average, and high reading achievers in the sixth and eighth grades in a small school system in Alabama: Implications for instructional leadership*. (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 9105955).

Grasha, A. F. (2002). *Teaching with style*. San Bernadino, CA: Alliance Publishers.

Izzo, M. (2010). *The home literacy environment and kindergarten literacy skills: A case study*. Unpublished master of sciences thesis. St. John Fisher College, School of Arts and Sciences, Rochester, MN.

Keer, H. V. (2004). Fostering reading comprehension in fifth grade by explicit instruction in reading strategies and peer tutoring. *British Journal of Educational Psychology. 74*(1), 37-70.

Kennedy, A. M., & Trong, K. L. (2010). Influence of the home literacy environment on reading motivation and reading comprehension. *International Association for the Evaluation of Educational Achievement.* Retrieved from http://www.iea.nl/fileadmin/user_upload/IRC/IRC_2010/Papers/IRC2010_Kennedy_Trong.pdf

Kirschner, P. A., & van Merriënboer, J. J. G. (2013). Do learners really know best? Urban legends in education. *Educational Psychologist, 48*(3), 169-183.

Kılıç, G. (2011). *Ilköğretim 6. Sınıf Öğrencilerinin Öğrenme Biçemleri ile Ilköğretim Okullarında Görevli Ingilizce Öğretmenlerinin Öğrenme ve Öğretme Biçemlerinin Belirlenmesi* [Determination of the learning modalities of sixth grade students and the learning and teaching modalities of the English teachers at primary schools] (Master thesis, Ankara University, Ankara, Turkey).

Knickerbocker, J. L. (1989). Sex differences in reading achievement: A review of recent research. *Ohio Reading Teacher, 24*(2), 33-42.

Kutlu, Ö., Yıldırım, Ö., Bilican, S. & Kumandaş, H. (2011). Ilköğretim 5. sınıf öğrencilerinin okuduğunu anlamada başarılı olup-olmama durumlarının kestirilmesinde etkili olan değişkenlerin incelenmesi [Investigation of Factors That Affect 5th Graders' Success in Reading Comprehension]. *Eğitimde ve Psikolojide Ölçme ve Değerlendirme Dergisi [Journal of Measurement and Evaluation in Education and Psychology], 2*(1), 132-139.

Lang, H. G., Stinson, M. S., Kavanagh, F., Liu, Y., & Basile, M. L. (1999). Learning styles of deaf college students and instructors' teaching emphases. *Journal of Deaf Studies and Deaf Education, 4*(1), 16-27.

Littin, R. M. (2001). *Relationship(s) between and among an urban elementary school's grades three through five students' learning styles, cognitive styles, reading achievement, hemispheric preference, and gender.* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 3034485).

Maltzman, R. (2008). *Effects of traditional versus learning-style instructional strategies on community-college students' achievement in and attitudes toward developmental reading and writing.* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 3340565).

McGregor, A. K. (1989). The effect of word frequency and social class on children's reading comprehension. *Reading, 23*(2), 105-115.

McQuillan, J. (2006). The effects of print access and print exposure on English vocabulary acquisition of language minority students. *The Reading Matrix, 6*(1), 41-51.

National Reading Panel. (2000, April). *Report of the National Reading Panel: Teaching children to read: An Evidence-based assessment of the scientific research literature on reading and its implications for reading instruction*. Washington, DC: National Institute of Child Health and Human Development, National Institutes of Health, U.S. Department of Health and Human Services. Retrieved from http://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf

Ngorosho, D. L. (2011). *Literacy skills of Kiswahili speaking children in rural Tanzania: The role of home environment*. Unpublished doctoral dissertation, Abo Akademi University, Vasa.

Pashler, H., McDaniel, M., Rohrer, D., & Bjork, R. (2008). Learning styles concepts and evidence. *Psychological Science in the Public Interest, 9*(3), 105-119.

RAND Reading Study Group. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. Santa Monica, CA: RAND.

Romeo, L. (2002). At-risk students: Learning to break through comprehension barriers. In C. Collins Block, L. B. Gambrell, & M. Pressley (Eds), *Improving comprehension instruction: Rethinking research, theory, and classroom practice (*pp. 354-370*)*. San Francisco, CA: Jossey-Bass.

Saracaloğlu, A. S., & Karasakaloğlu, N. (2011). Sınıf öğretmeni adaylarının okuduğunu anlama düzeyleri ile çalışma ve öğrenme stratejilerinin çeşitli değişkenler açısından incelenmesi [An investigation of prospective teachers' reading comprehension levels and study and learning strategies related to some variables]. *Eğitim ve Bilim, 36*(16), 98-115.

Watkins, M. W., & Edwards, V. A. (1992). Extracurricular reading and reading achievement: The rich stay rich and the poor don't read. *Reading Improvement, 29*(4), 236-242.

Williams, J. (2010). *Reading comprehension, learning styles, and seventh grade students.* (Doctoral dissertation). Available from ProQuest Dissertations and Theses database. (Order No. 3397106).

Wu, Y- C., & Samuels, S. J. (2004, May). *How the amount of time spent on independent reading affects reading achievement: A response to the National Reading Panel*. Paper presented at the International Reading Association (IRA) Conference, Reno, NV, USA.

Yıldırım, Ö. (2012). *Öğrencilerin Okuduğunu Anlama Başarılarını Etkileyen Faktörlerin Aşamalı Doğrusal Modellemeyle Belirlenmesi (PISA 2009 Hollanda, Kore ve Türkiye Karşılaştırması)* [Determination of factors relating reading comprehension achievement with hierarchical linear models (PISA 2009 comparison of the Netherlands, Korea and Turkey)]. Unpublished doctoral dissertation, Ankara University, Institute of Educational Sciences, Ankara, Turkey.

Beşinci Sınıf Öğrencilerinin Okuduğunu Anlama Düzeyleri ile Öğrenme Stillerinin İncelenmesi

Atıf:

Ruzgar, M. E. & Babadogan, C. (2017). An examination of reading comprehension and learning styles of 5th grade students. *Eurasian Journal of Educational Research,* 72, 129-146, DOI: 10.14689/ejer.2017.72.7

Özet

Problem Durumu: Okulların öğrencilerin okuduğunu anlama düzeylerini geliştirmesine yardımcı olması gerekir çünkü öğrencilerin okuduğunu anlama düzeylerinin düşük olması yalnızca kendi yaşamlarını değil, bireyler birbirine bağımlı olduğundan toplumun bütününü de etkilemektedir. Ayrıca okuma,

öğrencilerin eğitimlerini tamamlayıp iş dünyasında başarılı olabilmeleri için ön koşuldur. Okuryazarlık düzeyi düşük öğrencilerin okuldan ayrılıp statü ve kazanç açısından daha düşük işlerde mesai sarf ettikleri bilinmektedir. Okuduğunu anlama düzeyi yüksek olan bireyler ise daha nitelikli işler bulabilir ve böylece yaşam doyumlarını arttırabilirler. Öte yandan bilgi patlamasının yaşandığı günümüzde öğrencilerin kendilerini sürekli geliştirmeleri önem kazanmaktadır. Dolayısıyla yaşam boyu öğrenme kavramı giderek daha önemli duruma gelmektedir. Okuma, yaşam boyu öğrenme becerisi için de çok önemlidir. Ancak Türkiye'nin Uluslararası Öğrenci Başarısını Belirleme Programı (PISA) başta olmak üzere uluslararası düzey belirleme çalışmalarındaki okuma erişi puanları tatmin edici düzeyde değildir. Bu sorunun çözümünde öğrenme stillerinin eğitimcilere yararı olabilir. Çünkü alanyazında okuduğunu anlama erişisini arttırmada öğrencilerin bireysel tercihlerinin eğitimde göz önüne alınmasının etkili olacağı tartışılmıştır. Öğrenme stillerinin temel beliti de değinilen doğrultudadır: Öğrencilere program ve materyal hazırlarken öğrencilerin kişilik özellikleri ve seçimleri dikkate alınmalıdır. Böylece öğrenme stilleri dikkate alınarak hazırlanan program ve materyaller, Türkiye'nin okuduğunu anlama konusunda yaşadığı sorunların giderilmesine katkı sağlayabilir.

Araştırmanın Amacı: Bu araştırmanın temel amacı, beşinci sınıf öğrencilerinin okuduğunu anlama puanlarını belirli değişkenler açısından incelemek ve bu değişkenlerle ilişki içinde hangi değişkenlerin öğrencilerin okuduğunu anlama puanlarını yordadığını belirlemektir. Bu amaç doğrultusunda şu iki araştırma sorusuna yanıt aranmıştır:

1. Katılımcıların okuduğunu anlama puanları (a) cinsiyet, (b) evde kitaplık bulunma durumu, (c) evde bulunan kitap sayısı, (d) bugüne kadar okunan kitap sayısı, (e) günlük kitap okuma süresi ve (f) okumaya dayalı ödev yapma sayısı değişkenlerine göre nasıl değişim göstermektedir?
2. Katılımcıların okuduğunu anlama puanlarını (a) birinci araştırma sorusunda sayılan değişkenlerin hangileri, (b) öğrenme stili boyutlarından hangileri yordamaktadır?

Araştırmanın Yöntemi: Araştırma kesitsel tarama modelinde desenlenmiştir, zira bu modelin çalışmaya iki değişken arasında ilişki olup olmadığını belirlemeye olanak sağlama, farklı ölçme araçları yoluyla veri edinme gibi katkıları olacağı öngörülmüştür. Sözü edilen modelin araştırmada okuduğunu anlama ve öğrenme stilleri olmak üzere iki temel boyut bulunması nedeniyle araştırmaya uygun olduğu düşünülmüştür. Araştırmada zaman ve erişilebilirlik göz önüne alınarak örneklem seçimi yerine araştırma grubu tercih edilmiştir. Araştırmanın katılımcıları 1307 beşinci sınıf öğrencisidir. Bu öğrencilere; Altındağ, Mamak ve Çankaya olmak üzere Ankara'nın üç ilçesindeki ortaokullardan ulaşılmıştır. Bu üç ilçenin seçilmesinde amaç, farklı sosyoekonomik düzeyleri temsil eden bölgelerin araştırmada yansıtılmasını sağlamak olmuştur. Araştırmada kullanılan veri toplama araçları, Okuduğunu Anlama Testi ile Grasha-Reichmann Öğrenme Stilleri Ölçeğidir. Veri toplama sürecinde veri toplanan sınıfların öğretmenleri kendi sınıflarındaki süreci yönetirken araştırmacılar birden fazla sınıfta veri toplanması nedeniyle sürecin

bütününün sorunsuz devam etmesini sağlamaya çalışmıştır. Toplanan verileri çözümlemede betimsel istatistikler, Kruskal-Wallis H Testi, Mann-Whitney U Testi ve regresyon kullanılmıştır.

Araştırmanın Bulguları: Gerçekleştirilen çözümlemeler sonucunda; okuduğunu anlama açısından kız öğrencilerin erkek öğrencilerden, evinde kitaplık bulunan öğrencilerin bulunmayanlardan, evinde daha fazla kitap bulunan öğrencilerin az kitap bulunanlardan, bugüne kadar okuduğu kitap sayısı fazla olan öğrencilerin daha az kitap okuyanlardan daha erişili olduğu görülmüştür. Benzer şekilde regresyon modelinde içerilen değişkenlerden 11'inin okuduğunu anlama puanlarını yordadığı görülmüştür. Bu 11 değişken toplam varyansın %14'ünü açıklamaktadır (R=.375, R2=.140, p=.000). Regresyon çözümlemesi sonucunda daha fazla kitap okuyan, kadın, evinde kitaplık bulunan öğrencilerin okuduğunu anlamada daha erişili olduğu gözlenmiştir. Öte yandan öğrenme stilleri boyutlarından yalnızca Bağımlı'nın okuduğunu anlamayı anlamlı olarak yordadığı belirlenmiştir. Bağımlı boyutunun okuduğunu anlama puanlarını yordaması düşük düzeyde ve olumsuz yöndedir.

Araştırmanın Sonuçları ve Önerileri: Çalışma sonucunda kadın öğrencilerin erkek öğrencilerden, evinde kitaplık bulunan öğrencilerin bulunmayanlardan, evinde daha fazla kitap bulunan öğrencilerin az kitap bulunanlardan, bugüne kadar okuduğu kitap sayısı fazla olan öğrencilerin az olanlardan daha başarılı olduğu sonuçlarına varılmıştır. Alanyazında cinsiyetin okuduğunu anlama erişisi üzerine genel geçer olarak etkili olup olmadığının tartışmalı olması nedeniyle bu bulguya dikkatle yaklaşılmasına dikkat çekilmiştir. Ayrıca Grasha-Reichmann öğrenme stilleri modelinin altı farklı boyutundan sadece Bağımlı boyutunun okuduğunu anlamayı yordadığı bulgusundan hareketle öğrenme stillerinin okuduğunu anlama üzerinde anlamlı olarak çok da etkili olmadığı sonucu vurgulanmıştır. Bağımlı boyutunun okuduğunu anlamayı olumsuz yönde ve düşük düzeyde yordadığı sonucuna da çalışma sonucunda erişilmiştir. Çalışma bu ve benzeri konuları inceleyecek araştırmacılara, cinsiyetin okuduğunu anlama üzerine etkisinin genellenebilirliliğine ilişkin çalışmalar düzenlemeleri ve okuduğunu anlamayı yordayan değişkenleri incelerken burada içerilen değişkenlerden farklı değişkenleri de göz önüne almaları önerilmiştir. Araştırma sonuçları temel alınarak ailelere evlerinde kitaplık bulundurmaları ve bu kitaplıktaki kitap sayısını artırmaları çağrısında bulunulmuştur. Genel olarak eğitim sistemini oluşturan bütün paydaşlara, okunan kitap sayısının okuduğunu anlama erişisini anlamlı olarak olumlu yönde etkilemesi nedeniyle öğrencilerin daha fazla kitap okumasını sağlamaya çalışmaları önerilmiştir.

Anahtar Sözcükler: Grasha-Reichmann Öğrenme Stilleri Modeli, PISA 2009, Okuduğunu Anlamanın Yordayıcıları.